FINAL

EAST BAY REGIONAL PARKS DISTRICT WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN ENVIRONMENTAL IMPACT REPORT

RESPONSE TO COMMENTS DOCUMENT


STATE CLEARINGHOUSE NO. #2008042099

LSA

March 2010

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STATE CLEARINGHOUSE NO. #2008042099

Submitted to:

East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Prepared by:

LSA Associates, Inc.
2215 Fifth Street
Berkeley, CA 94710
510.540.7331
&
157 Park Place
Point Richmond, CA 94801
510.236.6810

LSA

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I. INTRODUCTION

A. PURPOSE OF THE RESPONSE TO COMMENTS DOCUMENT

This document has been prepared to respond to comments received on the Draft Environmental Impact Report (Draft EIR) prepared for the East Bay Regional Parks District Wildfire Hazard Reduction and Resource Management Plan (Draft Plan). The Draft EIR identifies the likely environmental consequences associated with the Plan, and recommends mitigation measures to reduce potentially significant impacts. This Response to Comments (RTC) Document provides a response to comments on the Draft EIR and makes revisions to the Draft EIR, as necessary, in response to those comments or to make clarifications to material in the Draft EIR. This document, together with the Draft EIR, constitutes the Final EIR for the proposed project.

B. ENVIRONMENTAL REVIEW PROCESS

According to the California Environmental Quality Act (CEQA), lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft EIR.

On April 16, 2008 the East Bay Regional Parks District (EBRPD) circulated a Notice of Preparation (NOP) to help identify the types of impacts that could result from implementation of the Draft Plan, as well as potential areas of controversy. The NOP was mailed to public agencies (including the State Clearinghouse) and organizations considered likely to be interested in the Draft Plan and its potential impacts. Additionally, copies of the NOP were posted within all EBRPD parks. A public scoping session was held on May 22, 2008 to introduce the Draft Plan and CEQA process. Comments received by EBRPD on the NOP and at the public scoping meeting were taken into account during the preparation of the Draft EIR.

The Draft Plan and Draft EIR were made available for public review on August 3, 2009, and the Draft EIR was distributed to local and State responsible and trustee agencies. The Draft Plan and Draft EIR were available online through the EBRPD website, and hard copies were available for review at the EBRPD headquarters and at the Richmond, Berkeley, and Oakland main libraries. Copies of the Notice of Availability of the Draft EIR (NOA) were mailed to all individuals requesting to receive notifications regarding the Draft Plan.

EBRPD received public comments on the Draft Plan and Draft EIR until October 1, 2009. This 60 day comment period was longer the CEQA required 45 day comment period. EBRPD then extended the comment period another 30 days to October 30, 2009. A public meeting to take comments on the Draft Plan and Draft EIR was held on September 2, 2009. The public provided verbal comments at this meeting. EBRPD received a total of seven comment letters from State, regional and local agencies, 11 from an organization, and 20 from individuals. Copies of all written comments received during the comment period and a summary of the oral comments received at the public meeting are included in Chapter III of this document.

C. DOCUMENT ORGANIZATION

This RTC Document consists of the following chapters:

- *Chapter I: Introduction.* This chapter discusses the purpose and organization of this RTC Document, and the Final EIR, and summarizes the environmental review process for the project.
- *Chapter II: List of Commenting Agencies, Organizations, and Individuals.* This chapter contains a list of agencies, organizations, and individuals who submitted written comments during the public review period, or spoke at the public meeting on the Draft EIR.
- *Chapter III: Comments and Responses.* This chapter contains reproductions of all comment letters received on the Draft EIR as well as a summary of verbal comments provided at the public meeting. A written response for each CEQA-related comment received during the public review period is provided. Each response is keyed to the corresponding comment.
- *Chapter IV: Draft EIR Revisions.* Corrections to the Draft EIR that are necessary in light of the comments received and responses provided, or necessary to amplify or clarify material in the Draft EIR, are contained in this chapter. Underlined text represents language that has been added to the Draft EIR; text with ~~strikeout~~ has been deleted from the Draft EIR. Revisions to figures are also provided, where appropriate.

II. LIST OF COMMENTERS

This chapter presents a list of comment letters received during the public review period and describes the organization of the letters and comments that are provided in Chapter III, Comments and Responses, of this document.

A. ORGANIZATION OF COMMENT LETTERS AND RESPONSES

Chapter III includes a reproduction of each comment letter received on the Draft EIR. The written comments are grouped by the affiliation of the commenter, as follows: State, regional and local agencies (A), Organizations (B), and (C) Individuals.

The comment letters are numbered consecutively following the A and B designations:

State, Regional and Local Agencies:	A1-#
Organizations:	B1-#
Individuals:	C1-#

The letters are numbered and comments within each letter are numbered consecutively after the hyphen. Each speaker at the public workshop held on September 2, 2009 has been designated with a number as well.

B. LIST OF COMMENTERS

The following comment letters were submitted to the District during the public review period.

State, Regional & Local Agencies

A1 State of California, Office of Planning and Research, Scott Morgan, Acting Director, November 3, 2009

A2 Office of Historic Preservation, Milford Wayne Donaldson, State Historic Preservation Officer, October 23, 2009

A3 Department of Fire and Forestry Protection, Shana Jones, East Bay Division Chief, October 26, 2009

A4 Contra Costa County Fire Protection District, George Laing, October 28, 2009

A5 East Bay Municipal Water District, Scott Hill, Manager of Watershed and Recreation, September 28, 2009

A6 City of El Cerrito, Brooke Trainer, August 3, 2009

A7 Mary Foster, City of San Leandro, September 22, 2009

Organizations

B1 Sierra Club, San Francisco Bay Chapter, Norman La Force, September 7, 2009

B2 Sierra Club, San Francisco Bay Chapter, Norman La Force, September 21, 2009

B3 California Native Plant Society, East Bay Chapter, Laura Baker, Conservation Committee Chair, October 30, 2009

B4 Law Offices of Stuart Flashman, Stuart Flashman, October 29, 2009

B5 East Bay Pesticide Alert, Maxina Ventura, Chronic Effects Researcher, October 30, 2009

B6 Claremont Canyon Conservancy, Martin Holder, Director, October 30, 2009

B7 Claremont Canyon Conservancy, Barry Pilger, President, October 30, 2009

B8 Hills Conservation Network, Madeline Hovland, October 30, 2009

B9 Hills Conservation Network, Madeline Hovland, September 7, 2009

B10 North Hills Landscape Committee, Gordon Piper, Chair, September 8, 2009

B11 Regional Parks Association, Amelia Wilson, President, October 26, 2009

Individuals

C1 William McClung, October 30, 2009

C2 Jakki Kehl, October 29, 2009

C3 Mary McAllister, October 26, 2009

C4 Steven Chainey, October 30, 2009

C5 Peter Rauch, October 6, 2009

C6 Peter Rauch, August 30, 2009

C7 Peter Rauch, August 30, 2009

C8 Peter Rauch, August 29, 2009

C9 Afton Crooks, September 1, 2009

C10 Lawrence Kolb, October 8, 2009

C11 Marilyn Goldhaber, October 30, 2009

C12 Tamia Marg, October 30, 2009

C13 Mike Vandeman, September 1, 2009

C14 Sally Cole, September 9, 2009

C15 Rupa Bose, October 28, 2009

C16 Pascal Pellet, October 8, 2009

C17 Erica Etelson, October 7, 2009

C18 David Maloney, October 29, 2009

C19 Cheriel Jensen, October 31, 2009

C20 Madeline Hovland, November 16, 2009

Public Hearing Comments

D1: Afton Crooks, Sierra Club

D2: Norman LaForce

D3: Bob Faber

D4: Lynn Hovland, HCN

D5: Peter Scott

D6: Peter Rauch, CNPS

D7: Afton Crooks, Sierra Club

D8: Gordon Piper

D9: Ron Barklow

D10: Laura Baker

D11: Norman LaForce

D12: Martin Holden, Claremont Conservancy

D13: Mike Bond, El Cerrito Fire Department

D14: Bill McClung

D15: Peter Rauch, CNPS

D16: Afton Crooks, Sierra Club

D17: George Laing, Contra Costa Fire Police Department

D18: Laura Baker

III. COMMENTS AND RESPONSES

Written responses to each comment letter received on the Draft EIR are provided in this chapter. All letters received during the public review period on the Draft EIR are provided in their entirety. Each letter is immediately followed by responses keyed to the specific comments. The letters are grouped by the affiliation of the commenting entity as follows: State, regional, and local agencies (A); organizations (B); individual (C), and public hearing comments (D).

Please note that any text within individual letters that has not been numbered does not raise environmental issues or relate to the adequacy of the information or analysis within the Draft EIR, and therefore no comment is enumerated or response required, per *CEQA Guidelines* Section 15132.

A number of terms that have been defined in the Draft Wildfire Hazard Reduction and Resource Management Plan (the "Fire Plan, "Draft Plan" or "Plan") are used in the responses to comments. These terms include: Recommended Treatment Areas ("RTA") which are the polygons identified on Table III-2 in the Plan and Draft EIR, the wildland urban interface ("WUI"), the vegetation management program ("VMP") contained in Plan Chapter V, wildfire hazard assessment (see Plan Appendix C) and strategic fire routes (see Plan Guideline 1.9 on page 25).

Many of the comments received on the Draft EIR involve variations of several key issues. In order to consolidate responses to questions and comments related to these topics, and to address concerns comprehensively, three master responses have been prepared. Master responses are included below and referenced in certain responses, as appropriate.

Master Response No. 1: Environmental Review of Potential Activities Within Recommended Treatment Areas. This response addresses several comments that express concern regarding the adequacy and specificity of the Draft EIR's analysis of the future treatment activities identified in Table III-2 Recommended Treatment Areas (RTA) – Sensitive Resources and Preliminary Considerations and Guidelines starting on page 53 of the Draft EIR.

As discussed on page 21 of the Draft EIR, the Draft Plan is a "system-wide" document that identifies objectives, policies, guidelines and performance standards to guide fuel management activities within defined vegetation types (i.e., those included in Chapter V. Vegetation Management Program of the Draft Plan) within the EBRPD Study Area parks funded under the Measure CC Wildfire Protection, Public Safety and Environmental Maintenance parcel tax measure. This Study Area includes 13 hillside parks and seven shoreline parks within EBRPD's jurisdiction identified on pages 15 and 16 of the Draft EIR and shown in Figure III-1.

The Draft EIR analyzes the environmental impacts of the Plan and its implementation within the 19,000-acre Study Area as well as the treatment methods described in Chapter IV of the Plan. The area of impact evaluated in the EIR (see pages 33 and 34 of the Draft EIR) was identified as being the combined acreage of all recommended treatment areas, 2,968 acres plus the estimated maximum area that may be treated along the 78.4 miles of defined and mapped strategic fire routes (570 acres). This assumes a maximum clearance of 30 feet in width from both edges of each strategic fire route (i.e., 60

feet total maximum width), based on the presumption that parkland exists on both sides of the road for 30 feet on each side. This is a conservative assumption that allowed for a larger potential area of impact to be evaluated in the EIR. The area of impact comprises a total of approximately 3,538 acres that was evaluated for impacts to environmental resources in the EIR, and mitigation measures were identified as necessary and available.

In Table III-2, the Plan contains recommendations for activities within each RTA for consideration by the District at the time they are implementing the Plan and preparing the individual prescriptions for a specific RTA. The Draft EIR includes appropriate analysis for the approval the District is considering (i.e., approval of the Plan, the RTAs, and implementation of the Plan). The Draft EIR conservatively analyzes the potential impacts and identifies feasible mitigation measures that avoid or minimize impacts to less-than-significant levels.

In the future, the ultimate prescriptions that may be carried out in any particular RTA to implement the Plan could change because the vegetation could have changed from what was mapped in the EBRPD GIS program. As future fuel reduction activities are undertaken, the District will continuously update the information contained in Table III-2 for each RTA using a strategy of adaptive management (see Plan Chapter VI. Plan Implementation), which makes the Plan a "living" document. As the District proceeds with implementation of the project (the Plan and proposed treatments), the District will consider if any proposed changes to the project would require additional CEQA review.

Master Response No. 2: Recommended Treatment Areas Prioritization and Decision-making. This response is to questions and comments regarding who has the final decision-making authority for prioritizing and prescribing treatments for RTAs. The District notes that it is made clear in Plan Chapter VI. Plan Implementation (see page 201 regarding organization of a multi-department group to consider wildfire hazard issues), decisions on fuel treatment area prioritization and treatment prescriptions will be made jointly by the Fire Department, Stewardship and Operations staff as members of the Fuels Group following the guidelines of the Plan, as administrative, resource management decisions. The annual fuels treatment plans will be subject to public review by a committee of the Board of Directors. It should be noted that there has been no internal disagreement on treatment approaches in the two years during formulation of the Plan.

This Master Response also responds to various comments that the Plan and RTAs should be amended to accurately designate and categorize RTAs and the labeling of treatment designations, vegetation goals, and considerations and guidelines for RTAs (as defined on pages 29 through 33 of the Draft EIR and shown on Table III-2 of the Plan and EIR), and that this revision and updating should be done prior to the final Board hearing on the Plan and EIR. The reader should review Figure V1-1 that identifies the implementation framework for the Plan and shows that it is the intent of the District to continuously update the information on Table III-2 as the Plan is implemented and activities are undertaken in the individual RTAs. Revisions to RTA descriptions have been included in a revised Table III-2 in "Proposed Modifications to the July 2009 Draft WHRRMP," submitted for the Board's approval.

Master Response No. 3: Management of Eucalyptus Trees. This Master Response addresses comments submitted on the Plan and Draft EIR that claim the documents are biased against eucalyptus trees and non-native plants in general. Multiple comments also seek additional analysis

about the relative merits of eucalyptus trees in regard to biological diversity and fire suppression and request additional protection of eucalyptus trees in the Plan.

The District disagrees with the claim that the Plan and Draft EIR assert that "native" and "fire resistant" are synonymous. "Native," as used in the Plan and Draft EIR, refers to plant species that existed in the area prior to the arrival of European settlers. As discussed in Chapter V. Vegetation Management Program, of the Plan, many communities with native plants exhibit a high or high-moderate ignition potential, including annual grasslands, coastal prairie, and serpentine prairie grasslands. The relative fire resistance of plant species, as discussed in the Plan and Draft EIR, is identified not by virtue of whether the species are native, but on the basis of the physical characteristics of the plants and vegetation types as defined for the Plan as fuel hazards and evaluated in the Draft EIR. For instance, coyote brush (a native plant) is not considered fire resistant because it typically exhibits intertwined shrub canopies and tends to accumulate dead material that easily ignites (see page 149 of the Plan). Please refer to Chapter V. of the Plan for a discussion of the relative fire hazard and ignition ratings for plant communities (see also Plan Appendix C). However, it should be noted that certain non-native plant species have physical characteristics that do make them prone to wildfires, both for ignition and spreading of wildfire through ember flight. As discussed on page 112 of the Plan, such species include eucalyptus, which have oily residues and a high caloric content that can be easily ignited, shreddy bark, leaves susceptible to lofting and ember spotting, height which makes crown fires more dangerous, and a stem density and biomass which contributes enormously to the fuel load in the Study Area as described more fully below. See also Plan Appendix C: Final Wildfire Hazard Assessment and Potential Treatment Areas that describes how the EBRPD GIS vegetation maps (identifying over 300 vegetation types) were categorized or "crosswalked" in terms of their fuel characteristics, and how the team used that information as one of the inputs for the FlamMap modeling for the Study Area that also integrated information on other site features, e.g., terrain (slope steepness, elevation, aspect) to determine fuel hazards.

Wildfire Hazard Assessment, FlamMap Inputs and Outputs. There is a wealth of scientific data that supports the modeling inputs to FlamMap that address crowning, spotting and ember production. See for example, Finney, Mark A., 1998. FARSITE: Fire Area Simulator-model Development and Evaluation. USDA Forest Service Resources Paper RMRS-RP-4. page 47; Albini, Frank. 1979. Spot Fire Distance from Burning Trees –A Predictive Model, USDA Forest Service Resources Paper. Note INT-56; Chase, C.H. 1981. Spot-fire Distance Equations for Pocket Calculators, USDA Forest Service Resources Note INT-310. 21 p,; Albini, Frank, 1979. Potential Spotting Distance from Wind-driven Surface Fires, USDA Forest Service Resources Note INT-309; Alexander, M.D. 1988. Help with Making Crown Fire Assessments In Protecting People and Homes from Wildfire in the Interior West, USDA Forest Service General Technical Report INT-241. pp 147-56; Van Wagner, C.E. 1977. Conditions for the Start and Spread of Crownfire, Can. J. Forest Service Resources 7:23-24; Scott, Joe H. and Elizabeth D. Reinhardt. 2001. Assessing Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior, RMRS-GTR-145, USDA Forest Service Rocky Mountain Research Station. 59 p.; Scott, Joe H. Canopy Fuel Treatment Standards for the Wildland-urban Interface. 2003. pg. 29-37, in USDA Forest Service Proceedings General Technical Report RMRS-P-29, Rocky Mountain Research Station, Ft. Collins, CO. Standard practices, information and equations from these scientific background reports are integrated into the FlamMap fire behavior prediction program and into the wildfire hazard assessment and the decision-making process that went in to preparation of the Plan.

It is true that all tree species have the potential for torching (crown fire initiation), crowning (crown fire spread) and throwing embers. Three guidelines address the potential for crown fires in all woodland environments. Page 24 of the Draft Plan states that the District will, as part of Guideline 1.2 "evaluate and treat as necessary trees and shrubs on ridgetops along the WUI for fuel conditions and surrounding topography to reduce the potential for wildfire reaching the crowns of trees ("crowning") leading to burning materials and embers being carried long distances under high wind conditions and igniting additional fires well ahead of the main flame front." On page 25 Guideline 1.11 addresses the concern for crown fire, to include "consider treating the understory of native oaks, bays and other trees to reduce their potential for a crown fire, where appropriate. This guideline acknowledges the possibility that crown fires do occur in vegetation types other than eucalyptus. On page 24 Guideline 1.5 states that new treatment areas should focus on "locations of vegetation types, particularly eucalyptus and Monterey pine, associated with threats from torching and crown fires that cause ember flight." This inclusive statement does not preclude other vegetation types from being a threat or needing treatment for ember production and distribution.

Part of the analysis behind spotting includes the relationship of the fuel on a slope (see Albini, Frank. 1979 citation above). The distribution of embers is broadened when the ember source is at a higher elevation than the value at risk. Ridgetops are generally are given a high priority for treatment because the vegetation on ridges has the potential to distribute embers farther than vegetation in the valley, as illustrated on page 163 of the Plan. Additionally, the winds are stronger further up from the vegetation upper surface; the stronger winds facilitate torching and crowning (ember production and distribution).

Eucalyptus: The information about blue gum eucalyptus in the Plan and Draft EIR was written by a multi-disciplinary group of wildfire hazards managers, resource specialists, land use planners, and environmental consultants with a wide and deep array of knowledge about wildland fire hazards. Please refer to Chapter VII of the Plan and Chapter VII of the Draft EIR for a complete list of report preparers. There are numerous sources referenced in Appendix I, Bibliography, of the Plan that support statements about the fire-prone qualities of blue gum eucalyptus here in California and there is broad agreement among government agencies and open space managers that blue gum eucalyptus poses a severe fire hazard. In fact, the National Park Service has published a brochure entirely devoted to providing guidance on the management of eucalyptus due to the threat that eucalyptus poses to biodiversity and fire risks in California.[1] The brochure states: "The fragrant oils in eucalyptus leaves can be very pleasing, but also alter soil chemistry, and can become highly flammable when the leaves accumulate as surface fuel. Studies have shown that native species are displaced in eucalyptus groves and fuel loads are higher. Without active management, historic landscapes can become overgrown, biological diversity can decline, and the potential for catastrophic wildfire can increase." In fact, eucalyptus globulus is listed as an invasive species by the California Invasive Plant Council (CALIPC, California Invasive Plant Inventory, 2006). "Bark from the trunk exfoliates and leaves are shed prolifically, so a dense mat of organic litter can build up rapidly in the stands. This results in an understory virtually devoid of native species." (Suginhhara, Neil G, Jan W. Van Wagtendonk, Kevin E. Shaffer, Joann Fites-Kaufman and Anderea E. Thode, "Fire in California's Ecosystems, UC Press, 2006, p. 513).

[1] See www.nps.gov/goga/parkmgmt/upload/firemanagement_eucalyptus_brochure.pdf

Fire intensity, as measured by flame length, triggers crown torching. The flame length in eucalyptus stands varies, depending on management history. Eucalyptus is a productive vegetation type; Martin et. al.[2] measured 44 tons/acre of litter and duff under eucalyptus stands that were burned 5 years previously on Angel Island. Most of the accumulation occurred in the last two years prior to measurement, on an average of nine tons/acre/year. Martin also measured 50 tons of litter and duff on Angel Island in undisturbed eucalyptus stands. Fenwick[3] commented that the eucalyptus trees "grow very vigorously… quickly producing a large mass of leaves and fine twigs, which are shed continuously. Fuel accumulation rates under these types of stands are enormous…Large eucalyptus leaves unaffected by insect attack often form a more loosely compacted fuel bed than in Australia. Fires may spread slightly more rapidly, and with higher flame lengths and intensity than predicted from guides based on Australian fuel types." In contrast, the predicted flame lengths in bay-oak woodlands depends on the presence of a well-developed understory. Those that are classified as Fuel Model 8 have a fairly low fire intensity.

The structure of eucalyptus trees also varies. While some tall eucalyptus trees have been limbed up and managed to avoid ladder fuels (such as in Kennedy Grove), unmaintained trees may have lower limbs that provide a continuous fuel ladder between the understory vegetation and crown. Page 165 of the Plan includes photos of mature eucalyptus forests in a high fire hazard and low fire hazard condition.

The moisture and caloric content of live eucalyptus trees has been measured.[4] Measurements of moisture content were considered when assessing the fuel characteristics of eucalyptus (see Plan Appendix C). The addition of higher caloric content to those areas with eucalyptus and pine was based on literature noting the increased presence of oils in those two vegetation types. The caloric content of these oils and volatiles have roughly three times the amount in cellulose, thus a fire in eucalyptus that involves dead leaves is hotter due to the higher caloric content of the fuel. Agee and others compared the heat values of grass, eucalyptus and scrub oak. Eucalyptus leaf litter has 10,000 btu/lb compared to 7,100 btu/lb in dry grass. Eucalyptus burns hotter by roughly one-third more. The contrast is less dramatic in oak leaves (8,000 btu/lb) but is still only 80 percent the heat value of eucalyptus.[5]

[2] Martin, Robert E. Mark A. Finney, and Jon J. Valentino. 1988. Fuel Conditions and Potential Fire Behavior of Angel Island State Park. Report to California Department of Parks and Recreation. Pgs 173-194 in Focused Environmental Study of Restoration of Angel Island Natural Areas Effects by Eucalyptus.

[3] Fenwick, Roger. 1980. Fire Management Plan for the Lake Chabot Eucalyptus Plantation. Unpublished Report to the East Bay Regional Park District. 18 pp.

[4] Philpot, Charles W. and Robert W. Mutch. 1970. The Seasonal Trends in Moisture Content, Ether Extractives, and Energy of Ponderosa Pine and Douglas-fir Needles. USDA Forest Service Resources Paper INT-102. Intermountain Forest and Range Experiment Station. Ogden, UT 21 p or Radtke, Klaus. 1983. Living More Safely in the Chaparral-urban Interface. General Technical Report PSW-67. Pacific Southwest Forest & Range Experiment Station. Berkeley, CA 51 pp.

[5] Mutch, Robert W. 1970. Wildland fires and ecosystems – a hypothesis. Ecology 51(6):1040-1050, and Philpot, Charles W. and Robert W. Mutch. 1970. The seasonal trends in moisture content, ether extractives, and energy of ponderosa pine and Douglas-fir needles. USDA For.Serv. Res. Pap. INT-102. Intermountain Forest and Range Expt Station. Ogden, UT 21 p.)

A publication describing the eucalyptus removal project in the Golden Gate National Recreation Area states, "Dense vegetation was identified as a major contributor to the fire behavior, and in particular, dense eucalyptus forests. It was estimated that over 70 percent of the energy released through the combustion of vegetation was due to eucalyptus. In many cases, eucalyptus trees were adjacent to houses, with their canopy spreading over the roofs. The density of fuels immediately surrounding homes resulted in a continuous chain that spread the fire from structure to structure."

Table III-1 shows the difference in fuel volume (load) in eucalyptus stands as compared to other vegetation types. As shown on Table III-1, eucalyptus stands have more than twice the fuel load as other vegetation types, with associated higher fire intensity when it burns.

Spotting distance of shrubby fuels is short because of the size of the material. North coastal scrub has a great proportion of small-diameter material which limits the distance at which firebrands (embers) are expected to be deposited from the Study Area. Approximately one third of the fuels were distributed in each of the following four size classes: smaller than ¼ inch in diameter, ¼ inch to one inch, one inch to three inches, and three inches and above. The total fuel volume was light, with an average of 3.2 tons/acre.[6] This small fuel volume, and high proportion of fuels smaller than 1.0 inch in diameter limits the distance in which the material can be lofted and still be burning when landing. Fuel loads of north coastal scrub rarely exceeds 5 tons/acre, less than one tenth (actually, one-sixth, according to the table, below) the fuel in eucalyptus stands.

Table III-1: Fuel Load Comparisons: Eucalyptus, California Bay, and Coast Live Oak Forest Types

	Eucalyptus Tons/Acre		California Bay Tons/Acre		Coast Live Oak Tons/Acre	
Fuel Element[a]	**Live Component**	**Dead Component**	**Live Component**	**Dead Component**	**Live Component**	**Dead Component**
Herbs and Grasses	0.03	0.02	0.42	0.18	0.31	0.17
Shrubs and Saplings	0.49	0.0	0.27	0.01	0.25	0.03
Fine Twigs (1-hour)		1.33		0.69		1.18
Small Branches (10-hour)		2.94		1.93		4.60
Medium Branches (100 hour)		1.41		2.67		2.40
Logs (1,000 hour)		19.63		11.06		0.69
Litter (Leaves, Bark, Needles, etc.)		4.99		1.70		2.19
Total Fuels	**30.84**		**18.93**		**11.82**	

[a] Fuel in vegetation community consists of both live and dead material measured in tons per acre. Eucalyptus typically displaces California bay or coast live oak communities which increases the fuel load. This comparison is based on fuels data collected from 7 eucalyptus sites, 39 California bay sites, and 11 coast live oak sites within Point Reyes National Seashore and Golden Gate National Recreation Area. (NPS Data) "Total Fuels" represents fuel available for wildland fire consumption, not total biomass. Most importantly, the mass of the live trees is not included. One, ten, one-hundred, and one-thousand hour fuels are classified by their diameter and take different amounts of time to dry out and become available for consumption.

Source: GGNRA publication from the Fire Education Office, 2008. Golden Gate National Recreation Area, 2008. Eucalyptus – A complex challenge. Educational material published by the Golden Gate National Recreation Area Fire Education Office, for the Pt. Reyes National Seashore.

[6] Rice, C.L. and R.E. Martin. 1985. The Use of BEHAVE on the Shrublands at the Urban Interface. Pp.270-275. In Proceedings, 8th Conference on Fire and Forests. Meteorology. Linda Donaghue and Robert E. Martin, Editors. May, 1985. Society of American Foresters. 303 p.

Shrub-based fires are primarily spread through convection, which is the transfer of heat through movement of hot gases. Convection is responsible for pre-heating the higher layers of shrubs and trees, promoting torching. It is also responsible for transfer of heat to fuels uphill of the actual fire (http://www.forestencyclopedia.net).

In contrast, radiant heat accounts for most of the pre-heating of fuels surrounding a fire (http://www.forestencyclopedia.net). Sometimes the temperature of the burning fuels rises so high that they ignite prior to flame impingement. Two of the main factors affecting radiant heat transfer are the size of the radiating body and the temperature of the radiating body. Fires in eucalyptus trees present a much higher level of radiation than shrub-based fires. Eucalyptus trees are much taller than shrub stands (possibly ten times more); when the canopy of the eucalyptus trees burn, they have a dramatically larger radiating body. The temperature of fires in eucalyptus tree canopies, as measured by flame length, are also as much as ten times greater than shrub-based fires, as flame lengths of crown fires are typically two to three times the height of the tree.[7] "Tremendous heat and flame lengths are associated with eucalyptus tree stand fires…These have high down-dead fuel loads of fine twigs and bark that provide ample preheating of the canopy and flammable resins. Once preheated, these trees explode." (Perry, Donald G, Wildland Firefighting: Fire Behavior, Tactics & Command. 1987. Fire Publications, Inc., p. 55) "In addition, Tasmanian blue gum frequently occurs near urban areas. If fire were intense enough to ignite adults in mature stands, the extreme fire behavior would make control tenuous and present a severe hazard to human life and property." (Sugihara, op. cit., p. 513).

Fire primarily burning in north coastal scrub would endanger structures directly above this fuel type during a fuel driven fire due to the fast rates of fire spread and long flame lengths associated with north coastal scrub. However, few structures are located directly above parkland. North coastal scrub is not considered to have long-range spotting potential, even in strong winds such as under Diablo Wind conditions.[8]

Another significant difference between scrubby fuels and eucalyptus stands is the height of the fuelbed. The 100-foot tall eucalyptus stands are often taller than the ridgelines, and can cast embers much farther because of their height; in contrast, six-to-ten-foot tall scrub is often lower than the ridgeline. The ridgeline thus can serve as an effective barrier to ember spread to structures downwind toward structures once the eucalyptus have been removed and scrubby or grass fuels dominate.

The physical shape of the eucalyptus leaves and bark are optimally shaped to be lofted and carried by the wind. The leaves are lance or arrow-shaped which is conducive for aerial movement. They are thin enough to be lifted, but large and long enough to still be burning when they land. The bark of *eucalyptus globulus* is known for its potential to start new fires well ahead of the main fire.[9]

[7] Rothermel, Richard. 1983. How to Predict the Spread and Intensity of Forest and Range Fires. General Technical Report INT-143. Ogden, UT. USFS Intermountain Forest and Range Experiment Station 161 p.

[8] Albini, Frank. 1979. Spot Fire Distance from Burning Trees –A Predictive Model; USDA Forest Service Resources Paper. Note INT-56. Albini, Frank. 1981. Spot Fire Distance From Isolated Sources – Extensions of a Predictive Model. USDA Forest Service Resources Note INT-309. Chase, C.H. 1981. Spot-fire Distance Equations for Pocket Calculators. USDA USDA Forest Service Resources Note INT-310. 21 p. Chase, C. H. 1984. Spot-fire Distance from Wind-driven Fires – Extensions of Equations for Pocket Calculators. USDA For. Serv. Res. Note. INT-346. 21p.

[9] M.Almeida1, D. X. Viegas1, A. I. Miranda2 and V. Reva1 2009. Combustibility of Potential Embers. 18th World IMACS/MODSIM Congress, Cairns, Australia 13-17 July 2009, http://mssanz.org.au/modsim09 Dr. Wendy Catchpole.

Like eucalyptus leaves, eucalyptus bark exfoliates in a long, curling manner that also is lofted easily. Because the strips of bark are long, they can burn while being lofted for a considerable time and still be burning when they land. This condition is a significant factor in igniting new fires well ahead of the flaming front. In contrast, the embers of north coastal scrub and grass are smaller, and are usually completely consumed while burning in the air which is why eucalyptus can create new fires long distances from the original flaming stand; whereas, grass, chaparral and oak woodlands create new spot fires only short distances ahead of the main fire.

Wildfire and other threats (falling branches and debris under high wind conditions and uprooting) posed by eucalyptus trees have also received widespread media coverage. In a November 17, 2009 article in the San Francisco Chronicle, author Peter Fimrite**,** wrote that, Marin County Superior Court Judge Michael Dufficy ruled in May that a property owner must remove 28 eucalyptus trees on her property in Larkspur because the trees "present a substantial and real hazard" to neighboring homes. The article author also noted that eucalyptus "are notoriously flammable. It was the oily blue gums in the Oakland hills that helped spread deadly flames during the catastrophic East Bay hills fire in 1991." In "Trees, Fire and the East Bay Hills," posted by Michelle Quinn on the New York Times Bay Area Blog on December 11, 2009, quotes Scott Stephens, associate professor of fire science at the University of California, Berkeley and co-director of the University of California Center for Fire Research and Outreach, a recognized expert in wildfire science:

> "All vegetation has the potential to burn in wildfires but some species are more flammable and hazardous than others. Eucalyptus, with its shedding bark, huge amounts of leaf litter, tall dense stands of trees, and fast growth is probably the most hazardous species in the East Bay Hills."

Professor Stephens recommends targeted removal of eucalyptus trees that pose the highest potential for harm; this approach has been incorporated into the Plan, which proposes selective removal of high-risk eucalyptus trees. In light of the high fire danger associated with eucalyptus trees and environmental impacts associated with the retention of eucalyptus trees, the District does not believe that further consideration of a project alternative that preserves additional or all eucalyptus trees is warranted, for example the Hills Conservation Network's proposal that within RTAs where it is recommended the eucalyptus are removed that instead, "only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet." In Draft EIR Chapter V. Alternatives, a "No Tree Removal" alternative was considered and rejected from further analysis by the District as it would "not meet the primary objectives of protecting life and property, maintaining a network of strategic fire routes for evacuation and emergency access; and reducing and removing non-native invasive plants and converting park lands to viable, sustainable, and low hazard ecosystems. This alternative also would fail to meet both the goals and objectives of the project over the long-term." As stated on page 309 of the Draft EIR:

> It should be noted that selective thinning, pruning and removal of ground and ladder fuels are the recommended actions for the majority of the approximately 1,360 acres of eucalyptus

1999. The International Scene and Its Impact on Australia page 137-148 In Proceedings of the 1999 Seminar FIRE! The Australian Experience. National Academies Forum, and Pyne, Stephen R, Patricia L. Andrews, Richard D. Laven. 1996. Introduction to Wildland Fire. Wiley Press. Page 74, and National Wildfire Coordinating Group 2007. Intermediate Wildland Fire Behavior Student Workbook, November, 2007. Page 3.10.

stands within the identified treatment areas (see Table III-2 in the Project Description chapter of this EIR.) Removal of eucalyptus or pine stands is the recommended action when the eucalyptus or pines: (1) are located along a ridgeline close to homes to minimize ember production and distribution during a wildfire under Diablo wind conditions; (2) have heavy concentrations of understory fuels and are located adjacent to designated strategic fire routes or major roadways used for evacuation and emergency access; and (3) are located above a well-developed understory of native plant communities (e.g., oak-bay woodland). Even if most of the eucalyptus forests within the recommended treatment areas were removed (approximately 1,360 acres of eucalyptus), there would still be thousands of eucalyptus and Monterey Pine remaining within the 3,500 acre recommended treatment area and untreated,19,000-acre Study Area.

Therefore, the District is intending to manage the majority of eucalyptus groves over the long-term to reduce wildfire hazards by thinning. There is also widespread agreement that the replacement of eucalyptus and pine plantations with plant communities that present a lower wildfire risk and a higher concentration of native plants is an effective way to reduce fire risk.

While the differences in duff flammability, flame lengths, ember throw, limb breakage, and other fire danger characteristics between eucalyptus and other plant species that pose fire risks are certainly relevant, the findings of the National Park Service, the District, other agencies and wildland fire experts that eucalyptus poses a significant fire risk along the wildland urban interface may be even more important. In light of research presented here, and scientific and historical evidence that eucalyptus and Monterey pines pose a real wildfire risk, providing additional analyses of the relative fire-prone characteristics of eucalyptus, is simply redundant.

Because the District seeks to achieve multiple objectives through Plan implementation, and cost is only one consideration of many, a detailed cost/benefit analysis of the Plan (or the recommendations for each RTA) compared to all other feasible alternatives is not warranted. As stated in Section 15151 of the *CEQA Guidelines*, the analysis in an EIR "need not be exhaustive," but should provide decision-makers with enough information to make a reasoned decision about the project. The Draft EIR achieves this objective through over 300 pages of analysis of the potential environmental impacts of the project. The function of the Draft EIR is to identify the potential environmental effects of the Plan (and feasible ways to reduce adverse effects), not to determine whether there are other more cost-effective or efficient ways to achieve the objectives established by the project sponsor.

As the project sponsor, the District has the discretion to identify its own objectives for the proposed Plan. One of these objectives is the protection and restoration of native plant communities. In some places native plant communities would replace eucalyptus trees and other native species. The project sponsor may reasonably seek to promote native plant restoration even if such restoration activities may not be the most effective way to reduce fire hazards. This decision to establish native vegetation is consistent with the District's role as a manager of open space resources in the Bay Area and would support the objectives listed in the Plan and the District's Master Plan as stated on page 98 of the Draft EIR and reiterated below:

- The District will maintain and manage vegetation to conserve, enhance, and restore natural plant communities; to preserve and protect populations of rare, threatened, endangered, and sensitive plant species and their habitats; and, where possible, to protect biodiversity and to achieve a high representation of native plants and animals.

- The District will evaluate eucalyptus, pine and cypress plantations, and shrubland or woodland areas occurring along the wildland/urban interface on a case-by-case basis for thinning, removal, and/or conversion to a less fire-prone condition. The District will construct and maintain fuel breaks, as necessary, to manage hazardous fuels and contain wildfires. The District will minimize the widespread encroachment of monotypic stands of coyote brush, poison oak, and broom on park land.

The protection and restoration of native species is also explicitly listed as a goal of the Measure CC funding designated for Wildfire Protection. The following is excerpted from the published Measure CC ballot language: "Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires." The preparers of the Draft EIR believe that, on the whole, striving for the restoration of native plant communities wherever possible as a resource management objective to be achieved in concert with fuel reduction activities that implement the Plan would be beneficial to fire protection and the environment.

Another objective of the District, as stated in the Master Plan, is that the District "will conserve, enhance, and restore biological resources to promote naturally functioning ecosystems. Conservation efforts may involve using controlled grazing, in accordance with Wildland Management Policies and Guidelines, prescribed burning, mechanical treatments, integrated pest management, and/or habitat protection and restoration. Restoration activities may involve the removal of invasive plants and animals or the reintroduction of native or naturalized species adapted to or representative of a given site." An integral part of the Wildfire Hazard Reduction and Resource Management Plan is to meet this objective by identifying methods and fuel reduction treatments and establishing conditions which allow a gradual, natural succession to more native and lower fire-risk communities. Resource management strategies of the Plan include reducing and replacing weedy and non-native, high risk fuels with more native plant communities that have a lower fire risk, higher biodiversity and a higher representation of native plants and animals. Achieving a more self-sustaining plant community should reduce the District's fuel management maintenance needs and costs in future years.

A. STATE, REGIONAL, AND LOCAL AGENCIES

Letter
A1

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

November 3, 2009

Brian Wiese
East Bay Regional Parks District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Subject: Wildlife Hazard Reduction and Resource Management Plan
SCH#: 2008042099

Dear Brian Wiese:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on October 30, 2009, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

for: Scott Morgan
Acting Director, State Clearinghouse

Enclosures
cc: Resources Agency

Letter
A1
Attach

Document Details Report
State Clearinghouse Data Base

SCH# 2008042099
Project Title Wildlife Hazard Reduction and Resource Management Plan
Lead Agency East Bay Regional Parks District

Type **EIR** Draft EIR

Description NOTE: Extended Review Per Lead

EBRPD has prepared a long-range Draft Wildlife Hazard Reduction and Resource Management Plan to guide ongoing vegetation management activities on EBRPD park lands along the urban-wildland interface to reduce the likelihood of a catastrophic, wind-driven wildfire, such as the 1991 Oakland Hills fire. EBRPD has determined that there are areas of high hazard fuels within the parks that have significant potential to produce or conduct a devastating wildfire, and action is needed to reduce the risk of a fast-moving wildland fire emerging from or moving through the parklands and igniting residential neighborhoods and other structures and facilities adjacent to the parks. Similarly, the potential for fires starting on and moving from adjacent non-park lands and propagating through these high hazard fuels to cause unacceptable damage to EBRPD facilities and resource is great and warrants mitigation. Resource management considerations and best management practices (BMPs) to avoid or minimize environmental impacts will be incorporated into the Plan to ensure that fuel reduction treatment activities are carried out in a manner consistent with protecting environmental resources in the public parklands. While the study area for the Plan includes the 13 hillside parks (Sobrante Ridge Regional Preserve; Kennedy Grove Regional Recreational Area; Wildcat Canyon Regional Park; Tilden Regional Park; Claremont Canyon; Temescal Regional Recreational Area; Robert Sibley Volcanic Regional Preserve; Huckleberry Botanic Regional Preserve; Roberts Regional Recreational Area; Redwood Regional Park; Leona Canyon Regional Open space and Preserve; Anthony Chabot Regional Park; and Lake Chabot Regional Park) and seven shoreline parks (Point Pinole Regional Shoreline; Miller/Knox Regional Shoreline; Brooks Island Regional Shoreline; East Shore State Park; Middle Harbor Shoreline Park; Robert W. Crown Memorial State Beach; and Martin Luther King Jr. Regional Shoreline), the main focus of the Plan is the wildland-urban interface along the western edge of the East Bay hill parks and the shoreline parks of Point Pinole and Miller/Knox, where high wildfire hazards and fuel loads are present.

Letter
A1
Attach

Document Details Report
State Clearinghouse Data Base

Lead Agency Contact

Name	Brian Wiese
Agency	East Bay Regional Parks District
Phone	(510) 544-2321 **Fax**
email	
Address	2950 Peralta Oaks Court
City	Oakland **State** CA **Zip** 94605-0381

Project Location

County	Alameda, Contra Costa
City	Pinole, Richmond, Berkeley, Oakland, Orinda, Alameda, ...
Region	
Lat / Long	
Cross Streets	
Parcel No.	various
Township	**Range** **Section** **Base**

Proximity to:

Highways	SR-4,SR-61,SR-13,SR-185,SR-123,I
Airports	No
Railways	BART,UPRR,BNSF
Waterways	San Francisco Bay, Lake Chabot, Lake Anza, Lake Temescal, various creeks
Schools	Yes
Land Use	Parks/Open Space/Recreation GP: Natural Units; Recreation/Staging Units; Special Protection Features; and Special Management Features Z: Recreation and resource management uses.

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Forest Land/Fire Hazard; Geologic/Seismic; Landuse; Noise; Soil Erosion/Compaction/Grading; Vegetation; Water Quality; Wetland/Riparian; Wildlife

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Game, Region 3; Cal Fire; Office of Historic Preservation; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Office of Emergency Services; California Highway Patrol; Caltrans, District 4; Regional Water Quality Control Board, Region 2; Native American Heritage Commission; State Lands Commission

Date Received 08/03/2009 **Start of Review** 08/03/2009 **End of Review** 10/30/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

LETTER A1
State of California, Office of Planning and Research
Scott Morgan, Acting Director
November 3, 2009

A1-1: No response is required. This letter confirms that the Draft EIR was circulated to State reviewing agencies.

Letter
A2

STATE OF CALIFORNIA – THE RESOURCES AGENCY
Arnold Schwarzenegger, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916)-653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov

RECEIVED
OCT 28 2009
PLANNING / STEWARDSHIP

Brian Wiese
Chief, Planning & Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605

October 23, 2009

Wildfire Hazard Reduction and Resource Management Plan Draft Environmental Impact Report (DEIR), # 2008042099

Dear Mr. Wiese:

The State Office of Historic Preservation (OHP) has broad responsibility for the implementation of federal and state historic preservation programs in California. We thank you for the opportunity to comment on the above Draft Environmental Impact Report (DEIR) issued under the California Environmental Quality Act (CEQA) and for speaking with my staff regarding the project. We are very concerned that the DEIR suffers from inadequate cultural and historical resources identification, inadequate identification of impacts to these potential resources, and limited mitigation and treatment measures which as a whole are not sufficient or correspond to current professional standards. The Cultural Resources section is deficient and does not meet the requirements of CEQA to determine whether the project would impact significant historical and cultural resources.

The project "is the Draft Wildfire Hazard Reduction and Resource Management Plan (The Plan) that has been developed to guide ongoing vegetation management activities on East Bay Regional Park District's (EBRPD or District) park lands along wild land-urban interface to reduce the likelihood of a catastrophic wind-driven wildfire. . . Alongside these activities, resource management considerations and best management practices (BMPs) to avoid or minimize environmental impacts from vegetation management activities have been incorporated into the Plan to ensure that fuel reduction treatment activities are carried out in a manner consistent with protecting environmental resources in the public parklands." (DEIR, III-15)

The study area consists of 19,000 acres of EBRPD park lands within Alameda and Contra Costa Counties. It includes thirteen hillside parks: Sobrante Ridge Regional Preserve, Kennedy Grove Regional Recreation Area, Wildcat Canyon Regional Park,Tilden Regional Park, Claremont Canyon, Temescal Regional Recreation Area, Robert Sibley Volcanic Regional Preserve, Huckleberry Botanic Regional Preserve, Roberts Regional Recreation Area, Redwood Regional Park, Leona Canyon Regional Open Space and Preserve, Anthony Chabot Regional Park, and Lake Chabot Regional Park.

1

Also in included in the study area were seven shoreline parks: Point Pinole Regional Shoreline, Miller/Knox Regional Shoreline, Brooks Island Regional Shoreline, Eastshore State Park, Middle Harbor Shoreline Park, Robert W. Crown Memorial State Beach, and Martin Luther King Jr. Regional Shoreline.

1 cont.

The Plan is a system-wide document that identifies objectives, policies, and guidelines to guide fuel management activities within the EBRPD Study Area. (DEIR III, page 21) The purpose of the Plan is to reduce the risks from wildfires in the identified high hazard areas on EBRPD parklands through fuel reduction actions that are conducted in a manner that mitigates adverse environmental effects and implements resource and habitat management goals. Based on a fire behavior prediction model for each park unit recommended treatment areas were designated and developed as initial treatment and maintenance treatment areas with strategic fire routes. The potential area of direct impact thus was considered to be approximately 3,538 acres. The Plan puts forward a number of goals and objectives, however, none of the expressed goals include cultural resources protection as a Plan objective; to protect or preserve historical or cultural resources is not mentioned once. (DEIR III- page 24-25)

2

The EIR states that EBRPD has determined through their environmental review that the BMP's, guidelines, and mitigation measures identified in the Plan and the EIR will be sufficient to address most proposed treatments within the Study Area. According to EBRPD this EIR is intended to be a programmatic EIR and to serve as a basis and baseline document for any subsequent CEQA review if the District determines that a treatment area proves to be an exception to the recommended treatments and will need to consider whether further CEQA review is required. (DEIR III, page 35)

3

Cultural and Historical Resources

We are very concerned with the inadequate cultural resources identification that has occurred for this document since it does not meet the requirements of CEQA. Pursuant to CEQA Guidelines § 15064.5 a lead agency has to determine the significance of impacts on historical and cultural resources and develop adequate mitigation measures and alternatives. This had not occurred.

Here are our particular areas of concern with the cultural resources section:

- The accuracy and completeness of the historical background/contexts
- The accuracy and ability of the recorded information on the cultural resource database gathered for this report to meet current professional standards for the recording and evaluation of the cultural resources
- The identification of impacts to cultural resources (and within that, the incorrect process for handling human remains described within the Plan)
- The limited treatments that are described for a wide variety and type of historical resources.

4

Historical Background/Contexts

The document does not provide accurate or detailed enough historical context(s) for the potential historical or archeological resources in the project area. For instance, in the

5

section on Prehistory and Ethnography, on page 210 is the statement that "Penutian peoples migrated into central California around 4,500 years ago and were firmly settled around San Francisco Bay by 1,500 years ago." This seems to imply that permanent settlement was relatively late (1,500 years ago) – but this is contradicted in the second paragraph below where in discussion of the Emeryville Shellmound, 'the largest shellmound in the Bay Area'…was established in the early Late Holocene (circa 3000-2500 years before the present). This discrepancy should be corrected, or clarified. **5 cont.**

On page 211 there is discussion of the Mission Period and the impact it had on Native Americans in the Bay Area. Although there is discussion of Mission Dolores and Mission Santa Clara, both some distance from the project area, there is no mention of Mission San Jose which is in Fremont, much closer to the study area. If no Indians from a tribe in the Study Area were recorded to have lived at Mission San Jose, it might be pertinent to state that fact. **6**

The entire historical background section providing the context(s) is very sketchy leaving us in a post-1906 earthquake affected East Bay and then jumping to discussion of Park Development associated with water district and reservoir construction. The DEIR provides 'history' about each park unit in short paragraphs which only minimally explain the historical contexts within which cultural resources still extant in the unit may be placed – most of this information is referenced to unit brochures on the EBRPD website. The 'brochure histories' are very vague at best and provide a very incomplete picture of the potential significance of cultural resources within the Study Area. Additionally there appears to be a blurring of what existed in the past and what is extant today that would require protection and preservation. **7**

<u>Accuracy and Level of Professional Standards</u>

- dated references
- poor quality references
- lack of field survey
- poor quality data/conflicting data/duplicate records
- no evidence of Native American consultation
- information on some resources appears to be incomplete, erroneous, or otherwise lacking in depth or understanding of the character of the resource

The literature review for the cultural section consisted of looking at eleven published sources, one of which was a brochure, one a web site, and of the remaining nine only one was completed within the last 10 years; the remaining sources dated from 16 to 32 years in the past. This is an indication that professional study and evaluation of the cultural resources, their status and condition within the EBRPD is extremely out of date and minimal at this point in time. Without good records, and therefore knowledge of the resource base, it is impossible to manage those resources in a manner that ensures that they are adequately considered during projects and that viable alternatives can be offered for their protection and preservation. **8**

Additionally, while a request to search the Sacred Lands File at the Native American Heritage Commission resulted in no listed *Sacred* Sites, on page 209 the statement "...the Sacred Lands File did not indicate the presence of Native American Cultural Resources in the Study Area" is misleading – there are, in fact, numerous Native American Cultural Resources in the Study Area (see Table IV. E-I). However, *Sacred* Sites and cultural resources sometimes are not the same. There does not appear to have been any attempts to contact local California Indian tribes as potentially interested parties; this is a major oversight. Today it is considered normal operating procedure to make the effort to include California Native Indian people in all projects and decisions affecting their heritage resources through informational meetings and/or formal consultation. They should be notified and asked for comment. Their comments should be reflected in the environmental review documents. 9

With regard to Table IV, E-1 and the discussion under "Known or Listed Cultural and Paleontological Resources" on page 218 there are many questions about the completeness of the Table, as well as the information it contains. It states that there are a total of 251 resources identified in the parks and these are listed in Table IV. E-1. All cultural resources (with the possible exception of some resources listed on the California Register) that have been recorded and registered with the Information Center (in this case the Northwest Information Center (NWIC)), should have either a Primary Number or a Trinomial assigned to them; this allows them to be included in the databases maintained by the Information Centers to be used during record searches, allows for them to be evaluated for their significance, and provides a durable record upon which decisions regarding preservation and protection are made. It is of great concern that only 58 of the 251 resources listed in the Table possess such numbers; this appears to mean that the majority of the cultural resources within EBRPD are invisible to the Office of Historic Preservation, professionals who do record searches for projects in and near any of the park units, and fire response teams that depend on GPS location information contained in the DPR523 recording forms. 10

Since no field survey was conducted for this Plan, there is no way to know how and when the majority of resources listed in the Table were identified and documented. Whether or not they still exist is in question, as is their areal extent and exact location. This is completely inadequate. And finally, there does not appear to be sufficient documentation to determine the significance of individual resources or what level of protection would be required during the hazard reduction implementation. This list appears to represent documentation conditions that are sub-standard to current professional recording and evaluation requirements. A pertinent question here would be when the last pedestrian survey was done to record or update the condition of resources in any of these park units. If such surveys happened more than ten years ago (the youngest report used as reference), professional standards would dictate that a field survey to update all cultural resource records is required prior to further planning efforts or implementation of this Plan. 11 12

To further make this point we refer to section III – Project Description, Table III-2 Recommended Treatment Areas. While this table is showing that many of the treatment 13

areas have no cultural resources – But how is that known since there was no survey? – in the twenty-six that do have cultural resources listed, nothing is suggested to protect them. Only four even mention specific resources at all (all historical ones), and the discussion revolves around the vegetation; not about the historical resource.

13 cont

Questions of accuracy were raised for the following identified resources:

EBRPD #cchs002 has a primary number and a very early Trinomal (CA-ALA-019), yet is described as a 'contemporary rockcarving'. What does contemporary mean in this case, could it be Native American rock art?

EBRPD #bkna002 and #bkna005 appear to be the same shellmound.

EBRPD #tina001 and 018 have the same Trinomial. Are they the same site or was a typographic error made in the Trinomial?

EBRPD #cbhs004 identified as "Neptune Beach site". Are there any physical remains of Neptune Beach within the unit? If there are no extant resources, inclusion of this as a cultural resource that EBRPD needs to consider and protect doesn't make sense and is not a professional standard of identification of resources.

14

There appear to be a number of resources listed, that, due to lack of trinomial or primary designations, seem to be unknown to the NWIC, yet by their very nature have the potential to be significant and eligible to the California Register or National Register. These are:

- the 13 Nike sites listed for Lake Chabot which would appear to constitute a historic district (which may also include the Nike site at Tilden Regional Park as a discontigous contributor),
- the WPA golf course at Tilden Regional Park,
- the CCC camp at Tilden Regional Park, and
- the WPA rock work in Temescal Regional Recreation Area.

15

And then there are potential resources not listed at all. For instance, at Tilden Regional Park the Merry-go-Round and the steam trains are listed, but the Little Farm and the Pony Ride are not. By the EBRPD website, the Little Farm has existed since 1955, making it old enough for recording and evaluation. The Pony Ride must be in the same age range – as it was constructed prior to 1959 and therefore needs to be recorded and considered.

16

What does 'N/A' mean on page 237 in the EBRPD# column? Does this mean there is no number identification for these resources or that these resources aren't in a park unit? This needs to be clarified. Additionally, among these, is a comment for the 'Naval Supply Center' that has a Primary number (P-01-005892), yet is 'no longer extant'?? This is very confusing and needs to be reconciled.

17

There may be more such errors, but these are sufficient to indicate that the list is of little practical use in determining the holdings within EBRPD that are actually extant and need to be considered for the validity of this CEQA project.

18

Identification of Impacts to Cultural Resources

19

- Section 2.b. entitled "Less-than-Significant Cultural Resources Impacts" should be re-titled to reflect its focus, "Treatment Options". **19 cont**
- On page 226 the discussion of Best Management Practices (BMPs) is linked to Chapter IV Fuel Treatment Methods, and these fuel treatments are used here as the mitigations to reduce impacts to cultural resources note that mitigation of chemical treatment was omitted. **20**
- The mitigations offered as BMPs are limited to the types of treatments that would be expected for fuel reduction. But the way the treatments are written, they are not being used effectively to protect the resources but instead to remove the resources from fuel reduction activities. This is a move that could, in fact, intensify future fire damage and result in a greater loss of cultural values than would be an acceptable, proven mitigation measures. **21**
- Under "Potentially Significant Cultural Resource Impacts" CULT-1 is inappropriate because burials are not itemized out of archaeological sites and the mitigation as described is not in compliance with current law and professional practice. CULT-3 is an administration short-coming with the agency which may result in significant impacts to resources of all types, and should certainly be corrected, but this is not the appropriate place to deal with such an issue. **22**

Limited Treatments

Best Management Practices (BMPs), Shortcomings, one example:
Under Hand Labor (page 226), "EBRPD will exclude documented cultural resources in the treatment area from hand labor that involves ground disturbance" and "A District staff member trained in cultural resources identification will demarcate the boundaries of previously documented cultural resources identified during hand labor treatment. These resources will be avoided by hand labor treatment consistent with the Districts procedures for protecting cultural resources."

Discussion of hand labor seems to revolve on the threshold of ground disturbance and when that is potentially present hand labor will not be used. However, no alternative is offered except to avoid the resource; this leaves 'vegetation islands' on the landscape that can call attention to archaeological or historic sites as well as allow for a build up of heavy brush which would result in high-intensity and long lasting fires on the site, the type that cause the most damage to midden artifacts and soils. **23**

Hand labor (pruning to thin shrubs of excess limbs and leaves, for example) should be used on sensitive sites *instead of* ground disturbance to reduce fuel within the site boundaries. Hand labor with ground disturbance could be acceptable on some historic sites without buried deposits.

Potential mitigations should be expanded and conform with current acceptable practices as outlined in, for example in "Fire and Archaeology" a compendium of fire behavior and management of risks to cultural resources. This document could be obtained from the Eldorado National Forest, or the Pacific District Archaeologist. CalFire also has a comprehensive manual for protection of cultural resources during controlled fires as well as response to wildfire. In addition, we like to direct you to the **24**

Supplemental Procedures for Protection of Cultural Resources from Prescribed Fire Effects, A Cultural Resources Amendment to The State Protocol Agreement between the Bureau of Land Management (BLM) and our office dated August 12, 2009.

24 cont

With regard to CULT-1: It is not common practice when assessing cultural resource impacts to isolate, for discussion, human remains or burials. These features or discoveries are normally part of a larger archaeological site, and the handling of such is governed by law. While the mitigation measure CULT-1 on page 229 follows **some of the current law, it also appears to make several errors in the current accepted process and steps for treatment of the discovery of Native American human remains.** Some of these appear to be based upon a misunderstanding of the role and responsibilities of the participants. If EBRPD has an archaeologist on staff, they would likely be contacted at the same time as the coroner to come to the site (or if EBRPD has a firm under contract 'on call' they would be notified). The presence of the archaeologist at this point would be to determine the extent of the site (as stated in "Impact CULT-1" most burials are associated with archaeological sites - both prehistoric and historic- and determine where work can proceed (the initial 50 foot limitation could be extended further based on inspection of the area). After the coroner has determined that the remains are Native American, it is true that the Native American Heritage Commission is next to be notified, they will provide EBRPD with the names of the Most Likely Descendent (MLD), it is then the responsibility of EBRPD (usually through their archaeologist) to contact the people on this list for recommendations regarding the handling and treatment of the remains and any burial goods. **It is inappropriate for the archaeologist to recover any information from either the human remains or the burial goods without the express permission of the MLD. In fact no further excavation of the burial site should be done until or unless the MLD is present**. The way it is worded it appears to give the archaeologist permission to undertake studies prior to the involvement of the MLD. This is at variance with law and accepted practice. **Additionally, a determination of significance would not be made on an individual, but rather on the site, and any site with a human burial would usually be eligible to the California Register under Criteria 4 at the least.**

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The additional point here, and probably the most important, **is that there is no acknowledgement in the CEQA document within the identification of cultural impacts for the potential impacts to archaeological sites in all their complexity as probably exists within the park system. There are bedrock mortars, rock art, foundations and other features, as well as buried deposits that can all be damaged by controlled fire, hand or mechanical removal of plant materials, or through excavation of fire lines, roads, or other ground disturbance related needs. Additionally, there is no acknowledgement of the buildings, structures, objects or landscapes related to the historic period that would need special consideration and mitigation.**

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The mitigation for CULT-1 is too focused on burials, and very insufficient to address the types of resources listed in Table IV. E-1. Mitigation should call out steps for either

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archaeological sites or the built environment and would include trimming or removal of brush to protect or diminish fuel load, tailored to meet the needs of the resource; application of foam or other protective coverings to vulnerable resources; and the identification, treatment and protection of historic vegetation related to significant resources. These are just some examples of what should be covered.

27 cont

With regard to CULT-2: a paleontologist or geologist should review this section. Although California statute lists paleontological resources with cultural, they are not studied within the same academic discipline and should not be treated the same.

28

With regard to CULT-3: While this appears to be in response to an acknowledged lack of cultural input within the last two years, it seems more to justify past omissions rather than implement effective mitigations. **To inventory your existing records, as was done by LSA for this project, the Plan is totally ineffective as a mitigation measure** (see notes above regarding short-comings in the gathering of data for the Plan). Moreover, pursuant to CEQA such a measure does not qualify as mitigation. **Each area that is targeted for fuel load reduction must have pre-treatment field survey performed, the type and extend of each existing cultural resource recorded using DPR523 records as appropriate, and individual mitigations called out for those resources that will guide the treatment with regard to cultural resource preservation.** In Table III-2 there are a total of 26 treatment areas with known cultural resources, yet in only four is mention made of how these resources will be treated, and that mention is very limited in scope.

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If a pre-field survey is not be possible, or in the event of wildfire, the long-term management of the cultural resources of EBRPD will also depend on post-fire survey of areas known to contain cultural resources. Post-fire survey often reveals that sites cover a greater area than anticipated, contain bedrock features or rock shelters that have been obscured by heavy vegetation, and will correct mapping of location and relationships of cultural resources to other resources within the park system.

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To recap once more, pursuant to CEQA (Guidelines § 15064.5) the lead agency must determine whether historical and archeological resources exist, whether such resources are significant, whether the project subject to CEQA may cause a substantial adverse change in the significance on an historical resource and develop potentially feasible mitigation measures that mitigate significant adverse changes in the significance of an historical resource following CEQA Guidelines § 15126.4 (b). Historical resources commonly are resources of the built environment such as buildings, structures, cultural landscapes, etc. Cultural resources are prehistoric and ethno-historic Native American archeological sites, historic archeological sites, and elements or areas of the natural landscape which can have traditional cultural significance such as sacred areas or areas used for the gathering of traditional plants or foods. Archeological resources also can be historical resources.

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The necessary phases of cultural resources studies pursuant to CEQA are the inventory and evaluation of potential cultural resources. The first phase, the inventory

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phase consists of an extensive records search, a field survey and a written report. At this point consultation with local California Native American groups should be undertaken. Upon identification of cultural resources in a project area a report is written detailing the survey, its findings and methods. Appropriate recordation following accepted professional practices using DPR 523 forms occurs and the forms and report(s) are filed with the local Information Center (IC). Guidelines for the format and content of all types of archeological reports have been developed by our office and are available on our web site.

32 cont

The second phase in the process is the evaluation of cultural resources; the determination of significance according to the criteria outlined in CEQA section §15064.5. In most cases limited test excavations are necessary to determine site boundaries, to assess the integrity, intactness of a site or sites, and to study its features and artifacts to determine its importance. If significant resources have been identified then adequate mitigation/treatment measures must be developed as the next step.

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The Secretary of the Interior Standards for Archeology and Historic Preservation (The Standards) issued by the National Park Service provide technical advice about archeological and historic preservation activities and methods. We recommend federal and state agencies, local governments and Special Districts to use the Standards when approaching the identification, evaluation, registration and treatment of historic properties within their jurisdictions and when hiring professional staff to meet the Standards.

34

In summary, the key problems with this environmental document begin with the poor quality of the knowledge, the non-existent historical contexts about the cultural resources in the project area that need protection or should be avoided. The problems continue with the lack of clarity about what the impacts are and how to mitigate them. Finally, there appears to be a total lack of understanding of current archaeological practices, methods, professional standards, and responsibilities towards Native Americans and their heritage resources. For adequate protection of the cultural resources within EBRPD the on-going inclusion of a professional archaeologist in the systematic inventory, planning and management of EBRPD cultural resources would be a necessity and is highly recommended. The reliance on 'A trained District staff person" to perform site assessments or call for (or not) additional study as is listed in the BMP for mechanical treatment is not sufficient to develop an effective protection plan for the cultural resources that exist within the park system.

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The DEIR is inadequate and we strongly suggest its recirculation with a newly researched and developed cultural resources section that clears up the many glaring deficiencies. Please send a copy of the newly circulated DEIR directly to our office for review.

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We thank you for the opportunity to comment on the above project. Please understand that our comments herein are specifically related to the environmental review process and adequacy of documents prepared for the environmental review purposes. We do

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not take positions in support of or against projects, but rather focus on the environmental review process itself.

39 cont

If you have any further questions, please don't hesitate to contact Michelle C. Messinger, Historian II, CEQA Coordinator Local Government Unit at (916) 653-5099 or at mmessinger@parks.ca.gov.

Sincerely,

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

Cc: Leigh Jordan, Coordinator, Northwest Information Center
Pat O'Brien, General Manager, and Board of Directors of EBRPD
Larry Meyers, Executive Secretary, Native American Heritage Commission
Jakki Kehl
Gregg Castro
Holly Costa, Regulatory Project Biologist, U. S. Army Corps of Engineers
Don Monahan, Superintendent, Diablo Vista District, California State Parks
State Clearinghouse

LETTER A2
Office of Historic Preservation
Milford Wayne Donaldson, State Historic Preservation Officer
October 23, 2009

A2-1: This comment, which summarizes the proposed project, introduces the subsequent comments.

A2-2: Contrary to the commenter's assertion, the Fire Plan refers to the protection of cultural resources as an objective. The objective may be found on page 21 of the Fire Plan in the "Objectives" section. The Fire Plan states that one of its objectives is to "Reduce the potential for loss of environmental, *cultural*, aesthetic or recreational *resources* due to a catastrophic wildfire" (emphasis added). Objective 3 of the Plan on page 21 and on page 25 of the Draft EIR is revised as follows:

> 3. Ensure that during the planning for and implementation of all fuel reduction activities that the protection, restoration and enhancement of biologically diverse habitats and environmental resources, including cultural resources, is given full consideration, and specific resource management objectives and actions are incorporated into all fuel reduction treatment plans.

A2-3: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-4: The commenter makes comments regarding the agency's general concerns about the EIR, and responses are provided to more specific comments below. The EIR authors disagree with the comment that the EIR is both inaccurate and inadequate. The known occurrence of resources are specifically addressed and listed in the document (Table III-2), and the District's Cultural Site Atlas database is referenced. However, it would be inappropriate to provide further details about those resources in this public document.

A2-5: The Draft EIR assesses the potential impacts of the project (the Wildfire Hazard Reduction and Resource Management Plan) that will govern the conduct of the District in reducing wildfire hazards (*CEQA Guidelines* §15168(a)(3)). The background settings were not intended to be exhaustive, as that requirement is not made of EIRs (*CEQA Guidelines* §15151), but rather to be a good faith effort at providing an accessible, readable historical context to disclose the major trends in the Fire Plan area's cultural background. The goal of the settings was to provide a general description of the geographic, cultural, and historical factors that influenced the presence of cultural resources in the project area, and overly detailed historical contexts, which would not substantively assist in the identification or disclosure of impacts, were not appropriate.

The Draft EIR has been revised in response to the commenter's assertion regarding the Prehistory and Ethnography section on page 210 of the Draft EIR. The text has been revised as follows, with additions underlined and deletions struck out:

> **(1) Prehistory and Ethnography.** Research indicates that California was probably settled by native Californians between 12,000 and 6,000 years ago. Penutian peoples migrated into central California around 4,500 years ago~~ and were firmly settled around San Francisco Bay by 1,500 years ago~~. The descendants of the native groups who lived between the Carquinez Strait and the Monterey area are the Ohlone, although they are often referred to by the name of their linguistic group, Costanoan.

A2-6: The Draft EIR has been revised in response to the commenter's statement regarding Mission San Jose on page 211 of the Draft EIR. The text has been revised as follows, with additions underlined and deletions struck out:

> These settlers established the mission system and exposed the Ohlone to diseases to which they had no immunity. Mission San Francisco de Assisi (Mission Dolores) was founded in 1776, and drew Ohlone from the entire Bay Area. Mission Santa Clara, just outside of San Jose, was founded in 1777, and Mission San Jose was founded in 1797. Many East Bay Native Americans, particularly those of eastern Alameda County and Contra Costa County, went to Mission Santa Clara. Mission records list the Huichun at Mission San Francisco between 1794 and 1805. The Jalquin and the Saclan appear in Mission San Francisco records in 1801-1803, although the Bay Miwok were listed as a group beginning in the 1790s. Following the disbanding of the missions in 1834, native people in the Bay Area moved to ranchos, where they worked as manual laborers.

A2-7: The park unit-specific overviews were not intended to be exhaustive historical contexts suitable for determining the significance of cultural resources. They were intended to be a good faith effort at providing an accessible, readable, and brief background to provide the reader with a sense of the general trends of each unit's development. A setting with detailed descriptions of historical associations and significant historical themes was not necessary to evaluate the potentially significant effects of the Plan on cultural resources. The East Bay Regional Parks District (EBRPD) website is a useful source of general background data regarding the natural and cultural history of each unit, and was used as such during the preparation of the park unit overviews to provide a description appropriate to the scale of the analysis.

A2-8: The benchmark for the adequacy of the archival research and literature review was the degree to which it constitutes a good faith effort to inform decision makers and the public about potentially significant impacts.The information obtained from the sources consulted is adequate for presenting general prehistoric and historical cultural trends in the project area; the difference between older sources and newer publications does not introduce new information that would change the scope of the EIR's analysis. The EBRPD does not feel that the date of a published reference is determinative of its value as a source of information about the nature and extent of

cultural resources in the Fire Plan area. For this reason, older references were reviewed, and the results combined with a current archival records search at the Northwest Information Center to provide the most thorough review of existing documentation that was feasibly possible, and that was appropriate to the scope of the analysis. Some of the sources consulted, although not published within the past 10 years, represent the professional analysis and study of practicing cultural resource professionals, and provide background on certain aspects of the Fire Plan area's history (i.e., the use of Spanish land management systems) that have been well researched and documented previously.

A2-9: The response quoted on page 209 of the Draft EIR (". . . the Sacred Lands File did not indicate the presence of Native American cultural resources in the study area") is a restatement of the response received from the Native American Heritage Commission (NAHC) dated August 30, 2007. The NAHC's response referred to "Native American cultural resources," not "sacred sites." Contrary to the commenter's assertion, the Draft EIR does not consider negative results from the NAHC Sacred Land File search to indicate that there are no Native American cultural resources in the Fire Plan area.

The Draft EIR has been revised for page 209 in response to the commenter's statement regarding the confusion between the NAHC response regarding "cultural resources" and the lack of "sacred sites" in the Fire Plan area. The revision shows the NAHC response verbatim. The text has been revised as follows, with additions underlined and deletions struck out:

> On July 7, 2006, and August 30, 2007, Ms. Debbie Pilas-Treadway, NAHC Environmental Specialist III, responded by faxed letter that <u>"A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area."</u> ~~the Sacred Lands File did not indicate the presence of Native American cultural resources in the Study Area.~~ On September 5, 2007, LSA spoke to Ms. Helen Lore, Board Member of the ACHS. Ms. Lore stated that neither she nor her organization had any comments or concerns about the project. Ms. Betty Maffei, Director of CCHS, stated in a phone call on June 29, 2006 that neither she nor the CCCHS had any other concerns about the project or Study Area, but supports EBRPD efforts to reduce fire risk by managing fuels on their lands.

The EBRPD will consult with Native Americans on a case-by-case basis as part of the BMPs when there a clear indication that their interests may be affected. In the Draft EIR, known resources have been identified and Best Management Practices to avoid or minimize impacts to these resources during fuel management activities will be implemented, as indicated in Chapter IV of the Plan and one page 226-227 of the Draft EIR.

A2-10: The EBRPD maintains a Cultural Site Atlas to organize and maintain records of cultural resources on park lands. This GIS database was created in 2002 under the guidance of a consulting archaeologist, and was begun with a records search at the

Northwest Information Center for all cultural records located on EBRPD lands. These records were augmented by the EBRPD's own records generated by surveys performed over the years (including some resources that have not been formally recorded). In coordination with Fire Plan implementation, the EBRPD is field-checking all records in the database to ensure that they are correctly characterized and geo-located.

A2-11: The District as lead agency and the LSA cultural resource specialists who prepared Section IV.E, Cultural Resources, determined that a field survey of the entire Study Area was not warranted as a basis to make a reasonable assessment of potential impacts on cultural resources associated with Plan implementation. CEQA allows the deferral of site-specific issues as long as program-wide mitigation measures (i.e., the Fire Plan Best Management Practices (BMPs) calling for pre-treatment resource assessments) are incorporated to address potential impacts.[10] As part of the BMPs, known resources will be identified during the pre-treatment assessments, and strategies to minimize impacts to such resources will be implemented. The BMPs provide for the identification of documented archaeological resources from existing records and for pre-treatment field survey site assessments to identify undocumented resources and for the avoidance and protection of such resources where prescribed fire or ground-disturbing activities may occur during treatment. Additionally, the BMPs require that, upon the discovery of unanticipated finds, potentially damaging work be stopped, the resource evaluated, and mitigation implemented for significant finds.

The analysis in the Draft EIR was based on a review of existing documentation, including the files of a regional office of the California Historical Resources Information System administered by the California Office of Historic Preservation. The information was used to establish baseline conditions for a first-tier environmental document, and the specificity of the document corresponds to the degree of specificity involved in the Fire Plan, consistent with *CEQA Guidelines* §15146. The environmental review contained in the Draft EIR is appropriate for the proposed project (the Plan).

A2-12: The commenter is referred to the response to comment A2-11, above.

A2-13: The commenter is referred to the response to comment A2-11, above.

A2-14: Comments are noted. The EBRPD Cultural Site Atlas, currently in the process of being revised and updated, was a partial basis for the Draft EIR's baseline conditions. The inconsistencies noted by the commenter will be corrected by the revision effort. At the time that the Draft EIR was prepared, however, the Cultural Site Atlas was reproduced in its entirety. The EBRPD deemed that the inclusion of potentially conflicting records was more desirable than omitting records on the basis of redundancy at the risk of overlooking resources.

[10] Remy, Michael H., Tina A. Thomas, James A. Moose, and Whitman F. Manley, 2007, pg. 638. *Guide to CEQA.* 11th edition. Solano Press Books, Point Arena, California.

A2-15: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-16: The cultural resources table in the Draft EIR has been revised to include the Little Farm and Pony Ride in response to the commenter's statement, and is included in Chapter IV of this document.

A2-17: The "no longer extant" referred to the status of the resource record, which was not obtainable through the CHRIS system at the time of the analysis. The cultural resources table in the Draft EIR has been revised to omit that phrase.

A2-18: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-19: The term for this section was selected to accurately describe the contents of the analysis.

A2-20: It is anticipated that the application of herbicides will not result in the physical disturbance of cultural resources due to the method of application (i.e., not using heavy equipment), and, therefore, that material impairment (as defined in *CEQA Guidelines* §15064.5(b)(2)) will not occur. Most chemical treatment is a localized (spot) hand application applied to eucalyptus stems to prevent re-sprouts and, therefore, aside from identifying the location of the resource as required by Draft EIR mitigation measures, no specific BMPs are necessary.

A2-21: The commenter states that BMPs related to cultural resources could intensify future fire damage and result in greater loss of cultural values. The commenter does not specify which BMPs they are referring to, and it is not clear from the comment how the proposed avoidance measures would result in greater loss of cultural values.

A2-22: The mitigation measure treats human remains as an issue of importance to descendant communities that is separate from, and not always consonant with, the interests and priorities of the archaeological community. The treatment procedures specified in the mitigation measure conform to the procedures called for in the California Health and Safety Code.

A2-23: Brush cover may sometimes be the best protection for certain resources by creating vegetative barriers to intrusion. The District has a program in place to minimize the potential for impacts to resources in "vegetation islands" through regular park ranger patrols and law enforcement to discourage unauthorized activity. The purpose of the Fire Plan is to manage fuels that will cause extremely hot, uncontrolled, and damaging wildfires. Limited patches of brushy vegetation are not a concern in this regard and are a desired outcome of the Plan.

A2-24: The EBRPD appreciates the notification of supplemental resource management literature related to fire suppression, and will obtain a copy of the publication for consideration in developing cultural resource protective measures during prescribed burns.

A2-25: The Draft EIR has been revised for mitigation measure CULT-1 in response to the commenter's statement regarding the treatment of human remains. The text has been revised as follows, with additions underlined and deletions struck out:

> If the remains are of Native American origin, the archaeologist will provide a preliminary assessment of the eligibility of ~~evaluate~~ the remains for California Register of Historical Resources (California Register) ~~eligibility~~, and shall do so in a non-invasive manner that does not involve ground disturbance. The remains shall be considered as a part of an archaeological deposit for the purposes of assessing the overall site's archaeological values; this will be separate from, and not superior to, consideration of the remains as possessing cultural significance for descendant communities. T~~t~~he coroner will contact the Native American Heritage Commission in Sacramento, which will in turn identify a Most Likely Descendent (MLD). The MLD shall be provided the opportunity to make recommendations for the respectful treatment of the Native American remains and any related burial goods. At this time, the archaeologist shall, in consultation with the MLD, undertake ground disturbing investigations of the remains and associated deposits to determine their eligibility. If the remains are eligible for the California Register, the archaeologist shall recover scientifically valuable information, as appropriate and in accordance with the recommendations of the MLD. Following the archaeologist's evaluation, a report should be prepared to document the methods, findings, and recommendations of the archaeologist conducting the work. The report should be submitted to EBRPD and the Northwest Information Center. (LTS)

A2-26: The Draft EIR setting section provides a summary of the historical themes that produced the cultural resources in EBRPD lands today. The variety of resources types referred to by the commenter is documented in the cultural resources table (Table IV.E-1: Cultural Resources Identified in the Study Area), as updated and included in Chapter IV of this document.

A2-27: The Fire Plan BMPs require the identification and protection of resources in treatment areas prior to treatment actions, which includes the types of resources that the commenter is referring to. The nature and extent of specific treatment actions will be dependent on the type of resource, and the Fire Plan allows for the development of treatment strategies as resource issues are identified. The BMPs provide for the identification, protection, and (where necessary) mitigation of impacts to cultural resources subject to treatment activities. The BMPs are sufficient to reduce the potential impacts to a less-than-significant level.

A2-28: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-29: The commenter is referred to the response to comment A2-27, above. Additionally, the inventory of existing records is considered to be only the first step. Every treatment area will receive a pre-treatment site assessment. Recording resources on DPR 523 series forms will not help to avoid impacts and is not feasible at this time given the scale of the Fire Plan. However, in continuing to update the Cultural Site Atlas, the EBRPD will consider the significance of sites and need for registration on a case-by-case basis.

Pages 103 to 104 of the Plan and page 227 of the Draft EIR shall be revised as follows:

Best Management Practices for Prescribed Burning - Cultural Resources

- Cultural resources, both archaeological and those in the built environment, are fire-sensitive sites. Therefore, EBRPD or its contractors will ensure that recorded cultural resource sites are provided with appropriate protection during any prescribed burn. This may include conducting a pre-burn site assessment prior to any initial prescribed burn action on a site. The locations of any previously unrecorded cultural resources exposed by burning actions will be mapped and documented. All activities ~~should~~ shall be planned and executed in such a way as to ~~cause the least amount of~~ ensure that any impacts on cultural sites are reduced to less-than-significant levels.

- EBRPD or its contractors ~~will~~ shall exclude any cultural sites within prescribed burn areas by constructing hand lines within the burn area or clearly delineating the boundaries of the burn area such that all cultural resources are fully excluded. This exclusion ~~should~~ shall be done shortly before the prescribed burn, and the hand lines removed immediately following to minimize potential risk of resource vandalism. Any digging, surface disturbance, or displacement of soil and vegetation within cultural sites must be avoided. Any mechanical equipment used prior to, during, or following the prescribed burn must be excluded from the cultural site. Foot traffic ~~should~~ shall be minimized on the cultural site such that the least amount of potential impact is caused. During prescribed burns, onsite personnel ~~will~~ shall closely monitor fire movement near cultural resources and ensure that fires do not cross into fire-sensitive cultural resource areas.

- All onsite personnel ~~should~~ shall be adequately informed and knowledgeable of the location of known cultural sites within and around the prescribed burn area. Personnel ~~will~~ shall also be sufficiently knowledgeable of proper treatment actions that can be applied at cultural sites. The Incident Commander ~~will~~ shall provide briefings and supervision to prevent potential disturbance of cultural sites.

- Following the completion of prescribed burning actions, all means of delineating site locations must be removed, and any hand lines or other features to identify the cultural sites must be obliterated.

Page 108 of the Plan and page 227 of the Draft EIR shall be revised as follows:

- EBRPD ~~will~~ shall exclude livestock from the vicinity of documented cultural resources deemed to be sensitive to grazing activities (e.g., a recorded site with human remains or midden).

A2-30 The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-31: The commenter is referred to the response to comment A2-27, above.

A2-32: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-33: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-34: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-35: The commenter is referred to the response to comments A2-7 and A2-8, above.

A2-36: Due to the nature and scope of the project being evaluated (the Plan), the impacts assessment was conducted at a more general level. CEQA does not require the analysis to be exhaustive, but rather to be supported by technical information obtained through a thorough review of existing documentation.

A2-37: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required.

A2-38: The comment is noted and does not relate to the adequacy of the Draft EIR; no further response is required. The EIR adequately identifies known cultural resources and applies appropriate BMPs and mitigations to protect them, which will be more specifically applied, on a project level in the field during Plan implementation.

A2-39: Comment acknowledged; no response is warranted.

Letter
A3

STATE OF CALIFORNIA—THE RESOURCES AGENCY Arnold Schwarzenegger, Gove

DEPARTMENT OF FORESTRY AND FIRE PROTECTION

SANTA CLARA UNIT
15670 MONTEREY STREET
MORGAN HILL, CA 95037
Website: www.fire.ca.gov
(408) 779-2121
FAX (408) 779-1679

Date: October 26, 2009
SCH#:2008042099
Draft Environmental Impact Report (DEIR)
Draft Wildfire Hazard Reduction & Resource Management Plan (Draft Plan)

Brian Wiese
Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Dear Mr. Wiese,

The above referenced planning documents were reviewed by the Santa Clara Unit of the California Department of Forestry and Fire Protection (CAL FIRE). The only concerns that this office has about the above referenced project, at this time, are fire hazard reduction issues, mitigation of Sudden Oak Death and proposed tree removal. 1

Fire Hazard

Portions of the proposed project exist within State Responsibility Areas (SRA). PRC Sections 4290 and 4291 requires the creation of defensible space or fire protection areas around and adjacent to roads, buildings or structures, and specifies clearing and construction criteria for access roads. PRC Section 4291 and Government Code Section 51182 were revised and adopted October 11, 2009 which better defines requirements for maintaining 100' clearances for defensible space. Structures within the project area should maintain a 100' clearance on all sides of the structure as defined by PRC Section 4291. 2

In the document, the establishment and maintenance of "Strategic Fire Routes" are identified and discussed. To ensure sufficient access by fire apparatus, during a wildfire or other emergency, existing and proposed strategic fire routes should meet minimums including a standard road width, and should maintain vegetation clearances both vertically and on both side of the road. If these strategic fire roads are to be marked for fire equipment and maintained year round to allow fire equipment access for 3

emergencies, roads should meet the minimum requirements defined in PRC Section 4290 which establishes road width (driving surfaces), maximum adverse/favorable percent slope of roads, turn-around area size minimums for fire equipment, and vegetation clearances (vertical and horizontal). Though some minimums are defined in the document, not all are identified and some do not meet minimums set in PRC Section 4290. These minimums should allow access for no less than a Type 3 Fire Engine and should be incorporated into the project plan.

3 cont.

A review of the documents identifies that no mechanical treatment actions will take place during Red Flag Warnings. As defined, Red Flag Warnings are times when fire behavior is expected to be extremely dangerous based on a combination of expected weather conditions. Unfortunately, fires can start even when Red Flag Warnings are not identified.

Mechanical treatments of vegetation within the project area should not take place during any expected or observed adverse weather patterns. These adverse weather patterns should not be limited to periods when Red Flag Warnings are issued but should also include times when adverse weather patterns exist which resulted in either low relative humidity, or moderate to high winds or high temperatures. Weather sampling should occur at regular intervals during any mechanical operations. If weather conditions are determined to exceed a defined weather safe prescription maximum, mechanical activity should cease until weather conditions improve.

4

It is our recommendation that a policy for mechanical operations on the project be completed and incorporated into the document and used. This should include at a minimum, a discussion of adverse environmental conditions, identify mechanical operations that could cause a spark and possible fire, fire suppression equipment that will be immediate available on site during mechanical operations, procedures for weather sampling, frequency of weather sampling, and identify weather thresholds for safe operations.

Additionally, on page 90 of the document, you reference several very important Public Resource Codes which deal with safe practices for mechanical operations. PRC 4427 and PRC 4428 are also applicable to your proposed operations and should be added the documents.

5

Sudden Oak Death (SOD)

This project is within the zone of infestation for *Phytophthora ramorum* Sudden Oak Death (SOD). Trees and vegetation, including possible host species are proposed for removal under this project. Although you identify the threat of SOD and recommended actions to control the spread, you do not address how you propose to monitor your protection measures to minimize SOD spread in or from the project area. It is recommended that the documents address the monitoring measures to include both East Bay Regional Park staff and subcontractors who are removing the vegetation from the area.

6

Letter
A3
cont.

Tree Removal
Based on a review of the documents, portions of the lands proposed for this project can likely be classified as "Timberland" as defined under Public Resource Code (PRC) Section 4526.

PRC Section 4526 defines Timberland as; *"Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.*

7

If any of the sites within the proposed project have commercial species such as Coast Redwood (*Sequoia sempervirens*) or Monterey Pine (*Pinus radiata*) growing on them, it likely meets the definition of Timberland. For this reason and further in PRC Section 4527(b), a Registered Professional Forester (RPF) will be needed for this project.

If you need any additional assistance or information, please contact our office at the above listed address or telephone number.

Sincerely,

Original with signature on file

Shana Jones
East Bay Division Chief, Operations
RPF #2641

Cc:
State Clearinghouse and Planning Unit
1400 Tenth St. P.O. Box 3044
Sacramento, CA 95812-3044

Allen Robertson
California Department of Forestry and Fire Protection
Environmental Protection,
P.O. Box 944246
Sacramento CA 94244-2460

LETTER A3
Department of Fire and Forestry Protection
Shana Jones, East Bay Division Chief
October 26, 2009

A3-1: This comment introduces the subsequent comments.

A3-2: This comment states that portions of the project Study Area exist within State Responsibility Ares (SRA) and that Public Resources Code Sections 4290 and 4291 and Government Code Section 51182 requires the creation of defensible space or fire protection areas around and adjacent to roads, buildings or structures, and specific clearing and construction criteria for access roads, as identified in Appendix B: Fire Safe Regulations and Information of the Fire Plan. As stated in Appendix B, the District Fire Department complies with these State regulations.

A3-3: The approximately 78.4 miles of strategic fire routes identified in the Plan (based on District GIS calculations) include major travel ways, such as Claremont Avenue, Skyline Boulevard, and Redwood Road which already meet the standard to a large degree, and are maintained by other agencies. Plan guidelines 1.9, 1.10 and 1.11 pertain to strategic fire routes and clearance standards as well as additional roadway clearance projects that may be necessary over time to address fire safety concerns.

The Plan focuses on treatments for fuels management purposes, and is not presented or intended as a comprehensive fire plan covering all aspects of fire protection for the District. The new strategic fire route identified in Claremont Canyon would be a foot trail, not a paved route and was proposed by the District to provide fuels management access and egress to RTAs CC003, CC011, CC004, and CC008. No new paved roads are proposed to implement these treatments. To reduce potential impacts to biological resources, the District has identified minimum fuels treatment widths and vertical clearances adjacent to strategic fire routes as described on Plan pages 38 and 39.

A3-4: Limitations on mechanical equipment use due to adverse weather conditions are addressed in the District's Fire Danger Operating Plan. Standard contract provisions and administration guidelines also provide for weather monitoring and restricting or ceasing equipment use due to very high or extreme fire danger. However, these criteria are beyond the scope of this Plan.

A3-5: In response to this comment, the second bullet under "Wildfire Precautions" on page 90 of the Plan has been revised as follows:

> The requirements listed in California Public Resources Code (PRC) sections 4427, 4428, 4431, 4435, 4442, and 4437 must be followed where any mechanical treatment action is planned. Weed-eaters, chain saws, small mowers, and other internal combustion engine-powered equipment must comply with these regulations, including that they must be equipped with approved spark arrestors.

Equipment powered by properly-maintained exhaust-driven, turbo-charged engines as well as those equipped with scrubbers at properly-maintained water levels do not require spark arrestors. Motor vehicles, if equipped with approved and properly-installed and routed muffler systems (as described in the California Motor Vehicle Code) do not require spark arrestors.

A3-6: Impacts related to the potential spread of Sudden Oak Death (SOD) during vegetation management activities associated with implementation of the Plan are addressed in Section IV.B, Biological Resources on pages 170 to 172 and policies and guidelines are identified in the Plan that would reduce this potential impact to a less-than-significant level. As stated in Fire Plan Chapter VI. Plan Implementation, Section 3. Post-Treatment Monitoring, Maintenance and Updating Plan Database (pages 212 to 213), the District is committed to a system of post-treatment monitoring for a number of factors after fuel reduction treatments have occurred. Additionally, treatment and monitoring cycles are identified for Oak-Bay Woodland on page 190 of the Plan.

As a response to this comment, the list of characteristics to be considered during post-treatment monitoring on page 213 of the Plan has been revised as follows:

After a treatment action has been conducted, post-treatment monitoring may be necessary to assess whether identified vegetation goals for that treated area have been met. The following characteristics shall ~~should~~ be considered for periodic monitoring to ensure success toward attaining the goals, objectives and performance standards of the individual Fuels Treatment Plans and the Vegetation Management Program of the Plan:

- Erosion and soil stability
- Fuel characteristics
- Residual tree sprouting and vigor
- Native plant composition
- Invasive non-native plant species
- Wildlife habitat characteristics
- Special-status species
- Presence or absence of the Sudden Oak Death pathogen fungus (SOD)

As a response to this comment, the guidelines on page 171 in the Draft EIR (and page 191 of the Draft Fire Plan) are revised as follows:

- Plan-related fuel reduction treatments activities in oak-bay woodland habitat could spread a pathogen fungus *Phytophthora ramorum* or sudden oak death (SOD) from treated areas to areas not yet infected. SOD can impact oaks and other desirable native trees and shrubs. Alameda County, Contra Costa County, and other Bay Area Counties are under quarantine restrictions for SOD. Oak and other host plant material (as defined by the statute cited) may not be moved outside of the quarantine region without specific written certification from the California Department of Agriculture or other authorized agricultural officials (e.g. County

Agricultural Commissioners).[11] The following measures shall be followed when working in oak-bay woodland to reduce the spread of SOD:

- District staff shall consult with the appropriate County Agricultural Commissioners, and implement Best Management Practices (BMPs) for treatments in infected oak-bay woodlands to minimize the risk of spreading this fungus to uninfected areas.
- District staff and contractors shall ~~Personnel should~~ be informed of the presence of SOD and instructed to prevent unauthorized movement of host plant debris, soil, or mud and these resource guidelines concerning SOD.
- If dead or diseased host plants are removed from a treatment area, infected plant material shall be contained and moved for disposal off-site within the quarantine region in an area where SOD would not contact uninfected woody vegetation as specified by a permit issued by the authorizing agricultural compliance officer.
- No host plant material shall be moved outside of the quarantine region which includes Contra Costa and Alameda County.
- If cut trees are to be left onsite for chipping or burning, they should be felled in a manner that minimizes subsequent transport, disturbance, and contact with adjacent oak-bay woodlands.
- Clean equipment, vehicles and shoes of host plant debris, soil or mud that could spread infected soil when entering or leaving an infected oak-bay woodland treatment area. Shoes should be cleaned with Lysol or bleach. Vehicles should be inspected to ensure they are clean prior to leaving an infected area.
- Conduct treatments when the soil is dry (June-October). Avoid treatments in wet weather when soils are saturated (November-May).

A3-7: The District has retained the services of a Registered Professional Forester to review the Plan; and his certification has been incorporated as a part of the Plan. EBRPD has met with the Department of Forestry and Fire Protection, and concurs that where PRC Section 4526 is applicable, along with PRC Section 4526(b), a Registered Professional Forester will be utilized as legally appropriate in applicable RTA's.

[11] California Department of Food and Agriculture. 2008. Plant Quarantine Manual Section 3700. Oak Mortality Disease Control. State Miscellaneous Ruling.

Letter
A4

Defensible Space

Laing.George [GLain@cccfpd.org]

Sent: Wednesday, October 28, 2009 9:43 AM

To: Wildfire EIR

Hello,

Please reconcile the performance based RTA's for structure protection of EBRPD structures with the prescriptive requirements from GC 51182 and PRC 4290 enforceable by CAL FIRE and LRA agencies. 1

George Laing
Fire Inspector
Contra Costa County Fire Protection District
925.941-3545 (phone)
925.941.3309 (fax)
glain@cccfpd.org

LETTER A4
Contra Costa County Fire Protection District
George Laing
October 28, 2009

A4-1: In response to this comment, the third full paragraph on page 78 of the Plan has been revised as follows:

> Removal of vegetation is also critical in the creation of strategic fire routes, ~~firebreaks~~ fuelbreaks and control lines, which are essential in providing evacuation routes, allowing safe firefighter access to an area, ~~and~~ preventing the further spread of fires once they have begun and providing appropriate defensible space to reduce the potential for damage to District-owned structures as detailed in applicable portions of California Public Resources Code 4290 and 4291 and Government Code 51182.

Letter
A5

EAST BAY
MUNICIPAL UTILITY DISTRICT

WATERSHED HEADQUARTERS

September 28, 2009

Mr. Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Re. Draft Wildfire Hazard Reduction and Resource Management Plan and Draft Environmental Impact Report.

Dear Mr. Wiese:

The East Bay Municipal Utility District (EBMUD) has no specific comments but wants to acknowledge the East Bay Regional Park District (Park District) for bringing forth a Wildfire Hazard Reduction and Resource Management Plan (Plan) that will help in protecting life and property while preserving the environmental resources for the citizens of the East Bay.

The Park District is not alone in its commitment to reduce the fire risk in the East Bay Hills. The Hills Emergency Forum, which includes members from the Cities of Berkeley El Cerrito, and Oakland; the California Department of Forestry and Fire Protection; the Moraga Orinda Fire District; the Park District; the East Bay Municipal Utility District; Lawrence Berkeley National Laboratory; and the University of California, Berkeley continue to work together to provide a coordinated regional approach for responsible fire management in the East Bay Hills.

1

In summary, EBMUD commends the Park District for their planning effort and their ongoing dedication to fire hazard reduction and resource management in the East Bay Hills.

Sincerely,

Scott D. Hill

Scott D. Hill
Manager of Watershed and Recreation

500 SAN PABLO DAM ROAD . ORINDA . CA 94563 . (510) 287-0459 . FAX (510) 254-8320

LETTER A5
East Bay Municipal Water District
Scott Hill, Manager of Watershed and Recreation
September 28, 2009

A5-1: Comment noted. This letter commends EBRPD for their fire hazard reduction efforts and resource management in the East Bay Hills. This comment does not raise any environmental issues or relate to the adequacy of the information and analysis within the Draft EIR; no further response is required.

Letter
A6

Updated Roster for City of El Cerrito

Brooke Trainer [btrainer@ci.el-cerrito.ca.us]

Sent: Monday, August 03, 2009 3:27 PM

To: Wildfire EIR

Dear Mr. Wiese,

We received the draft wildfire plan and some of the El Cerrito councilmembers it was addressed to were out of date. Below is the updated list of El Cerrito Councilmembers for future use .

Sandia Potter, Mayor
Janet Abelson, Mayor Pro Tem
Ann Cheng, Councilmember
William C. Jones III, Councilmember
Greg Lyman, Councilmember

1

The mailing address for all councilmembers is
10890 San Pablo Avenue
El Cerrito, CA 94530

Thanks,

Brooke Trainer

City of El Cerrito
City Clerk's Office
10890 San Pablo Avenue
El Cerrito, CA 94530
btrainer@ci.el-cerrito.ca.us

LETTER A6
City of El Cerrito
Brooke Trainer
August 3, 2009

A6-1: Comment noted. This letter provides a correction to the El Cerrito councilmember list that received notice of the Draft Plan. This comment does not raise any environmental issues or relate to the adequacy of the information and analysis within the Draft EIR; no further response is required.

Letter
A7

US Mailing List Removal

MFoster@ci.san-leandro.ca.us [MFoster@ci.san-leandro.ca.us]

Sent: Tuesday, September 22, 2009 2:44 PM

To: Wildfire EIR

Please remove John Jermanis from your US mailing list. He has retired and is no longer is employed by the City of San Leandro. 1

Thank you.

Mary Foster
City of San Leandro
City Manager's Office
835 East 14th Street
San Leandro, CA 94577
mfoster@ci.san-leandro.ca.us
510.577.3354

LETTER A7
City of San Leandro
Mary Foster
September 22, 2009

A7-1: Comment noted. This letter provides a correction to the mailing list that received notice of the Draft Plan. This comment does not raise any environmental issues or relate to the adequacy of the information and analysis within the Draft EIR; no further response is required.

B. ORGANIZATIONS

Letter
B1

From: Norman La Force, Chair San Francisco Bay Chapter Sierra Club
Sent: Monday, September 07, 2009 12:34 PM
To: 'WildfireEIR@Eebparks.org'
Subject: Sierra Club's Initial Comments on the DEIR and Vegetation Management Plan

Dear Mr. Wiese:

The Sierra Club makes the following initial comments on the Vegetation Management Plan and the DEIR.

First, the Sierra Club thanks the District for the work it has done in putting together this plan and the DEIR. We greatly appreciate all the hard work that the staff and consultants have done on this project. We realize it is a very complex and complicated issue and appreciate how hard it may be at times to understand all of the issues and details and to put together a plan and DEIR that deals with all of the complexities of the subject. Therefore, the Club's comments should always be understood and taken as constructive with the desire of improving the project and with the interest and desire of working together in a collaborative effort with the staff and consultants. We want a plan that will work and work for the next 50 to 100 years. We can only realize that goal if we have a good plan about which we all agree in terms of goals, objectives, and strategies, and we have welcomed the Park District's strong desire to work with the environmental community on this issue. **1**

To begin with, we reiterate our oral request that the comment period be extended to the October 31, 2009 in order for all of us to have sufficient time to review the plan and DEIR and prepare comments. This is a complex plan and requires much digestion and cogitation. I do not think that an extension in the comment period will increase the costs since any response to comments must be prepared anyway, and a 30 day extension is not a major extension of time given that we have all worked on this subject for well over 15 years. Please make no mistake that our request for an additional 30 days is not to delay or to slow down whatever momentum we have. We want a plan to be implemented and do not want to delay its implementation simply to hold off on the work that should be done. We look forward to your response on this request and ask that we be provided a response within a week so we can properly plan out our comment work. **2**

The next comment concerns the relationship between the plan and the individual park LUPs. The plan states on page 14 that the LUPs will take **3**

precedence over the plan unless the LUP is amended. We do not believe that the Park District intended this statement as written because what that would mean is that the existing LUPs with their very woefully inadequate plans for vegetation management would remain in force and trump the plan. If that is what is intended, then we have spent 15 years and hundreds of thousands of dollars for nothing because that puts us back to where we were before the Measure W defeat. The plan should state that in regards to vegetation management the vegetation plan takes precedence over the LUP for that park unit. If this an issue with the Park District, then I think we should begin discussions now as to what the Park District means and intends by that statement because this could be a very major issue.

3 cont.

The plan document should also make sure to properly acknowledge that we would not be where we are today without the long work of members of the environmental community, including Sierra Club, GGAS, and CNPS in the form of the Temescal Working Group. This critical component of the plan's history needs to be fully acknowledged in the plan.

4

Next, we need clarification as to a statement on page 206 of the plan. On that page, the document states that "Protecting human lives and public and private property from wildlife danger is the highest priority of the district while undertaking Plan implementation efforts." This statement is very unclear. It implies that the Park District's highest mission is not protecting the environment and habitat or providing parks for recreation and public enjoyment, but is fire protection. In other words, the sentence makes it sound as the Park District is a fire department covering undeveloped parks and open space.

5

The Park District has never had a highest priority the protecting of people and property from wildlife fire. That objective may be an important one, but it is not a goal or objective in the park district's mission statement. The Sierra Club asks that the sentence be removed or rewritten to avoid the statement that he park district is just another fire department.

Finally, in regard to the Plan itself, it needs to clarify and discuss how day to day or polygon by polygon activities will be handled and who will be making decisions about what to do I mentioned this point in my oral comments. The best way to approach this issue is to discuss what we felt was the experience at Point

6

Pinole recently. While I do not want to dwell on this past issue, it does highlight very nicely the issues that we see must still be addressed and resolved.

As you are aware, the park district proposed thinning the Eucalyptus at that park. The Eucs had expanded beyond their original boundary and were adjacent to and expanding into a rare coastal prairie. The Eucs are considered historical because they were planted in the early 1900's as a screen for the commercial operations at that site. The LUP simply provided for thinning the Eucs.

The issues, however, were many. First, why was the park district simply thinning the grove that had expanded beyond its original range? Shouldn't it be removing major portions that went beyond the original boundary? Should the park district be advancing a plan for that park that expands the coastal prairie, especially given that the Eucs had encroached upon that prairie? Wouldn't that be a better fire protection measure than simply thinning all of the Eucs? Why are the Eucs considered historic? Prior to the appearance of European and American settlers the Eucs did not exist at all at that site. The site was historically a coastal prairie. Isn't the assumption that the Eucs are historic, a Euro-American perspective on one that ignores the Native-American perspective? **6 cont.**

The vegetation plan for this site does not address any of these issues. Nor does it discuss how the rare coastal prairie could or should be expanded as part of the resource management component of the plan. But this kind of very nuanced careful analysis of each site is precisely what should be done and what the Sierra Club would like to see done for the lands in question. **7**

Moreover, the plan does not address who within the park district organization makes the decisions. Right now it appears that the fire department makes the final decision. We feel that the plan needs to outline an organizational chart that puts stewardship and fire together on equal footing with staff at the appropriate and same grade level within the organization so that neither can trump the other. The final decision needs to go to the AGM and then to the GM or, if it is a policy decision to the Board with full opportunities for public comment. **8**

In regard to the DEIR, we are still reviewing the document. I will repeat my oral comment that I found the DEIR disappointing. The Park District could have used this document as an opportunity to evaluate fully and carefully the kinds of proposed actions for fire management under a range of conditions to determine **9**

Letter
B1
cont.

their fire safety effectiveness and environmental impacts. Instead we got a very minimal analysis. For example, there is tremendous controversy over the use of goats. There is a good body of literature and comment that goats are actually very destructive and not conducive to ensuring that habitat returns to native habitat. That issue was completely ignored. **9 cont** **10**

As I pointed out, the DEIR failed to discuss at all any benefits from any proposed actions or to analyze what actions would have the most beneficial impacts in terms of restoring native habitat. This is truly upsetting. **11**

I also pointed out that the DEIR could have and should have analyzed how endangered species could be enhanced in an area rather than simply analyzing that a "take" would have to occur. So for example, with wildlife the EIR should have and could have analyzed methods for vegetation management that would have avoided a "take" completely, or how the plan could actually improve and enhance the habitat for an endangered species. None of that was done. **12**

We will be reviewing the DEIR further and again I want to reiterate that we are engaging in the process that we want to see result in the very best plan for all.

Sincerely yours,

Norman La Force, Chair San Francisco Bay Chapter Sierra Club

LETTER B1
Sierra Club, San Francisco Bay Chapter
Norman La Force
September 7, 2009

B1-1: This comment introduces the Sierra Club's subsequent comments. The comment is noted regarding the Sierra Club's thanking the District for the work it has done in putting together the Plan and Draft EIR.

B1-2: The comment period for the Draft EIR was extended by the District from its original closing date of October 1 to October 31, 2009, for a total of 81 days.

B1-3: The statement that the commenter identifies on page 14 of the Plan is quoted from the District's Master Plan and pertains to "system-wide plans." As stated on page 13 of the Plan, (and page 20 of the Draft EIR), "as part of the planning process to prepare this Plan, the District's 1997 Master Plan and the plans for the individual parks in the Study Area were reviewed to ensure that the Plan is consistent with and implements the stated and adopted vision, mission statements and policies of EBRPD." Section IV.A, Land Use of the Draft EIR also contains a discussion of applicable objectives and policies from each land use plan within the Study Area. The Plan provides a detailed, system-wide fuels and resource management approach which, in effect, updates the various park land use plans as regards fuels management.

B1-4: The comment is noted that the Plan should acknowledge the work of members of the environmental community.

The last paragraph of page 220 of the Plan is revised as follows:

> With special thanks to the many citizens and organizations, and especially to the members of the Hills Emergency Forum, the Temescal Working Group, and Jerry Kent, previous EBRPD Assistant General Manager for Park Operations, who helped shape this plan through their participation in planning meetings and their correspondence.

B1-5: The District believes that the statement is absolutely clear, and reiterates that while undertaking Plan implementation efforts and for the purposes of the Wildfire Hazard Reduction and Resource Management Plan and actions arising from it, protecting lives and property is the highest priority for the District. See response to comment BI-3 in regards to the District and consultants taking the mission statement and policies of the District's Master Plan into account while preparing the Fire Plan.

B1-6: As is made clear in Plan Chapter VI. Plan Implementation, decisions on fuel treatment area prioritization and treatment prescriptions will be made jointly by the Fire Department, Stewardship and Operations staff as members of the Fuels Group following the guidelines of the Plan, as administrative, resource management

decisions. The annual fuels treatment plans will be subject to public review by the Natural and Cultural Resources Committee. The commenter identifies issues concerning an experience at Point Pinole that is does not relate to the adequacy of the Draft EIR, and no further response is required.

B1-7: The commenter requests that a "very nuanced careful analysis of each site is precisely what should be done and what the Sierra Club would like to see done for the lands in question." We assume that means the areas within RTAs as identified in Table III-2 starting on page 53 of the Draft EIR. The Plan provides summary information and recommendations to assist the District during implementation and identification of specific treatment prescriptions after site assessment visits. As stated on page 29 of the Draft EIR:

> "The information provided in the figures and the summary table *(Table III-2)* will assist the District in selecting and prioritizing the ultimate treatment actions that will be included in annual fuels treatment plans and identifying and mitigating potential adverse environmental effects. The summary information provided in Table III-2 is the result of the potential resource conflicts analysis of the treatment areas undertaken as part of the wildlife hazard assessment. Providing this summary information in the Plan is intended to act as a "notification" to alert District staff to collect additional information (especially GIS data) for treatment area conditions prior to initiating pre-assessment surveys and identifying appropriate BMPs, protective measures, resource management, and native plant restoration and enhancement activities into the treatment prescriptions."

B1-8: Regarding who within the Park District makes decisions concerning the final fuel management prescriptions, see also response to comment B1-6 and Master Response No. 2**.** As stated, administrative decisions will be made by members of the Fire Department, Stewardship and Park Operations staffs and reviewed, as needed by District management. However, the structure for administrative decision-making is intended to remain flexible, as the District's administrative structure may change over time. As stated above, decisions reflected in the Annual Fuels Treatment plan will be subject to review by a board committee and by the public.

B1-9: Comment is noted and does not relate to the overall adequacy of the Draft EIR. In response to the comment that the EIR authors have provided "a very minimal analysis" of the Plan's potential adverse effects, and the authors respond that, in fact, over 338 pages of text, tables and figures and an Initial Study provided in Appendix A, they have provided a full and detailed analysis of the Plan's effects under CEQA. No further response is required.

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B1-10: Contrary to this comment, the potential for adverse effects to native habitats associated with the use of goats for reducing fuel loads was not ignored in the Plan (see Chapter IV. Fuel Treatment Methods, section 5. Grazing, pages 105 to 108 and Chapter V, Vegetation Management Program, section 2.a. Maritime Chapparal and 2.b. North Coastal Scrub, and Appendix D: Fuel Treatment Methods) or the Draft

EIR (see Section IV.B pages 166 and 170) regarding potential impacts to vegetation types related to the use of goats for grazing.

B1-11: Per CEQA, an EIR is not required to identify the beneficial impacts of the proposed project or actions or to provide a cost benefit analysis concerning which actions would have the most beneficial impacts. However, it should be noted that, as a Wildfire Reduction *and Resource Management Plan (emphasis added)*, this Plan and EIR go far beyond the minimal requirement to avoid or mitigate negative impacts; rather there is a marked emphasis on using fuels management projects as an opportunity to accomplish overall vegetation management goals and to restore and enhance fire-safe plant communities, wildlife habitat and other resources. Alternatives to the proposed project, which did not include these additional benefits, were identified and analyzed in Chapter V. Alternatives, in the Draft EIR. Comment is noted and does not relate to the overall adequacy of the Draft EIR, and no further response is required.

B1-12: The Draft EIR analyzed and evaluated potential adverse impacts to special status species on pages 160 to 176 of Section IV.B, Biological Resources. Impact BIO-4 addresses the potential for the Plan to conflict with federal, State or local laws aimed at protecting biological resources and special-status species, and reduces this impact to a less-than significant level through implementation of VMP guidelines (see Chapter II, page 26 of the Plan) and Mitigation Measure BIO-4. Contrary to the comment, the District believes the Plan in Chapter V. Vegetation Management Program contains numerous resource guidelines, recommendations, methods and performance standards aimed at avoiding a “take” of special-status species and enhancing the habitat for special-status species.

Letter
B2

SIERRA CLUB
FOUNDED 1892

San Francisco Bay Chapter
Serving Alameda, Contra Costa, Marin and San Francisco Counties

September 21, 2009

Brian Wiese
East Bay Regional Park District
Box 5381
Oakland, CA 94605

Dear Mr. Wiese:

On behalf of the California Native Plant Society, Golden Gate Audubon Society, and the Sierra Club, I am formally submitted our "Green Paper" as a comment to the Vegetation Management Plan and the Draft EIR. Please consider this paper as part of the record. 1

Sincerely yours,

Norman La Force, Chair
East Bay Public Lands Committee

cc: California Native Plant Society
Golden Gate Audubon Society

Managing the East Bay Hills Wildland/Urban Interface to
Preserve Native Habitat and Reduce the Risk of Catastrophic Fire

An Environmental Green Paper- March 27, 2009

Sierra Club, California Native Plant Society, Golden Gate Audubon Society

This paper has been prepared by the San Francisco Bay Chapter of the Sierra Club (Sierra Club), East Bay Chapter of the California Native Plant Society (CNPS) and the Golden Gate Audubon Society (Audubon) to document our point of view about how best to meet the twin goals of managing the urban wildland interface to enhance and preserve habitat for native plants and wildlife species while reducing the threat of catastrophic fire at the interface.

This topic is of timely importance because of the pending release of the environmental review documents being prepared by the East Bay Regional Park District, FEMA grants for vegetation management, and other agency documents that are to follow. This paper contains the major guiding principles, which are further elaborated on in the attached background paper and appendix.

It is important to note at the outset that we embrace an Integrated Fire Management (IFM) approach to this issue. An IFM approach addresses the total scope of fire hazard both from problems with the human infrastructure and those from wildland vegetation.

We apply this theme at both the landscape level as well as at individual sites, whether they are homes at the interface or public parks and open space. While the human infrastructure including roads, water supply, defensible neighborhoods, etc., is expensive to maintain or improve, only well-planned infrastructure can assure safety from catastrophic fire. Without that fundamental understanding, vegetation management projects are doomed to fail in meeting the twin goals of fire safety and conservation of native habitat.

GUIDING PRINCIPLES

Background

We recognize that there is a frightening wildfire potential each fall for some residents living in the East Bay Hills. This potential exists because of the combination of extreme weather events (Diablo winds), the pattern of residential development in the hills, the proximity of flammable homes to fire-prone vegetation, and the lack of adequate preparation to the urban infrastructure, including defensible space.

Natural wildfire in wildland areas can be viewed as an event without serious consequences to humans, but at the wildland/urban interface where man has altered natural conditions, it can lead to a disaster. There are natural cycles that are unavoidable that we must pay attention to, prepare for, and be ready to respond to appropriately and sometimes quickly. As an example, during the 21st century the East Bay Hills will not be lucky enough, even with exceptional fire fighting, to get by with zero uncontrollable wildfires and zero extremes in weather. Diablo winds in the fall months are the key environmental factor for extreme fire behavior, and it will be impossible to know the exact location, source, and timing of an ignition that will transform high winds into a raging wildfire.

During some Diablo Wind wildfires there will not be enough firefighters, fire trucks, helicopters, or aircraft to save every house or even control the fire until the winds slow. Unlike "normal" fires that can be fought, to a certain extent on the ground, Diablo Wind fires prevent the placement of firefighters on steep slopes or other hazardous locations due to the

Letter
B2
Attach.

speed of wind-driven fire. Under these circumstances, quick evacuation and homeowners insurance will be the only protection for residents who have lost property.

Recent reports compiled by firefighters and researchers in "lessons learned" from other catastrophic wildland/urban interface fires in California have shown that the most important factor in preventing homes from burning in wildland fires is hardening of structures and the creation of defensible space. Conversely, unprepared residential areas will likely not be saved during a wind-driven wildfire and will contribute to the rapid spread of wildfire into adjacent residential areas as happened during the 1991 Oakland/Berkeley Tunnel Fire.

The 1995 Hills Emergency Forum Plan did not receive full acceptance from the environmental community because it contained insufficient field collected data to support the designations of fuel characteristics of our local vegetation, did not take into account the importance of conserving native habitat, and did not include a legally required environmental document along with the Plan.

The 1995 HEF Plan recommended that public agencies and large acreage landowners create and maintain two different types of areas managed for fuel reduction in the East Bay Hills. The first are the ridgetop fuelbreaks that were begun after the freeze of 1972 by removing freeze damaged eucalyptus to achieve a 300' wide zone of managed vegetation where firefighters could attempt to stop a fire that started in wildland areas to the east, before it could race over the ridge into residential areas. The second type of management was created after the 1982 Blue Ribbon Report and the 1995 HEF Plan. The 1982 Report recommended fuelbreaks designed to provide a minimum of 100 feet of managed vegetation (including what the homeowner is required to do for defensible space) at the wildland/urban edge. The 1995 HEF Plan recommended fuelbreaks within a 500 foot study area, that in itself became controversial and confusing, designed to provide an area of managed vegetation with less than eight-foot flame lengths at the wildland/urban edge where firefighters could safely work to protect homes.

The Sierra Club, CNPS, and Audubon have not been satisfied with the Park District's approach for maintaining its fuel-managed areas. We know that fuelbreaks constitute a combined area of more than 20 miles and 500 acres, often covered by weedy species, mowed below 4" of height, or over-grazed by goats, with little concern about species or habitat values. Also several eucalyptus management, thinning, or conversion projects exist that need attention. We are concerned that the Park District's consultants and its staff have yet to articulate a clear vision about how they intend to maintain these areas while favoring and increasing the percentage of native plants over weedy, fuel-rich non-natives.

The debate about wildfire risks attributed to non-native eucalyptus trees has been a controversial topic for years. In our opinion, there is ample evidence to show that eucalyptus and pine trees in dense unmanaged groves are both a wildfire threat and an environmental dilemma that requires attention. Non-native eucalyptus and pine groves can exceed 120' in height and can be prone to dramatic fire behavior. When wind- driven wildfire reaches tree crowns, flames above 150' can be expected with burning embers blowing downwind well beyond one half mile. The capacity to spot new fires that overwhelm firefighting forces during Diablo Wind conditions means these species must receive high priority for treatment. Selected and representative quotes, articles, and reports that provide additional information and perspective about the fire hazards and the environmental dilemmas posed by eucalyptus and pine plantations in the East Bay Hills can be found in the Background to the Environmental Green Paper.

Recommendations and Solutions

In our opinion, decisions about how best to manage our east bay hill vegetation on the wildland side should be based on the twin goals of reducing the risk of catastrophic fire and maintaining the fragile native habitat found in the wildland/urban interface. To accomplish these goals, agencies should formulate well-conceived plans that integrate natural resource sciences and fire science.

All plans to reduce vegetation on the wildland side must be site specific, taking into account a range of critical variables that result in an individual profile for each site. We do not endorse generic fuel prescriptions because they do not take into account the unique threats and values of each site. In order to accomplish the twin goals of reducing the risk of catastrophic fires and of maintaining sustainable native habitat, agencies must recognize that effective management of live fuels is a subset of sound land management (and not the other way around) primarily because of the high degree of variability of living landscapes.

We urge the Hills Emergency Forum (HEF) and its member agencies to prepare updated mapping systems for the East Bay hills that identify wildland plant communities in site-specific detail as well as the type and density of vegetation intermixed with home landscapes.

Native vegetation communities, including our native woodlands, are generally below 40' in height, and are less prone to unmanageable fire behavior. These communities are comprised predominantly of plants that are native to the East Bay and form more than 80% of today's wildland vegetation in the hills. The recommended strategy for protecting residential areas from wildfire coming from native vegetation is to establish an understanding of the ecology and fire-behavior of the fuels site-specific to each individual wildland/residential edge, and then manage these edges to provide safe access for firefighters defending structures that are able to resist burning embers and to hopefully stop fire before it enters residential areas.

As each agency prepares their individual plans and environmental documents, they will be required to address the cumulative impacts of wildland fire hazard reduction projects by all agencies. This will require active cooperation and long range planning by HEF member agencies. We will reserve our final opinion about how each agency handles these matters as we review their plans and environmental documents.

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Enhancing and Preserving our Natural Environment
While Reducing the Risk of Catastrophic Fire
Background to the Environmental Green Paper

This Background Paper has been prepared by the Sierra Club (Sierra Club), East Bay Chapter of the California Native Plant Society (CNPS) and the Golden Gate Audubon Society (Audubon) to document our positions on several of the issues that are important to us as we explore options for meeting the twin goals of enhancing and preserving native plants and wildlife while reducing the threat of catastrophic fire at the Wildland Urban Interface in the East Bay Hills.

This topic is of timely importance because of the pending release of the environmental review documents being prepared by the East Bay Regional Park District, FEMA grants for vegetation management, and other agency documents that are to follow.

We would have preferred working with and commenting on a single draft wildfire hazard reduction plan and environmental document for the East Bay Hills with a free exchange of ideas, concepts, and details presented to and discussed with experts and stakeholders who have been involved in these matters for the past 15-years. This would have provided for an Integrated Fire Management approach at all levels, both in content and process, and among all-important stakeholders. This was the type of process that we expected after the Park District's Temescal workshops of 2000, and is consistent with our understanding of how the Park District Plan/EIR/EIS should have been developed. With that understanding, we supported Measure CC in 2004 including the $10 million for District projects and a joint fire hazard mitigation plan that was to involve Hills Emergency Forum (HEF) agencies.

Thus, we were disappointed that the HEF decided three years ago that each agency should proceed with individual plans and environmental documents. The East Bay Municipal Utility District and the University of California had already completed their Land Use Master Plans, with Berkeley, Kensington, and El Cerrito not contemplating plans for their residential areas. The next to emerge will be the Park District's Plan/EIR that has been under development during the past two years. The consultant's draft Plan is currently being reviewed by Park District staff that will recommend several changes in the draft, followed by a public review document that is nearing completion. We also understand that Oakland intends to prepare its plan and environmental document following completion of the Park District Plan/EIR.

In our opinion, staff and consultants have developed the Draft Park District Plan in relative isolation instead of taking more time to "get specific" with recognized experts and stakeholders. True, there were four informational meetings at the Trudeau Center with consultant and staff presentations, and time for public comment. However, the District's Plan/EIR process to date, has offered little detail, so it's anyone's guess about what will be in the draft documents soon to be released for public review. We have seen very little in the way of detailed resource information, and have not been informed about which federal agency the District will use to obtain required biological opinions necessary to make its Plan/EIR complete. In the event the draft, which we have not seen, requires substantial changes or additions, we support the use of additional Measure CC funds, District funds, or use of grant funds to complete a Plan/EIR document that will be useful and supported by the environmental community and other stakeholders.

In the meantime, the District has proceeded with fuels management based on very little oversight by its own stewardship department and with a FEMA EA that covered only

federally listed plant and animal species. The result has been fuels management executed without the benefit of clearly derived policy.

Meanwhile the actual vegetation management projects taking place in some areas have been fraught with controversy. We also are aware that three Federal Emergency Management Agency (FEMA) competitive grants have been awarded to the University (Strawberry and Claremont Canyons), to the City of Oakland (Frowning Ridge), and to the Park District (East Bay Hills Area) for fire hazard reduction projects. These grants will require three different project level FEMA Environmental Assessments. As with EBRPD, one of the consequences of this kind of haphazard approach has been the creation of de facto policy on the part of UC, the City of Oakland, and various stewardship groups in terms of on-the-ground management of vegetation. These policies have not had the benefit of public, scientific vetting and in some cases have now found their way into federal policy. Without proper vetting, these activities have resulted in mixed results.

It is important to note at the outset that an Integrated Fire Management approach means that the total scope of fire hazard (both from human infrastructure and from vegetation) will be considered as a first step, both in the wide scope of the East Bay Hills Wildland Urban Interface and in individual sites that are identified for some form of action. While vegetation management is surely an important part of the total picture, it must not be the tail that wags the dog as it has been in the past, particularly after the '91 fire. While the human infrastructure including roads, water supply, defensible neighborhoods, etc., is expensive to maintain or improve, only well-planned infrastructure can assure safety from catastrophic fire. The National Firewise Communities program has made that clear. By its very nature, the living landscape involves far more variability and therefore attempting to manage it means a certain lack of predictability. Without that fundamental understanding, vegetation management projects are doomed to fail in meeting the twin goals of fire safety and conservation of native habitat.

It is clear to us that the approach taken by HEF agencies will result in duplication of effort as well as an understandable level of confusion as agencies work through fire hazard and resource management plans that address their unique situations. However, in the spirit of moving forward, we offer the following guiding principles for consideration by agencies and others interested in these issues.

GUIDING PRINCIPLES

1. **We recognize that there is a frightening wildfire potential each fall for some residents living in the East Bay Hills.** Our local wildfire history suggests that there are different levels of risk faced by hill residents depending on their location. Of the approximately 30,000 homes in the hills, the actual number of homes that have been lost or families personally threatened by a wildfire has been relatively small. However, agencies and residents should not be apathetic because wildland/urban interface wildfires are becoming all to common during the past two decades, and global warming with its extremes of weather will make this century even more risky.

   a) Too many homes were lost during the Berkeley Fire of 1923, the Fish Ranch Road Fire of 1970, and the Oakland/Berkeley Tunnel Fire of 1991. These three Diablo Wind Fires destroyed homes, took lives, and caused substantial property and economic damage, and played a role in massive weed invasion of East Bay Hill native habitat. Seven other Diablo Wind Fires and many West Wind Fires have also occurred in the past along the 30-mile hill corridor without significant property loss, many before residential developments were fully extended into the hills. The

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above three Diablo Wind mega-fires destroyed a total of 3,600 homes during less than seven hours of rapid expansion for each fire. Wind driven fires can be impossible to control at the fire head, leaving firefighters to only work on a fires flanks until the winds slow. The 1991 fire destroyed 700 homes in one hour, a total of 3,000 homes in seven hours, and 26 lives were lost, mostly during the first hour of the fire.

   b) Predictions about what might happen in the way of wildfire, weather extremes, and climate change during the 21st century should be part of the public discussions leading to agency planning processes that will ensure appropriate preparation for wildfire and appropriate planning for wise management of natural resources. As an example, during this century the East Bay Hills will not be lucky enough to get by with zero mega-fires and zero extremes in weather. Diablo Winds in the fall months are the key environmental factor, and it will be impossible to know the exact location and timing of an ignition that will transform high winds into a frightening wildfire. The events of the 20th Century suggest that it would not be unreasonable to forecast something like three Diablo Wind mega-fires, seven "normal" Diablo Wind fires, possibly as many as 150 "normal" West Wind fires, four El Nino events, four extended freezes, and four drought cycles that will all impact wildland vegetation and residential areas during the 21st century. Agency and homeowner preparation or lack of preparation will be directly related to the amount and extent of damage that these events can cause.

2. **Natural wildfire in wildland areas can be viewed as an event without serious consequences to humans, but at the wildland/urban interface where man has altered natural conditions, it can lead to a disaster.** When wildfire is in control, all involved vegetation and residential areas that lie in its path can be taken back to an earlier stage, to start all over again. Wildfires are different in scope and impact than controlled burns, but their potential for weed invasion can be the same. Given the level of weed invasion that is directly related to disturbance--whether it's fire or vegetation removal--, it is unlikely that native vegetation will re-set to "an earlier stage." Rather, we are likely to see an increase in weed invasion and a disruption of our East Bay Hill native habitat unless appropriate steps are taken to control invasive weeds.

   In the hills, wind driven wildfire will not distinguish between vegetation and unprepared residential structures. Virtually all development in the East Bay Hills occurred during a 100-year period when agencies and homeowners did not understand or respect the potential wildfire danger created by Diablo Winds. The patterns of residential development combined with the hills unique natural features have increased the potential for home loss during wind driven wildfire.

   a) Roads are on steep hillsides, narrow, and usually congested.

   b) Homes are in dense residential areas, mostly constructed of wood, and often surrounded by other potentially flammable homes and vegetation.

   c) Homes are on steep hillsides with limited access for fire fighters.

   d) Public agencies and large acreage landowners have allowed non-native vegetation to develop "unnaturally" with little maintenance, and with increasing levels of flammability.

e) Above ground power lines are common in the hills and water supply for firefighting is less than desirable.

These are all recognized aspects of unsophisticated residential development in the hills, in comparison with today's standards. Public officials and fire safety activists, all to often, want to focus on fixing the "vegetation problem" without fixing the "residential problem". Both need short and long term attention and fixing.

3. **During some Diablo Wind wildfires there will not be enough firefighters, fire trucks, helicopters, or aircraft to save every house or even control the fire until the winds slow. Unlike "normal" fires that can be fought, to a certain extent on the ground, Diablo Wind fires prevent the placement of firefighters on steep slopes or other hazardous locations due to the speed of wind-driven fire.** Under these circumstances, quick evacuation and homeowners insurance will be the only protection for residents who have lost property.

a) We believe that cities and area fire departments must develop more reliable fire-fighting strategies for combating Diablo Wind wildfire with more attention paid to identifying and expanding predetermined areas in both wildland and residential areas where wildfire might be stopped.

b) Cities through their police departments must develop neighborhood evacuation plans, known to all residents and agencies, that recognize the potential for rapid spread of wildfire moving through hill residential areas with narrow and congested streets.

c) Insurance is also necessary and critical for homeowners choosing to live in high-risk settings; however, having insurance should not be a reason for not appreciating and preparing for the actual risks being faced.

It is surprising to hear some resident's say they like the hills and their homes just the way they are, and that they accept the risk of wildfires. This sentiment is not usually shared by most, but remains one of the more important concerns if it threatens future stability of fire hazard reduction efforts. If true and persuasive, further efforts in wildland vegetation management may not be supported during tough economic times, and less substantial efforts will result in marginal wildfire risk reduction benefit. If the status quo condition for the hills were followed, future fire losses for both large and small wildfires would be a matter for insurance coverage if it can be obtained.

Fortunately, residents have recently voted to support two significant measures that will improve their fire safety. Oakland's Wildfire Prevention District and the Park District's Measure CC have provided funding to address fire risks by two of the largest landowning public agencies in the hills. **During these funding measures, the Sierra Club, CNPS and Audubon have supported strategic vegetation management programs in our neighborhoods, regional, and local parklands that reduce wildfire risks while conserving, recovering, and sustaining native habitats.**

4. **Recent reports compiled by firefighters and researchers in "lessons learned" from other catastrophic wildland/urban interface fires in California have shown that the most important factor in preventing homes from burning in wildland fires is hardening of structures and the creation of defensible space. We concur that the best way to protect homes from wildfire is for cities to make sure that all homes and all structures have 100' of defensible space, and that homes can resist**

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burning embers. We strongly encourage and support programs by agencies and homeowners on local and private lands that will protect homes from wildfire. The recently revised State Standards for defensible space and home construction can be relatively easy to inspect and achieve in rural areas, but not so easy in our densely occupied hill residential areas. Cities should determine how best to apply these standards for both individual homes and groups of homes, especially at the wildland/urban interface where property ownership is complex.

Too often, homes are permitted and constructed within 15' or less of the property line without enough space to comply with the intent of state law that homeowners should create and maintain their own defensible space. Cities must continue to ramp up their inspections to get compliance and continue their inspections even in times of economic difficulty.

Further, building codes must be updated to cover the construction and maintenance of fire safe structures that can resist burning embers. Waiting 50 years for remodels to bring new codes into force is unacceptable. Unprepared residential areas will likely not be saved during a wind-driven wildfire, and will contribute to the rapid spread of wildfire into adjacent residential areas.

As a very important matter of public policy, cities and counties should make sure that homes and other structures are not built within an indefensible distance from public-park and open space without appropriate mitigation, nor from the open space borders of other public lands. Cities should also prioritize for inspection and compliance those structures already located within an indefensible distance from public parklands. Public agencies should not have to use their limited funds and staff resources to create and maintain defensible space for new homes constructed too close to park boundaries or other public lands.

5. **In our opinion, decisions about how best to manage our east bay hill vegetation should be based on the twin goals of reducing the risk of catastrophic fire and maintaining the fragile native habitat found in the wildland/urban interface. To accomplish these goals agencies should formulate well-conceived plans that integrate natural resource sciences and fire science.** Very little of today's East Bay Hill wildland vegetation is truly pristine because of the dramatic landscape changes that have occurred during the past 200 years. Returning to the vegetation of 1800 or 1900 is not realistic or even remotely possible with today's population of 2.5 million east bay residents and the extensive hill residential areas that were developed during the past 100 years.

Existing native plants and habitat are the result of the unique and complex history of plant species and habitat evolution in this geographical area. Most of today's East Bay Hill public land vegetation (by counting numbers of species represented in that vegetation) is composed of "truly native" species. However, most of the plant communities, in their current locations and size, are relatively young and will continue to change. As change occurs, we believe that today's natively-evolved local species and their tendencies to aggregate into recognized "native habitats" can persist very well if allowed and assisted by dedicated land managers. These persistent, recognized habitats will indeed not remain static, and will go through stages of succession, development and rebirth during the next 200 years.

We know that "exotic" vegetation in the hills has experienced four major freezes that have killed or damaged eucalyptus trees, and that many fires have killed pine trees.

Since the spread of both blue-gum eucalyptus and Monterey pines is assisted by fire, the presence of these trees pose a growing threat. We also know that global warming will result in further extremes in weather that will make the 21st century even more risky. The best we can say at this point is that we do not really know how native-like wildland plant communities will respond in detail to future climate change. However, we prefer to limit the possibilities to changes brought about by our natively evolved regional flora, and to not intermix or include species of distant exotic origins that will complicate the process and remain as potential fire hazards.

6. **Any and all fuels management plans must be site specific, not simply vegetation and fire risk specific. In order to accomplish the twin goals of reducing the risk of catastrophic fires and of maintaining sustainable native habitat, agencies must recognize that effective management of live fuels is a subset of sound land management (and not the other way around) primarily because of the high degree of variability of living landscapes. Each site is unique and is constantly undergoing multiple processes of change and evolution. Agency plans must be based on sound environmental concepts and not just the developing science of wildfire behavior in wildland/urban interface settings.** This is the issue that caused us the most concern during the discussions following the 1995 HEF plan. We are not so sure about how much useful fire science there is that will really apply to our unique wildland/urban setting since to date very little science has been based on field collected data. Instead, there has been heavy reliance on modeling which is subject to error based on sometimes-incorrect assumptions.

   We suspect that the Plan will be based on a combination of relevant local and statewide experiences with wildland/urban fire, and with some adapted fire science. However, we doubt that it will take into account detailed field-collected data on the unique characteristics of our local vegetation types. The application of sound environmental concepts will be especially important for any vegetation management program undertaken by the Regional Park District where informed knowledge about the environment must guide what it can and should do to reduce fire risks.

   Since 1995 we have consistently urged the Park District to seek solutions that will be effective with minimum impacts on the park environment in managed areas that are designed to sustain native habitat. We have also urged that a comprehensive Resource Management and Fire Hazard Reduction Plan be prepared, along with its legally required environmental document.

7. **We urge the HEF and its member agencies to prepare updated mapping systems for the East Bay hills that identifies wildland plant communities as well as the type and density of vegetation intermixed with home landscapes.** Since vegetation is a key factor in wildfire behavior, we should have accurate information about the type of vegetation that exists in both wildland and residential areas. We do not currently have a good mapping system with data on the fire-prone vegetation that is intermixed with home landscapes. If we are expected to reduce the risks associated with wildland vegetation, we should definitely be reducing the risks of vegetation to be found in residential areas.

   The 1995 HEF Plan is the only mapping system (other than the Park District vegetation maps of 2006 that only cover Regional Parks) available today that attempted to describe the type of wildland vegetation found throughout the 18,500 acres of undeveloped property in the Oakland/Berkeley hills (the 1995 acreage numbers do not include wildland vegetation in Kensington to Richmond residential areas or Wildcat Canyon Regional Park). The Behave computer wildfire modeling of the 18,500 acres of wildland

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vegetation predicted that 43% would burn with flame lengths of 8' or less that could theoretically be fought and controlled by firefighters on the ground. The other 57% of wildland vegetation would burn with flame lengths between 9' and 60', with fire fighters unable to control wind driven wildfires in these areas until the winds abate. Polygons were developed for each plant community, and the summary acreage of each type of plant community is organized in this paper as follows:

Acres	Native-like Plant Communities (mostly natives by species count)
4,100	Oak/Bay Forest- Mixed
3,847	Grassland (mostly areas that are grazed)
3,309	Dry North Coastal Shrubland
1,418	Redwood Forest
918	Successional Shrubland
855	Oak/Bay Woodland- Mixed
332	Wet North Coastal Shrubland
79	Chaparral- Mixed
71	Riparian Forest
10	Oak Savannah
14,940	Subtotal (81% of wildland vegetation)

Acres	Non-Native Plant Communities (dominated by trees with few species)
1,379	Eucalyptus- 20-year old stump sprouts (now 30-years old)
859	Pine Forest- Mature
836	Eucalyptus Woodland- Mature
233	Pine/Eucalyptus Mature, Mix
222	Eucalyptus- 5-year old seedlings (now 15-years old)
47	Pine Forest- Plantation
6	Acacia
6	Cypress
1	Other
3,590	Subtotal (19% of wildland vegetation)

This initial attempt to map and classify vegetation in the East Bay Hills has proved to be inadequate for the task because it did not accurately describe our diverse local vegetation types in site-specific detail, as well as for their individual and community fuel characteristics. There are newer mapping and classification protocols developed by the State Vegetation Program of the California Native Plant Society and adopted by the National Park Service and other government agencies that can be utilized to map and describe the vegetation in these areas accurately.

However, this is only one of several important factors to be taken into account when developing a management strategy for any given polygon. Location within a watershed, slope, aspect, wind mapping (under "normal" and Diablo conditions), live fuel moisture field sampling, description of understory (not only of woodlands but of shrublands as well), soil type, soil moisture, utilization by wildlife, type and degree of weed invasion, and proximity to structures. These are the important factors that go into understanding how best to manage a given area.

We are aware that the Park District's mapping project for Hill parks between Lake Chabot and Wildcat Canyon (and all Measure CC Parks) was finished in 2006, and that fire modeling has been completed for these parks. We will be particularly interested in reviewing the data, mapping results, assumptions used, and the fire attributes for park vegetation. We understand that the District's 13,818 acres of hill park vegetation have

been grouped into the following park plant communities, and we have organized these groups into two major classes as follows:

Acres	Native-like Plant Communities (mostly natives by species count)
3,675	Oak/Bay Woodland
2,439	Woodland Succession
1,688	Grassland (mostly areas that are grazed)
1,505	Shrubland
1,022	Shrub Succession
474	Redwood
110	Willow
30	Riparian/Wetland
11,034	Subtotal (80% of park vegetation)

Acres	Non-Native Plant Communities (dominated by trees with few species)
1,862	Eucalyptus
363	Developed Park Areas and Turf
341	Pine
30	Mowed Annual Grass
5	Acacia
2,784	Subtotal (20% of park vegetation)

It appears that the fuels management done by the HEF agencies and EBRPD to date has been conducted in accordance with the old Behave (flammap) fuel models that are untested at the wildland/urban interface. If so, it has driven management decisions in ways that cannot support the goals of either achieving safer fuel loads or maintaining native habitat. If the old classification of maintaining an 8-foot flame length in all vegetation is adhered to, very little but mowed or grazed annual grassland can qualify as "safe" to maintain. The empirical result of following that prescription has often meant that the type conversion of native shrublands, such as Baccharis-dominated north coastal scrub, has created their replacement with fuel-rich French broom and light flashy fuels such as thistle, which also have poor habitat value.

On the other hand, field-collected data, including sampling for live fuel moisture, might indicate that, in some instances it's wiser to leave vegetation in place rather than to remove it. One example would be to contemplate leaving Baccharis, which contains relatively high levels of moisture, in some sites where it acts as a green sponge, holding moisture within the plant as well as within the soil.

It is critical that if fuel modeling is to be used, it contain accurate inputs from our local vegetation under differing conditions. We do not know what the current models are that are being used to inform the conclusions of the EIR or what information is being used as input to the models.

8. **The 1995 HEF Plan did not receive full acceptance from the environmental community because it contained insufficient field collected data to support the designations of fuel characteristics of our local vegetation, did not take into account the importance of conserving native habitat, and did not include an environmental impact report as required by state law.** However, the 1995 HEF Plan identified the specific wildfire threats faced by homeowners in the hills, and recommended a mitigation program for agencies and private property owners based on the following concepts.

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a) The Plan recommended that homeowners fully comply with state law that currently requires a minimum of 100 feet of defensible space surrounding structures, and that all homes in high risk areas should be constructed or renovated and maintained to resist burning embers.

b) The Plan recommended that public agencies continue maintenance of ridgetop fuelbreaks, and create a new type of managed area at the residential edge, that will involve both public and private lands. The width for residential edge buffer zones has been a topic of ongoing controversy for the past 15 years. Currently, most research suggest that a maintained zone of vegetation 100' to 200' from structures (including homeowner defensible space) is appropriate, depending on slope, type of vegetation, and site conditions. These maintained areas will not necessarily stop all wildfires, but will be essential for providing safe locations for firefighters defending homes at the wildland/urban interface.

c) The Plan recommended that public agencies and large acreage land owners manage or convert their eucalyptus and pine groves to reduce the chance of burning embers being blown into residential areas.

9. **The 1995 HEF Plan recommended that public agencies and large acreage landowners create and maintain two different types of areas managed for fuel reduction in the East Bay Hills.** The first are the ridgetop fuelbreaks that were begun after the freeze of 1972. These fuelbreaks were created along the west boundary of regional parks with some sections along Skyline and Grizzly Peak Boulevards on city or other agency lands. Ridgetop fuelbreaks were created by removing freeze damaged eucalyptus to achieve a 300' wide zone of managed vegetation where firefighters could attempt to stop a fire that started in wildland areas to the east, before it could race over the ridge into residential areas. Public agencies that currently manage ridgetop breaks are now creating even wider resource management areas that are intended to look "natural on the ridge" without strict adherence to width criteria, usually with a roadway as the primary anchor line.

   The second type of management was created after the 1982 Blue Ribbon Report and the 1995 HEF Plan. The 1982 Report recommended fuelbreaks designed to provide a minimum of 100 feet of managed vegetation (including what the homeowner is required to do for defensible space) at the wildland/urban edge. The 1995 HEF Plan recommended fuelbreaks within a 500 foot study area, that in itself became controversial and confusing, designed to provide an area of managed vegetation with less than eight-foot flame lengths at the wildland/urban edge where firefighters could safely work to protect homes.

   While there is no mystery about the reason for reducing live fuels when residential areas are located at the edge of large public parks or other areas of dense natural-like vegetation, there is as yet no clear understanding of what management should be on specific sites since prescriptions have been generic or non-existing. Nonetheless, most park agencies are using some form of vegetation management on public lands at their residential edge to reduce the chance of wildfire moving from public lands into residential areas.

10. **The Sierra Club, CNPS, and Audubon have not been satisfied with the Park District's approach for maintaining its fuel-managed areas. We know that fuelbreaks constitute a combined area of more than 20 miles and 500 acres, often covered by weedy species, mowed below 4" of height, or over-grazed by goats.**

Also several eucalyptus management, thinning, or conversion projects exist that need attention. We are concerned that the Park District's consultants and its staff have yet to articulate a clear vision about how they intend to maintain this interface while favoring and increasing the percentage of native plants over weedy, fuel-rich non-natives. This topic will be a subject for further comment and focus by our members and experts during agency Plan/EIR processes.

From the Park District's perspective, focusing vegetation management efforts in the immediate area adjacent to homes means that larger areas of native-like park vegetation can remain unaffected. Most of the required District fuelbreaks are already in place with missing sections to be identified in the Plan/EIR. However, because very little attention has been paid to maintaining healthy native habitat, these sections will need to be reviewed for site-specific sustainable practices as part of the vegetation management plan.

a) New fuelbreaks recommended for park grassland areas are either currently grazed or are on sites where brush succession has yet to occur. Continued grazing or mowing should be sufficient to maintain relatively narrow areas of grassland as fuelbreaks. Maintenance to reduce exotics and to increase native flora that will be sustainable should be the prime objective, so close attention must be paid when using goats or personnel unfamiliar with both exotic and native vegetation.

b) Shrublands are another matter requiring intensive management of wider fuelbreak widths when shrub species are retained because of their potential flame heights and rate of spread. Prescriptions usually call for shrub "islands" with about 30% of shrub cover (with retained shrubs pruned at four feet in height and cleared of flammable wood debris), with 70% open areas that are usually mowed. An alternative option for existing shrubland areas is to convert to a narrower fuelbreak width of grassland with regular mowing in the spring and summer.

c) Oak/bay woodlands are a relatively fire-safe plant community, with periodic clearing of ladder fuels being the only maintenance near homes.

d) In areas of non-native vegetation, conversion to the adjacent native-like plant community can be the best solution with over seeding of local ecotypes of native grasses and associated flora when soils are disturbed or left bare during conversion.

e) However, many of the District's earlier fuelbreaks involved a more destructive conversion during logging of eucalyptus and pine groves in the 1970s, followed by 30-years of mowing or goat grazing resulting in weed problems and broom invasion. These areas will require a different approach to re-establish natives, and a maintenance program that will pay attention to the removal of weedy plants and to increase the overall percentage of natives.

11. **Non-native eucalyptus and pine groves can exceed 120' in height and can be prone to dramatic fire behavior. When wind drive wildfire reaches their crown, flames above 150' can be expected with burning embers blowing downwind well beyond one half mile. The capacity to spot new fires that overwhelm firefighting forces during Diablo Wind conditions means these species must receive high priority for treatment.** Non-native plant communities in the hills are today's remnants of the tree planting efforts of two Oakland businessmen who forested the hills for future

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residential development and for hardwood lumber production. Frank Havens and Borax Smith formed the Realty Syndicate in 1895 to sell lots and homes to new residents who would also buy tickets to ride their trains. They launched a massive tree-planting program to beautify their 13,000 acres of hill land, and a few years later Havens formed the Mahogany Eucalyptus and Land Company to plant gigantic plantations of blue gum eucalyptus on his privately owned water company lands to meet the state's growing demand for hardwood lumber. Both enterprises could not be repeated today, but have created increasingly significant environmental impacts that residents and agencies must now address that will be increasingly expensive in the future.

We have used "non-native" as the appropriate term for describing Havens bluegum (and redgum) eucalyptus trees from the Island of Tasmania Australia, and for describing pines and cypress from the coastal regions of central California. It is not only the "appropriate term" to use, but it carries broadly significant meaning in terms of the impacts these non-native species created and continue to present to the locally-evolved native biodiversity. It is not sufficient to consider these several non-native species as isolated occupants of the land. They each have large contextual, negative impacts that must be factored into any equation regarding protection and preservation of native resources in areas of locally diminished open space acreage.

Non-native eucalyptus and pine are some of the most dense and flammable plant communities in the hills. Un-maintained eucalyptus groves can have 400 to 900 trees per acre with fuel ladders into the canopy and 30 to 100 tons of flammable fuel on the ground. Wind driven wildfire in these groves can be expected to produce flame lengths and ember throws that will quickly overcome firefighters and significantly reduce evacuation time for homeowners.

Unmaintained pine groves are also extremely flammable with deep needle duff on the ground and dense pine seedling growth within and around the grove. The presence of Monterey pines intermixed with native coastal scrub also provides a source of tinder that contributes to crown fires since the needle duff can be ignited by embers and can burn off the live fuel moistures of species like Baccharis.

The recommended strategy for eucalyptus and pine groves is to manage or remove trees and groves that are close to residential areas that could throw burning embers long distances (including over fuelbreaks, natural barriers, and manmade barriers) into residential areas.

12. **Native-like vegetation and our native woodlands are generally below 40' in height, and are less prone to unmanageable fire behavior. Native-like plant communities form 81% of today's wildland vegetation in the hills comprised of mostly plants that are truly native to the East Bay.** The recommended strategy for protecting residential areas from wildfire coming from native-like vegetation is to establish an understanding of the ecology and fire-behavior of the live fuels site-specific to each individual wildland/residential edge, and then manage these edges to provide safe access for firefighters defending structures to hopefully stop fire before it enters residential areas.

Most areas offer a range of small to large acreage (sometimes in a mosaic and sometimes as a single type community) of grassland, shrubland, oak/bay woodland, or redwood forest. These plant communities are rather young, achieving their current location, size, and form as a result of both human impacts and plant succession over the past 200-years. Photos at the turn of the 20th century show the hills dominated by

grasslands (many of which were maintained by cattle grazing) with smaller areas of shrubs, oaks, redwoods, and riparian vegetation.

Recent research involving the analysis of phytoliths concluded that the historic plant community for well over 1000 years was baccharis-dominated coastal scrub. Thus, the jury is still out in terms of extent and distribution of the true historical vegetation types.

The density and distribution of today's native-like plant communities in the hills are unique to the 20th century and provide excellent habitat for wildlife and other species that make up today's diverse ecosystems. At many locations there are also endemic animals, birds, or plants that have legal standing. These listed species require individual monitoring, protection, and careful management.

Each native-like plant community behaves differently in wind-driven fire. Grassland fires are flashy and move quickly, but are relatively controllable. However, they provide a faster means of ignition and spread of fire into other vegetation, particularly upslope. Shrubland fires can also move quickly and some shrubs can produce flame lengths above 30 feet and, once ignited, are more difficult to control. Unfortunately, there has been little research into the important factors that affect ignition in the unique and various East Bay Hill shrub communities and they are thus far poorly understood. Because of the lack of specific field-conducted studies that would help elucidate both the ecological and fuel-related behaviors of individual species and shrub communities, they have been collapsed into the generic category of "brush," assigned fuel characteristics from other more fire-prone species, and been targeted for aggressive fuels management. Fire in native woodlands produces lower flame lengths but can also crown and produce burning embers under extreme conditions.

13. **The debate about wildfire risks attributed to non-native eucalyptus trees has been a controversial topic for years. In our opinion, there is ample evidence to show that eucalyptus and pine trees, in dense unmanaged groves, are both a wildfire threat and an environmental dilemma that requires attention.** Individuals who love eucalyptus trees aggressively defend the tree, arguing that it has been naturalized to this area, it provides habitat for wildlife, and it is not an unusual fire threat. Narratives about both the threat and the environmental dilemma can be found in the statements, articles, papers and reports contained in Appendix A.

14. **We are most concerned with the process by which decisions will be made about the most flammable and potentially controversial plant communities in today's parklands. We don't endorse generic options but favor site-specific analysis that is grounded in the best possible science. In practice, that means that any one given eucalyptus or pine grove will be managed for its unique characteristics to achieve fire safety, conversion to native plant habitat, or made safe for public use.** However, the threat factor is now relatively clear and can't be denied.

15. **The subject of eucalyptus and pine grove management remains controversial among people of good will. In the interim, the Sierra Club, CNPS, and Audubon offer the following statements for consideration when reviewing agency plans and environmental documents.**

    a) Agencies and private landowners should focus their efforts on removing eucalyptus and pine groves on or near the high ridges and on leeward slopes (West facing) above homes to allow these spaces to convert to native-like vegetation that is less prone to spectacular wildfire behavior.

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b) Eucalyptus areas that were logged between 1972 and 1974 should be revisited to remove all 30-year old stump sprouts and seedlings that will not form good park woodlands, and to allow these areas to convert to native-like vegetation.

c) Groves that are thinned to retain mature eucalyptus trees should keep 30 to 50 trees per acre with shrubs removed and ground fuel maintained at less than two tons per acre. However, everyone should understand that single-age stands do not usually make good permanent park forests because the stand will eventually reach its natural stage of decline and become a hazard that should be removed. At that time conversion to native-like vegetation should take place.

d) When eucalyptus and pine trees are removed, the areas they occupy should be managed to convert without planting new trees and shrubs to a fire-safe native-like vegetation that blends with and expands adjacent plant communities. The type of replacement vegetation and any required maintenance depends on site conditions and the type of plant community desired.

When a healthy understory of oaks, bays, and associated trees are present under the eucalyptus or pine canopy, they should be saved during logging and allowed (without additional tree planting) to become the replacement tree canopy.

When an understory of native trees is not present (especially on ridge tops and dry slopes), grassland and shrubland plant communities should be allowed to re-establish and succeed by appropriately controlling broom, thistle, and other invasive, fuel-rich species. Native shrubland will sometimes reestablish after the eucalyptus canopy is gone if invasive weed species are held in check.

When there is sufficient native grass cover and/or seedbank in areas to allow for establishment of good quality grasslands, these can be carefully restored and managed by grazing or mowing to prevent re-succession of shrublands. However, in the absence of a native grass seedbank, weeds will dominate the resulting "grassland". In this case, re-succession by native shrubs can help restore quality habitat.

e) Thinning young eucalyptus woodlands of suckers and sprouts to create a temporary managed grove is less desirable and may be untrustworthy on our steep and windy hillsides when the goal should be to convert to native vegetation. Thinning eucalyptus and waiting 30-years for native plant establishment under the canopy will allow ladder fuels to become established, and repeated costly logging projects will double environmental impacts.

f) We support efforts to keep mature eucalyptus trees in groves that can be thinned and maintained as a mature tree canopy for existing and future recreational activities, or as a historic tree grove to be retained pursuant to a park's adopted Land Use Plan.

g) We will be particularly interested in the policies that guide when to thin and retain a grove, and when to achieve a conversion to native-like plant communities that are appropriate to the site. As an example, for a grove with 300 trees per acre, it might be short sighted to take out 250 trees per acre to keep a grove when

conversion to native vegetation could achieve multiple goals. This would be especially true for areas in parks where native vegetation should the objective.

h) In all cases, logged eucalyptus stumps must be treated and killed to prevent sucker growth.

i) Control of weed species such as broom, euphorbia, and eucalyptus seedlings is essential during all maintenance and conversion projects.

j) Non-native trees (such as eucalyptus and pine) that are small but will become large and are not part of the designed park landscape should be removed at the earliest time possible to keep costs low, minimize resource damage, and allow native-like vegetation to develop as soon as possible.

k) Tree removals (logging) can be very controversial, and the immediate appearance of logged areas can be dramatic, triggering public protest from people who have not responded during the planning process but are motivated to speak out once logging begins. Often the public is unaware of the costs and tradeoffs of large-scale projects such as logging. As a result, tree-logging projects must be made to be very visible during the entire public process. Before logging projects are presented to the Board for approval to seek bids, staff should ensure that the tree project has specific Plan/EIR clearance with a notice posted in the park before the Board meeting and "left posted" until project completion. After the Board approves a contract, District managers and Board members must be ready to support the tree removal project through to the end. After the contract is awarded and the work begins (sometime months later), experience has shown there will always be a member of the public who sees what's happening, pleads to save trees, and will lobby to stop all work.

16. **As each of the East Bay Hills Emergency Forum agencies prepares their individual plans and environmental documents, they will be required to address the cumulative impacts of wildland fire hazard reduction projects by all agencies. This will require active cooperation and long range planning by HEF member agencies.** The HEF will need to provide sufficient coordination to make sure that potential cumulative impacts are clearly described, and that significant cumulative impacts can be avoided. We urge all agencies to consult with their legal advisors for guidance in developing plans that will address the cumulative impact issue. Of course, we will reserve our final opinion about how each agency handles these matters as we review their plans and environmental documents.

a) Agencies should commit that cumulative impacts will be avoided while converting high-risk eucalyptus and pine groves to native vegetation, and that they will consider their projects to be self-mitigating projects that complete the work begun in 1973/74. Most of the involved public agency acreage was logged after the 1972 freeze. The removal of multiple stump sprouts and dense seedlings in already logged areas is ongoing work that needs to be completed. Sprouts and single age stands of seedlings are unsuitable for forming safe and healthy woodlands.

b) Agencies should commit that cumulative impacts will be addressed and avoided by their projects, when considered separately or together, and that they will involve relatively small acreage dispersed along a 30-mile long wildland corridor that totals more than 18,500 acres of similar vegetation

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c) Agencies should commit that cumulative impacts will be avoided by their projects that are coordinated on lands separated by time and space from other agency projects. Coordination will be used to ensure that work will be scheduled over a reasonable period of time, and that there will be no cumulative impacts from overlapping work on the same or adjacent lands.

d) Agencies should commit that cumulative impacts will be avoided when their projects are coordinated to have sufficient distance between projects by others in location and time, and ensure that there will not be significant cumulative unmitigated impacts on common resources such as wildlife and keystone habitat.

e) Agencies should agree that they will not allow vegetation management projects to have a significant cumulative impact on sensitive species or habitat because of existing environmental regulations that will be followed, and because of the biological opinions and mitigations that will be required by state and federal resource agencies.

Appendix A

The following quotes, articles, and reports provide additional information and perspective about the fire hazards and the environmental dilemma posed by eucalyptus and pine plantations in the East Bay Hills.

a) In March of 1973, H.H. Biswell, Professor of Forestry and Conservation at the University of California, Berkeley made this prophetic statement. "When eucalyptus waste catches fire, an updraft is created and strong winds may blow flaming bark for a great distance. I think the eucalyptus is the worst tree anywhere as far as fire hazard is concerned. If some of that flaming bark should be blown on to shake roofs in the hills we might have a firestorm that would literally suck the roofs off the houses. People might be trapped".

b) James Roof, Director of the Tilden Botanic Garden, in his detailed paper of February 1973, made observations about the areas wildfire risks, about eucalyptus tree risks and impacts on native flora, and offered his recommendations following the freeze of 1972.

c) Professor Robert Stebbins, Professor of Zoology at UC Berkeley and the curator of the UC Museum of Vertebrate Zoology has been a long-time advocate for retaining eucalyptus groves because of the habitat they provide for local wildlife especially amphibians and birds, and prepared several papers on this subject during the 1995 HEF plan review period.

d) The Temescal EIR Advisory Group in 2000, listed the following guidelines for eucalyptus and pine forests: "Eucalyptus Forest – This introduced forest community is highly controversial because of the extreme fire behavior that it can generate and because a significant number of native species that have adapted to it. It is a high priority for management, particularly in areas where it has the potential for involvement in wildland fires. Management plans must also take into account impacts on those species that have adapted to Eucalyptus. A number of native raptor species including the Turkey Vulture, Red-tailed Hawk and Great Horned Owl seem to prefer Eucalyptus to native forests in a variety of circumstances. Nest and roost trees should be identified and accommodated with appropriate buffers, where feasible, in fuel-break planning. Monterey/Bishop Pine Forests – This transplanted California native plant community occurs in dense stands and as individual specimens in several areas within the study area. Although less widespread than Eucalyptus, these coniferous forest species are also preferentially used by native raptors including the Golden Eagle. As with Eucalyptus, nest and roost trees should be identified and accommodated with appropriate buffers, where feasible, in fuel break planning."

e) The Vegetative Management Plan for the Eucalyptus Freeze Affected Areas in the Berkeley-Oakland Hills was prepared to guide the efforts of agencies working to reduce the potential for wildfire after the freeze of 1972. The Plan was prepared after the hills were declared a disaster area by the State's Governor, and was adopted before the California Environmental Quality Act was amended to include public agencies.

f) The Ubiquitous Eucalyptus article, by Bill O'Brien in the fall 2005 BayNature magazine describes the history of eucalyptus trees in the East Bay as well as

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statements and opinions by local "experts" about both positive and negative aspects of eucalyptus trees.

g) Respect for the flammability of our hill's dense eucalyptus groves is common knowledge among local fire chiefs. Fire departments have not been willing to use prescribed fire (with prescriptions set for when fire control is theoretically possible) to reduce the flammability of groves by clearing the 50 to 100 tons of ground fuel that can be found under unmaintained eucalyptus groves. Fires in native-like vegetation will not burn well in the hills during most of the year, but fires under eucalyptus with its shredding bark and oily leaves can move to the treetops during almost any season. Professor Biswell tried unsuccessfully, in the 1970's to establish prescribed fire as a local maintenance practice in eucalyptus, as is done in Australia. Regional Park Fire Chiefs have wavered, and remain unwilling to use this technique even today because of the risk of escaped fire, and because of smoke impacts on the air basin..

h) The 1995 HEF Plan (in its final Report and Technical Appendices) determined that eucalyptus and pine trees and the burning embers that they can produce in a wind driven wildfire are an important factor in the wildfire risks faced by hill residents.

i) Javier Trelles, and Patrick J. Pagni UC Berkeley Professors analyzing the role of wind patterns during the 1991 fire, described the Sunday morning fire start as follows. On October 20, at 6:00 a.m., the normal weather pattern was interrupted as winds in excess on 10/ms arose from N 35 degrees E and the relative humidity dropped below 10%. This strong, dry convective current began to dramatically lower the moisture level of the previously soaked burn area of the Saturday fire. The ambient temperature climbed to 90 degrees. The few embers that remained buried overnight were by 10:45 a.m. spotting to new areas of dry fuel. Between 11:15 and 11:30 a.m., extremely rapid fire spread in windward direction overwhelmed fire crews called in to help. The initial brand material came primarily from Monterey pine, Pinus radiata. About 650 meters from the fire origin, the fire engaged a 35-meter high stand of Eucalyptus globules that quickly became an inferno releasing copious brands. Once structures became involved, the shakes and shingles they liberated further exacerbated the flaming brand problem.

j) The East Bay Hills Oakland-Berkeley Fire that was investigated by J. Gordon Routley. His report was conducted under contract to the United States Fire Administration, Federal Emergency Management Agency. The following excerpts are taken from his report.

"Fire has been a part of the history of the Oakland-Berkeley Hills area throughout its history. As with many other marine climates, fuel moistures are such that during most periods, fires do not cause dramatic damage but rather help maintain a balance of fuel types and reduce fuel loads. The native flora and fauna had adapted correspondingly with the natural occurrence of fire in the area."

"Additionally, the introduction of vegetative species which are not native to the area has dramatically impacted fuel loading. This is particularly true of the introduction of eucalyptus. Fuel accumulations in some areas under eucalyptus plantations have been estimated between 30 and 40 tons per

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acre. Monterey Pine was also introduced into the area and contributed significantly to the fuel loading."

"Additionally, eucalyptus is susceptible to freeze damage, as occurred in 1972, when large numbers of eucalyptus were killed due to an extended period of below freezing temperatures, and again in December of 1990. The dead trees and limbs added a significant amount of dry fuel in the area. Also, eucalyptus sprouts back from the stump and this sprouting after freezing or after logging operations has also increased fuels in some areas."

"Between 1986 and 1991 most of California experienced drought conditions. This situation was recognized as creating more and more critical fire risk conditions each year. The unprecedented drought was accompanied by an unusual period of freezing weather, in December of 1990, which killed massive quantities of the lighter brush and eucalyptus."

LETTER B2
Sierra Club, San Francisco Bay Chapter
Norman La Force
September 21, 2009

B2-1: Comment is noted that the commenter is submitting the attached "Green Paper," prepared by the Sierra Club, California Native Plant Society, Golden Gate Audubon Society and released on March 27, 2009 prior to publication of the Draft Wildfire Hazard Reduction and Resource Management Plan and Draft EIR in July 2009, "as a comment to the Vegetation Management Plan and the Draft EIR." The "Green Paper" is included as an attachment to letter B2 and is therefore considered as part of the record. The comment is noted and does not relate to the overall adequacy of the Draft EIR (as the Green Paper was published prior to preparation of or the comment period on the Draft EIR), and the District believes that the Plan reflects many of the principles reflected in the Green Paper. No further response is required.

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California Native Plant Society

East Bay Chapter
Conservation Committee

RECEIVED
OCT 30 2009
PLANNING / STEWARDSHIP

October 30, 2009

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, Ca 94605-0381

RE: Draft Wildfire Hazard Reduction and Resource Management Plan and associated Draft Environmental Impact Report

Dear Brian:

The East Bay Chapter of the California Native Plant Society (EBCNPS) appreciates the opportunity to comment on the District's Draft Wildfire Hazard Reduction and Resource Management Plan and associated Draft Environmental Impact Report. The California Native Plant Society is a non-profit organization of more than 10,000 laypersons, professional botanists, and academics in 33 chapters throughout California. The Society's mission is to increase the understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, and conservation. 1

EBCNPS congratulates the District on its undertaking of such a significant challenge! The communities adjacent to the western edge of the District's East Bay Hills parks are fortunate to have close access to such extensive park resources, and we believe that in setting goals to manage these lands for native habitat as well as for fire hazard reduction, the District has taken a giant step forward to preserve the nature of these parks for the benefit of all park users while protecting public safety along the interface. Increasingly, across the western US the Wildland Urban Interface (WUI) has become an embattled zone where the remnant natural resources that have managed to persist despite development and the associated impacts have been subject to ill-planned and devastating vegetation management in the attempt to reduce the risk of catastrophic fire. The District's stated goals embodied in the Vegetation Management Plan are laudable and, if properly implemented, may well reverse that damaging trend and become a model for other agencies. 2

EBCNPS is eager to see these goals set into practice for the welfare of the community. It is within that spirit and context that we offer our extensive comments, in the hope that a good plan can be made better. It has been said often in the public meetings that the VMP is a work in progress, that it must be flexible and adaptable. We concur. We hope that our suggestions prove practical, recognizing that there is a diverse set of problems to solve and diverse stakeholders. The length and complexity of the document precludes our responding with the level of detail that ordinarily we would include in a comment letter. In particular, although we might wish to do so,

we cannot comment on every polygon. Where we have disagreements with the District, we anticipate further discussions to arrive at workable solutions. Our chapter has been hard at work on this issue for many years, and we will continue to be involved in the years to come. 2 cont.

EXECUTIVE SUMMARY OF POINTS

EBCNPS is committed to protecting the native plant resources of the East Bay Hills. We believe that the proposed Fire and Resources Plan has the potential to help improve native plant habitat and conserve important resources. At the same time, we remain specific in our support since so much of this plan is dependent on a proper analysis framework, followed by assiduous *implementation* of this plan. 3

This is a summary of our primary issues and the inconsistencies that need to be revised before the final Fire and Resources Plan and EIR documents are adopted.

1. The Plan/DEIR proposes for the District to manage 3,600 acres[1] of vegetation that will become the largest fire/resources program in the 13 East Bay Hill Regional Parks. 1,574 acres (12% of a total of 13,000 acres) now contain dense eucalyptus and pine-dominated plant communities that are significant fire hazards because of their ability to produce burning embers and fire brands during wildfire that could blow into and ignite residential areas. Eucalyptus and pine groves, or plantations are dense stands of aging and sapling trees. The majority of these plantations are currently unmanaged.. These plantations do not support Park District goals for parkland with vegetation that provides maximum biodiversity and ecological value for native plant and wildlife habitat, and they are not likely to be economically sustainable in the future as fire safe forests. We recommend that conversion of these plantations to native vegetation occur as soon as possible because maintaining eucalyptus and pine "until the end of time" is not a worthwhile or realistic Park District goal. 4

2. The Plan/DEIR proposes for the District to manage a system of residential edge fuelbreaks (involving 375 acres of park district land identified in Plan polygons) to be created along the westerly boundaries of parks where homes exist within 200' of high fire risk vegetation. In general, we support the goal of reducing fire hazards for this area, but recommend that there be less reliance on goats and that conversion of weedy areas to native vegetation be a primary goal along with regular mowing of annual grasses in fuelbreaks at heights above 8". In addition, we recommend that the District identify those neighborhoods adjacent to Parks where residents have not created adequate defensible space. Both homeowners and city fire departments should be notified of their responsibility in creating fire-safe areas. 5

3. The Plan/DEIR proposes for the District to manage up to 570 acres[2] of roadside vegetation for strategic firefighting and park user/homeowner evacuation purposes. This concept appears to be reasonable for a few high-risk locations but not for the indicated 78 miles of roadway proposed in the Plan or for roads that cross areas of sensitive plant or wildlife habitat such as the Caldecott 6

[1] Note: Acreages quoted using Plan numbers do not always add up to reliable totals.
[2] This calculation presume that parkland exists on both sides of the road for 30 feet on each side.

Wildlife Corridor or high quality native plant habitat. The discussion of need for 60' of vegetation management along all indicated roads, and the site-specific details are missing in the Plan. Given the large acreage and the fact that roads are known vectors for weed dispersals, this must be considered a **major** impact of the plan requiring mitigation. The costs for initial treatment and ongoing maintenance for each park should be quantified before implementation. Complementary to this effort, the District should acquire several power washers to clean vehicles likely to spread weed seed. 6 cont. 7

4. The Plan/DEIR proposes for the District to manage an additional 1,301 acres of native vegetation that will be thinned, removed, converted, or otherwise managed to reduce flammable fuel within the 130 polygons identified in the Plan. Native shrub communities will be significantly impacted, and there is an assumption-- which we dispute--that oak woodlands require treatment. We have significant concerns about the need to manage most of the 1,301 acres. Native vegetation (other than in residential edge fuelbreaks) appears to be included in other polygons because of how polygon lines were drawn. We ask that the polygon lines be redrawn to focus on only the specific vegetation that needs to be managed for ember control. This is a major problem at Pt. Pinole (PP001), Wildcat Canyon (WC005), and Tilden (TI002a). 8

5. Polygons at Claremont Canyon (CC009, CC010, and CC011) appear to be holdovers from FEMA projects that should have been dropped because the FEMA projects were infeasible as are the proposals in the Plan. 9

6. The Plan/DEIR proposes over reliance on goat grazing that to date leaves less than 2" of stubble, leaves generally ugly and weedy vegetation, tramples the soil, removes or damages native plants indiscriminately, and leads to weed invasion. Most other public property owners in the hills use some form of selective mowing, and we recommend that the District proceed with a selective mowing program that favors native flora and use goat grazing (with appropriate controls) only in those unusual sites where specifically justified because other methods are not practical (e.g., very steep slopes). A minimum cutting height of 6-8 inches should not drastically alter fuels behavior. This height allows for greater recruitment of natives, less soil erosion, greater soil stability, higher ecosystem function, and reduces the invasion-potential of non-native plants. 10

7. The Plan/DEIR proposes that the District use prescribed fire program in a number of polygons. While we endorse the appropriate use of prescribed fire in carefully selected sites, we believe that the District must address the obstacles of smoke impacts, resident fear, and cost to show whether the management technique is fully practical, especially in managing eucalyptus ground fuel and vegetation in residential interface polygons. 11

8. The Plan/DEIR should recommend that the District hire a management level Natural Resource Manager to be assigned full-time to this project whose authority is equivalent to the Fire Chief assigned to the VMP. Current the stewardship department's staff is already fully committed in their work load and cannot be expected to assume the level of consistent attention that this project requires. As we believe that fuels management is a subset of land management and not the other way around, the natural resources manager should have a working knowledge of 12

vegetation ecology, especially with respect to Bay Area native flora, and should be capable of providing appropriate balance during planning, implementation, and monitoring phases of fire and resource projects that are recommended for the 3,600 acres of vegetation within the 130 polygons. **12**

9. The Plan/DEIR needs to be amended to accurately designate maintenance polygons, defensible space polygons, and Initial Treatment Areas. Currently several areas are incorrectly categorized since work has already been initiated or completed. **13**

10. The 0.8 mile cross-canyon road in Claremont Canyon Preserve should be removed from the Plan/DEIR. The current Plan does not describe the level of engineering analysis that needs to be done, the significant slope and other environmental impacts that must be mitigated, the relationship to recommended work in adjacent polygons (especially CC011 which we find questionable), or the cost of installation and maintenance of this significant project or more likely combination of projects. Nor does it provide a reason why the existing fire road on UC property a short distance to the east from the bottom of the canyon to the ridge is an inadequate substitute for the purpose of firefighting access. **14**

11. Polygon Vegetation Management Goals, Considerations and Guidelines are not consistent with the body of text in the Plan. Descriptions of vegetation types are not consistent between the EIR and the VMP. These need to be brought into agreement before implementation. **15**

12. We were disappointed to see that the Plan preserves 1,200 acres of high-risk, non-native eucalyptus and pine forests that are identified fire hazards using thinning and then maintenance of the remaining groves either through hand labor to create piles that are burned or through the use of prescribed fire every three to fire years to keep fuel loads safe. This may be okay as a short-term solution for some sites if the approach works, is cost effective, and can prove to be environmentally sustainable over time. We suspect that the approach may not be reasonable for some sites, and recommend that a second option be set up in the Plan to provide for conversion of those sites to native vegetation. **16**

13. Similarly, we were disappointed to see that hundreds of acres of native shrublands will be "type-converted" to annual grassland. These north coastal and coyote scrub communities provide abundant and important habitat for wildlife, including a suite of birds that require large unbroken patches of closed canopy scrub. Past type conversions of this type have not proved successful and have resulted in wholesale invasions of fire-prone weeds that have degraded the native habitat and displaced wildlife. This impact to shrublands is not properly mitigated in the EIR. **17**

14. The DEIR includes a discussion of general impacts of the Plan/Program, but not for each of the 130 individual polygon projects. The Plan proposes that the 130 polygon projects would involve work that is not known or described at this time, and therefore cannot be analyzed or evaluated by the board or the public. This would be another important responsibility for the VMP Resource Manager. We believe that project specific CEQA analyses are required for these specific treatments which have impacts specific to their location. **18**

15. The District does not have the required Federal Biological Opinion (BO) required for work in most of the 130 polygon project areas. The BO should be obtained before further public discussion and board adoption so we don't spend our time arguing about items that may be removed after the BO is completed. **19 cont**

16. The Plan currently provides that the only opportunity for further public review and involvement will be to make comments at Board Committee meetings, and during the annual capital budget process when staff decides to implement actual projects. We believe that an appropriate level of CEQA document for each polygon that is being implemented is the required format for these discussions. **20**

17. The VMP fails to provide adequate plant "indicator" species for management activities. The species listed in the EIR/VMP are not ecologically valid taxa to serve the required purpose. These indicators should change. **21**

18. The VMP monitoring program includes a contract with the Point Reyes Bird Observatory (PRBO). We applaud this portion of the project. At the same time, we are disappointed that a similar service will not be conducted for vegetation monitoring. The PRBO work represents only a small portion of the biological monitoring that should be conducted by an independent scientific authority. Since different sites support different native plant species, especially locally rare species, that will be impacted directly in these projects, there should be a complementary, independent monitoring program that will provide site-specific information on the implementation and efficacy of this plan. **22**

19. The full funding resources for this VMP have not been spelled out. Therefore we are concerned about the long term efficacy of such a plan. How will this plan function if it is not properly funded? What aspects of implementation will be "short-changed"? We believe this is a critical element in approving this plan and there is little text on contingencies and funding. **23**

20. During implementation, the annual set of treatment options should address different priorities of analysis for different types of parks. Sobrante Ridge, Claremont, Huckleberry, Sibley, and Leona Canyon have been designated as **preserves** according to the Master Plan. This designation places a stronger emphasis on the protection of their native flora and fauna. In establishing and evaluating the criteria for each year's fuels treatment, the preserves should receive high priority for resource protection. **24**

21. The basis for recommending vegetation treatment rests on the modeling results for generic fuels categories. We find that these categories remain flawed because of the lack of inclusion or reference to reliable, *field-collected* data that refer specifically to the plant species and their specific sites. Achieving the national standard of 8' flame length while attempting to retain viable, biodiverse habitat is a virtual impossibility since very little vegetation can meet that standard. The 8' flame standard is aimed at enabling fire-fighting personnel to combat fire on the ground. The VMP is aimed at meeting that standard during catastrophic Diablo-wind driven events. Given the topography of much of the area, it is highly unlikely that personnel will be placed on steep slopes except in the immediate vicinity of homes where the residential fuelbreaks **25**

are located. We raise the question of whether it makes more sense to focus on ignition factors and spotting capacities of vegetation. A strategy based on preventing fires from starting in the first place (especially during the 12-14 days a year when Diablo winds are a threat) and on removing eucalyptus and pine which spot fires and consequently overwhelm firefighting personnel during Diablo events forms a more efficient and practical approach than attempting to impose a static (and biologically impoverished) condition on wildland vegetation.

25 cont

GENERAL CONSIDERATONS

Legal Review

It is our understanding that the District regards the DEIR as a programmatic document, and that the VMP will likely undergo significant change over time. We believe that the level of detail in the description of vegetation types, environmental setting, treatment goals, methods, impacts and mitigations for individual polygons is insufficient to satisfy CEQA's requirement for appropriate analysis. Therefore, we have suggested, via a letter from our legal counsel representing the East Bay Chapter of CNPS, the Sierra Club, and Golden Gate Audubon that further CEQA review for individual projects will be necessary. **It is unlikely that full EIRs will be required for most projects; rather, Negative Declarations, Mitigated Negative Declarations, and Focused EIRs will likely be sufficient in most cases. However, it is our position that further environmental review with the appropriate opportunity for public comment is a key component of an effective program.** It is not sufficient to confine the discussion of the annual treatment plan to a committee meeting or Board of Directors meeting.

26

In such a situation where the implementation will be specific to a large number of projects and these projects will span two decades, a single Programmatic EIR will not suffice to cover the range of important variables likely to arise specific to each site and set of treatments. By way of example we addressed a similar case last year when the San Francisco Public Utilities Commission issued its programmatic EIR for its Water System Improvement Program. In this case, there were multiple projects spanning many different sites and several decades. In this case, project-level CEQA analysis has proceeded with a variety of determinations as to the degree of analysis appropriate for each specific project.

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Because of the technical inadequacies in this report with respect to site-specific biological resources and environmental setting, this single review will not suffice. There are significant problems with the description and level of understanding of the vegetation communities to be managed and their ecology. Accurate descriptions of the native vegetation communities of the East Bay hills have been a subject of controversy for many years, and the full range of expert opinion on these has not been fully represented here. The science of vegetation ecology is a new one wherein communities and plant associations are mapped and classified according to a strict protocol. While the EIR/VMP attempts to build crosswalks between fuel types and vegetation

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communities, these are, particularly in the case of native communities, problematic, and these problems relate directly to failure to identify significant impacts. This subject will be addressed in further detail below. **28 cont**

Biological Resources

Locally Rare and Unusual Plants

We note one important consideration for the vegetation of the East Bay that requires a wider lens than the boundaries of the project area. The East Bay hills have a number of plants that have been surveyed and reported as "Rare, Unusual, and Significant Plants" of the East Bay (see Lake, 2004) and are described as "outliers," "range limits," or "disjunctions" from the greater biogeography of the plant in question

These plants are presumed to have a limited local distribution for a number of reasons including soils, climate, and land management. It is a goal of EBCNPS's conservation program to highlight these taxa where projects may threaten them. Some of these species are at risk for becoming rare on a more widespread basis, and the East Bay may be hosting some key populations. Accordingly, all plants having A1 or A2 status are protected in sections 15380 and 15125(a) of CEQA, which address species of local concern and places special emphasis on environmental resources that are rare or unique to a region. **29**

Although Table IV.B-1 (Special Status Plant Species Evaluated in EBRPD Study Area) presents Federal and State protected plants, there are no locally rare and unusual plants listed here. The EIR fails to comment on impacts to these species. This would be an appropriate place to introduce A1 and A2 plant species from this area. In addition, CNPS List 3 and 4 species should also be presented in the CEQA document.

Table 3 of Appendix E lists a mere 10 "Locally Rare and Unusual Plants." This list is significantly deficient. Simply taking the plant lists from each of the affected parks will produce a much longer list than 10 species. In this same Appendix, keystone and indicator species are discussed, yet no plant taxa are considered in this discussion. There are keystone plant species for each vegetation type, as well as indicators that may be useful in this project.

Vegetation Communities

Forests versus woodlands

There are three general categories of vegetation communities within the East Bay Hills: woodland, grassland, and shrubland. With the exception of a small relict forest of coast redwood confined to Redwood Regional Park, there are no native forests: the non-native eucalyptus and Monterey pine plantations and groves have some forest-like aspects in terms of height of trees and the predominance of tree species over understory, but these plantations are highly simplified, invaded sites and do not function as native ecosystems. **30**

Management of the eucalyptus and pine plantations to reduce the considerable risk of fire which they present involves reducing or eliminating the understory which is composed, in most cases, of native species such as toyon, bay, poison oak, and sapling oaks. All of the photos labeled Low Fire Risk Monterey and Eucalyptus (Figures V-9a, b, 11, 12) are nearly devoid of native vegetation. These photos depict mature or young stands that have been managed to meet the fuel reduction standards set forth in the EIR/VMP. There is very little except limbed up tree trunks, illustrating the ecological costs of maintaining non-native forests. In addition to the barren nature of the understory imposed by the necessary fuels treatments, the soil in which eucalyptus grow is impoverished and altered by the terpenes produced by the trees.

30 cont

Our principal native woodland communities are oak woodlands where a variety of native oak species predominate, with coast live oak being the dominant species on the west side of the East Bay Hills. These support a highly diverse wildlife community. Oak-associated faunal species number in the hundreds and the soils beneath oaks contain a rich mycorrhizal complex that binds the soil community. Fuels management of oak woodlands would likely disrupt the Dusky woodrat populations, an important keystone species, since they prefer dense understory. **Given over 1500 acres of unmanaged high hazard eucalyptus and pine plantations and limited funding, we believe that the generally low hazard oak woodlands should rank low in priority for management.**

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Grasslands and shrublands or grasslands versus shrublands?

The grassland communities currently found within the East Bay Hills are varied and range from weedy annual grassland with few to no native species of grasses or forbs present to grasslands that contain some native component of either more mesic species of native coastal prairie or some inclusion of valley grassland types. **The EIR/VMP's use of California Annual Grassland as a classification type to be managed is a case where an overgeneralized category leads to overly generic treatments that cannot reach the important goal of achieving more native diversity and fewer weed species.** Non-native annual grasslands are disturbed environments, and the addition of disturbance results in a positive feedback loop that makes the grasslands even more susceptible to herbaceous weed invasions (see D'antonio, et al., "Ecology of Invasive Non-native Species in California Grassland", in **California Grasslands: Ecology and Management** (Stromberg, et al, 2007),) Therefore, **we believe the goal of type-converting native shrublands to annual grasslands as low fire hazard, biodiverse landscapes will prove elusive, as has already been demonstrated in Claremont Canyon where healthy north coastal scrub was type-converted to weeds, destroying native habitat for wildlife and creating a weed-entrenched site that itself has become the focal point for further weed-spread[3].**

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Type conversion on steep, south or west-facing slopes is a difficult proposition because of the relative lack of soil moisture. Removing coyote brush, one of the most deeply rooting native

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[3] This attempt at type conversion is found on Panoramic trail, about 1/3 of the way up the slope.

shrubs, exposes the surface soil, and readies it for weed invasion since the annual weeds are capable of exploiting fall and winter rain and the deeper rooting invasive shrubs, such as broom and fennel, access the deeper water sources. Native perennial grasses and annual forbs cannot compete for surface water required for germination, and so the area type-converts to weeds. The site on the south-facing slope of Claremont Canyon now has an enormous seed bed of broom as well as an associated suite of other weeds which will take many years to reduce.

32 cont

We believe a better course of action is to work *with* the coyote brush, rather than against it since it provides a variety of ecosystem services and abundant habitat. This topic was not addressed by the EIR/VMP but rather focused on an older and much popularized paradigm in which coyote brush is viewed as invasive. An entire rationale for removing coyote brush has been built on the notion that it is invading grasslands; therefore, removing it is an act of ecological restoration. The EIR/VMP states, "Exclusion of fire in the East Bay has also reduced diversity through loss of grasslands (including native coastal prairie) to invasion by coyote brush" (pg. 115). "It is not necessarily considered a natural plant community because human actions (e.g. fire suppression) were necessary for it to invade grasslands." (pg. 148)

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In the conclusion to the chapter "Dynamics of Woody Species in the California Grassland," (Stromber, et al., 2007) Tyler et al. write:

Although climate and geological substrate control the potential vegetation at a given site, there are large portions of California's natural landscapes that are capable of supporting several strikingly different communities: grasslands, shrublands, oak savannas, and even oak woodlands. In the well-known illustration of biomes/world ecosystems shown in relation to temperature and precipitation, these California plant communities would fall into the climate zone "in which either grassland, or one of the types dominated by woody plants may form the prevailing vegetation" ...**Is the change from grassland to coyote bush shrubland following the removal of livestock grazing an "invasion"...or is this "succession?"**[emphasis added] *There is generally little or no information available to describe how dynamics between grass and woody vegetation differed prior to human alternation of native vegetation and disturbance regimes in grassland systems.* **However, at least over the past century, the presence of woody plants in or adjacent to grasslands has been treated as a nuisance, as if grasslands were a static ecosystem distinct from communities with woody vegetation.** Emphasis added] *In California, many thousands of acres of chaparral have been converted to annual grassland or semi-grassland, and close to one million acres of oak savanna and woodlands were cleared between 1945 and 1975 alone, by state-sponsored range "improvement" programs to create more grassland (Bolsinger, 1988). (Stromberg, et al., eds. 2007)*

The EIR/VMP does not cite more recent and local research that indicates that the historical (pre-European) vegetation type in the East Bay hills may have been coyote brush scrub, not grasslands. Dr. Peter Hopkinson at UC Berkeley examined phytoliths from soil sampling stations across the East Bay hills. In the summary of his PhD. dissertation ("Native bunchgrass diversity patterns and phytolith deposits as indicators of fragmentation and change in a California

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Coast Range grassland"), Hopkinson writes, "Several lines of evidence are presented to support the proposition that *Baccharis*-dominated northern coastal scrub may have been the primary vegetation type in the East Bay hills prior to settlement by the Spanish." Although a brief summary of his findings was published in the publication of the California Native Grasslands Association (Grasslands 15(1)7-9), indicating that it no longer remains solely academic, his extensive work has not been included in the EIR/VMP as a topic for debate.

34 cont

What is also not generally known or widely appreciated except perhaps among entomologists is that coyote brush supports an extraordinarily rich and highly evolved entomofauna. Tilden's landmark work, "The insect associates of *Baccharis pilularis*" (Microentomology. Stanford Univ. Press 16(1)149-188) documents an astonishing 221 species of insect plus 62 species of their insect parasites and 8 mite species for a total of 291 species associated solely with the vegetative parts of the plant—these do not include species that visit the flowers. Because coyote brush is a fall and winter-blooming species, it is one of the few plants that supports insects seeking food before winter diapause. We mention the less understood aspects of its ecology because its ability to provide habitat for macrofauna is better known if not fully credited in the EIR/VMP. **While it is not our intention to dispute the fact that coyote brush can transform some landscapes, particularly degraded and disturbed grasslands, by re-succeeding, we question whether the clear value judgment by land managers that coyote brush is an undesirable plant obscures the need to ask more value-free questions as to its potential usefulness and importance. Without that discussion, there is the possibility that some vegetation management aimed at removing this successful plant will proceed along a misguided path that leads to failure to meet the twin goals of the project and results in unnecessarily degraded ecosystems.**

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Shrubland vegetation types

As with the general information available on coyote brush as a species, the analysis found in the EIR/VMP and its descriptions and discussions of East Bay Hills shrublands (EIR pp. 125-138 and VMP pp. 138-161) are disappointing. **The EIR/VMP gives a confused and confusing description of four different scrub communities: coyote brush scrub, coastal scrub mesic, coastal scrub xeric, and non-native scrub.** While the description found in the EIR makes more key distinctions between the mesic and xeric north coastal scrub types, it's significantly inconsistent with what is described and mapped in the VMP. In the latter document both north coastal scrub communities are described as containing the same suite of dominant plants: blackberry, poison oak, coyote brush, California sagebrush, ceanothus, and black sage. The VMP document makes no distinction between wet and dry shrublands in terms of their species composition, and therefore the classifications make no sense since there are, in fact, significant differences in both the species composition as well as distribution in mesic and xeric shrublands. The confusion is perpetuated in the mapping whereby mesic and xeric sites are mapped incorrectly according to the key or are lumped together as the same vegetation type. For instance, the north-facing aspect of Gwin Canyon in Claremont Canyon is mapped as north coastal scrub xeric, but it is a mesic site (see Figure IV.B-1b). The error occurs not only in the mapping but also in Table III-2 (Recommended Treatment Areas) and raises questions not only

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about the adequacy of the description of types but about the extent of ground-truthing to verify that typing is correct. **36 cont**

Further, in the VMP black sage is listed as a dominant species in both xeric and mesic north coastal scrub types. This vegetation type is mapped in 13 of the 14 hillside parks (excluding Temescal) totaling 282 acres, but according to the EBRPD's own plant lists for individual parks, black sage actually occurs only in Anthony Chabot. Clearly, black sage is *not* a dominant species in either of the vegetation types and areas described as north coastal scrub. This absence is not noted in the document, yet it points to the fact that the document's classification system is not truly descriptive of individual sites. What may also be of significance is that the absence of appropriate habitat for black sage may also say something critical about site characteristics in terms of soil moisture, differences in precipitation, and temperature. Although it's not known why black sage does not appear in any of the other East Bay Hills parks in the project, the relevant questions with respect to site-specificity are why not, and what are the differences in key environmental factors such as moisture and temperature? **37**

Non-native scrub

We were pleased to see the EIR/VMP conclude that the resource management goal is to convert non-native scrub to a vegetation type with low fuel volumes and high species diversity. However, the efforts involved in such a conversion must be large and on-going over a considerable period of time. Because the non-native scrub is the result of poor vegetation management in the first place, it's important that these mistakes not be made in the future. We worry that the photo in Figure V-7 that illustrates Low Fire Hazard: Non-native Scrub indicates what the District may have to continue to settle for in those areas that have already been type-converted to weeds in lieu of vegetation with true diversity. **38**

East Bay Hills Shrublands and Fire

The theory that the shrubland communities in the East Bay Hills were adapted to fire is another subject where theories abound and evidence is scattered and conflicted. And the degree to which fire was and is a natural determinant in evolution of East Bay Hills vegetation is equally controversial. Unlike the Sierra Nevada where both forest and shrubland communities have evolved in the presence of frequent lightning strikes, the East Bay Hills have exceedingly infrequent lightning strikes and thus have not evolved with natural fire occurrences. Native Americans used fire to convert shrublands to grasslands, but because grasslands and shrublands are in constant evolutionary flux with one another even without fire as a factor (climate being one of the major factors), it is not known to what extent anthropogenic uses of fire influenced the evolution of these communities in the East Bay Hills (see Keeley). **39**

On page 149 of the VMP under "Fire Behavior and Responsiveness to Suppression," is the statement that," coyote brush scrub is adapted to natural fire cycles. Most species resprout easily to rejuvenate individual specimens after fire, or require fire to trigger germination." Of the species listed in the Coyote Brush Scrub description on the preceding page (148) only Ceanothus

requires fire to germinate. "Dominant plant species include annual grasses, blackberry, coyote brush, ceanothus, huckleberry, monkey flower, poison oak, sage (presumably California sage), California bay, scrub oak, and live oak." Of these species, some have been shown to be stimulated to re-sprout after fire (as well as after pruning), while germination can take place without fire in all of the species with the exception of the ceanothus.

The recently published edition of the Manual of California Vegetation describes the fire characteristics of coyote brush. The most recent research cited in the MCV found that the mortality of individual plants from fire is higher when the bases are burned (Ford and Hayes, 2007) and plants are often killed by moderate to severe fire (Ross 2000a, Steinberg, 2002b). McBride and Heady (1968) found in the East Bay Hills that controlled burning of coyote brush adults resulted in greater mortality with simulated basal burning than with simulated crown-only burning. Basal burns are facilitated by herbaceous understory fuels.

The fact that basal burns are assisted by an understory is notable: mature stands of coyote brush often have little to no understory except for a relatively few species of native plants such as cow parsnip, poison ivy, and a few grasses. The VMP acknowledges this fact on page 154 with the statement, "Because of the high density of coyote brush, little to no understory is present except along edges and openings." The soil beneath these mature stands is often quite bare. An understory is supplied when coyote brush is re-succeeding into annual grassland. The annual grasses cure early and provide a tinder source that is easily ignited. A second and equally dangerous source of tinder is Monterey pines that are often scattered among slopes of coyote brush. The dead pine needles serve as effective tinder which once ignited help drive off the live fuel moisture of the coyote brush.

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Rice (1975) sampled live moisture in five north coastal scrub plant species in the East Bay Hills (coyote brush, poison oak, blackberry, coast live oak, and bay) and compared these to the live fuel moisture of chamise and Greenleaf manzanita. "The shrub species had a relatively high moisture content…and the live fuel moisture contents of the shrubs in the Berkeley/Oakland hills were higher than those for species monitored statewide."("Live Fuel Moisture, Fuel Bed Characteristics, and Fire Behavior of Vegetation in the Berkeley/Oakland Hills" 1975) Although this research is (curiously) not cited in the EIR/VMP in the description of how coyote brush was modeled, it is one of the few instances where such locally derived and field- collected data on native East Bay vegetation was scientifically analyzed. **As such, it is valuable and indicates that further field-collected data should serve as inputs to modeling instead of "created" models that may or may not reproduce local conditions. We raise the issue not because we dispute the notion that north coastal scrub can burn and even crown, but rather because some of the keys to managing this important vegetation may lie in careful analysis of both its ecological behavior as well as its specific fuels' attributes.**

Miscellaneous and Specific Considerations

1. A CNPS List 3 species, Tiburon buckwheat (*Eriogonum luteolum ssp. caninum*), occurs at several locations on serpentine soils in the Bay Area. The serpentine bunchgrass community is

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considered sensitive and is included in List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database. 32 [pg. 127] Also note that Reference 32, which sites this status is from 2003. This is a CNPS 1B plant and has been declared such for over a year. EBCNPS certainly hopes that the consultant can use an updated database for this project, rather than one that is 6 years old. **40 cont**

2. In Chapter 3, WHA Summary, the Recommended Treatment Area in Sibley Volcanic Regional Preserve, Polygon SR001, Figure lll-9, and Table lll-2, has the description and goal wrong. While this polygon is small, it is quite valuable as native plant habitat. The strip is mostly flat, with a slope no greater than 30%. There is a steep bank along the roadside (Grizzly Peak Blvd). The site has an overstory of Monterey pine, but with a component of maple, madrone, and other hardwoods. Its understory is not coyote brush but a mixed native flora. The goal should be to remove all Monterey pine and to encourage the very diverse native understory and preserve the native trees. **41**

This polygon's extant Monterey pine forest is the seed source for an expanding forest of Monterey pines, now in age classes from seedlings to 20 years old, on the westerly slope on open space owned by Oakland. This seed source should be removed also to reduce the further, ongoing introduction of the pines to the westerly slope. SR001 should be ground-truthed in order to correct the EIR/VMP before these documents are finalized. **42**

3. We found the glossary to have notable omissions. Words such as type conversion and live fuel moisture should be defined. There is also a notable absence of ecological terms and concepts including patch size, edge effect, landscape-scale impacts, etc. **43**

4. We were pleased to see the Vegetation Almanac for the East Bay Hills (Danielsen, et al, 2000) included as a resource to help guide vegetation management. We note that this calendar shows that vegetation management for invasives can take place year-round, depending on the species. This is an important point since hand crews and personnel will be extremely busy in the summer months. **44**

5. Polygon lines should be drawn to focus on only the specific vegetation that needs to be managed for ember control. Oftentimes, the polygon seems to extend beyond the intended treatment area. This issue is relevant for the following polygons: Pt. Pinole (PP001), Wildcat Canyon (WC005), and Tilden (TI002a). **45**

6. Appendix F presents "Example Field Survey Worksheets". We believe the associated text and this appendix are incomplete and given the level of information provided, it is unreasonable to believe that a "surveyor" would be able to fill these out effectively or with consistently repeatable results. The supporting text for this appendix was expected to be found in the "Plan Implementation" Chapter [Ch. 6]. An Adobe(R) search of this Chapter reveals that "Appendix F" is referenced twice in this section, and the phrase "field survey" only once [pg 11]. This is the extent of instruction provided in this plan for the use of Appendix F: **46**

"Treatment considerations and guidelines provided in Table III-2, the District's GIS Plan database, and the following factors should be considered and noted during the pretreatment site assessment. (see example field survey worksheets that have been provided in Appendix F)" [pg 6.11]

In my 15 years of field survey work (Lech Naumovich), I have yet to see a field form completed with no instructions. This form will be unfamiliar and it doesn't provide clear guidelines for use. The following failures with this method/data sheet are noted: no instructions, no statement of monitoring goals, no statement of thresholds of significance, no references to methods. We recommend using an established method such as the CNPS rapid assessment protocol found on CNPS.org. This is a tried and true method that is being implemented in a variety of habitats throughout California and beyond. Additionally, this data collection method has some data analysis techniques that are associated with it. Another notable advantage of this program is that personnel can get trained by professionals to use this method. Additionally, comparison of data from various areas and regions is possible when a standardized method is being used. **46 cont**

Even with the indoctrination of this method, the goals of monitoring need to be clearly promulgated in the document. This is a fundamental requirement of monitoring (See Measuring and Monitoring Plant Populations, by Elzinga et al.).

7. A visual example of implementation options would be helpful for both the reviewer and the staff carrying out this plan. We suggest a "decision tree" be produced to illustrate the annual implementation process and the range of possible activities resulting from this plan. **47**

Conclusion

EBCNPS understands that the release of this document is but the first step in an on-going process. We encourage the District in undertaking the difficult job of assembling a management program for the coming years. There is much good in the document, and we want to emphasize that where we have been quick to point out what we believe are its short-comings, we are equally as quick to offer our help to move toward resolution. We encourage the overall forward motion of the District in this process!

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We look forward to working together with the District on this project. Please do not hesitate to call us.

Sincerely,

Laura Baker
Conservation Committee Chair

Lech Naumovich
Conservation Analyst
East Bay Chapter of the California Native Plant Society

LETTER B3
California Native Plant Society, East Bay Chapter
Laura Baker, Conservation Committee Chair
October 30, 2009

B3-1: This comment introduces the East Bay Chapter of the California Native Plant Society (EBCNPS) and subsequent comments.

B3-2: Comment regarding EBCNPS congratulations on undertaking the Plan is noted. This comment also summarizes the proposed project and acknowledges that EBCNPS will have further discussions and coordination with the District during Plan implementation.

B3-3: Comment regarding EBCNPS's belief that the Plan has the potential to help improve native plant habitat and conserve important resources is noted. This comment also introduces the EBCNPS subsequent comments.

B3-4: Comment that dense eucalyptus and pine-dominated plant communities are significant fire hazards because of "their ability to produce burning embers and fire brands during wildfire that could blow into and ignite residential areas," and that these plantations should be converted to native vegetation as soon as possible, is noted.

B3-5: Comment is noted regarding the support for the goal of reducing fire hazards along the wildland-urban interface, and the recommendation that there be less reliance on goats and that the conversion of weedy areas to native vegetation be a primary goal along with regular mowing of annual grasses at heights above 8 inches. The District agrees with the comment that homeowners and city fire departments should identify and undertake their own responsibility in creating fire-safe areas (per Plan Objective No. 9 on page 25 of the Draft EIR), as the District is doing on the lands under its jurisdiction in regards to preparation and future implementation of the Plan.

B3-6: The Plan does not propose and the EIR does not evaluate the supposition that the District would manage up to 570 acres of general roadside vegetation. The Plan identifies and maps a system of strategic fire routes (see pages 27 and 28 of the Draft EIR and Figures III-4 through III-16) which are primarily those roadways and trails on District lands (which includes some paved roads that connect and pass through parks). The approximately 78.4 miles of strategic fire routes (based on District GIS calculations) include major travel ways, such as Claremont Avenue, Skyline Boulevard, and Redwood Road which already meet the standard to a large degree, and are maintained by other agencies. Plan guidelines 1.9, 1.10 and 1.11 pertain to strategic fire routes and clearance standards as well as additional roadway clearance projects that may be necessary over time to address fire safety concerns, as follows:

Guideline 1.9. Establish and maintain a system of Strategic Fire Routes throughout the parks, based on existing roads and trails, to facilitate and support emergency vehicle access, evacuation, and strategic firefighting response; to reduce roadside ignition potential; to support the development of fire management units; and to reduce the fuel load in critical locations adjacent to roads to provide time for successful initial wildfire attack. When accomplishing the following roadside vegetation management standards for the designated Strategic Fire Routes, follow the performance standards for each vegetation type established in this Plan (see Chapter V):

- Road Width: Maintain a minimum clearance of 10 feet and maximum clearance of 20 feet from the edge of Strategic Fire Routes to allow for varied clearance distances. Varying the clearance distances will preserve aesthetic values along these routes by eliminating the potential for clearance to create a "hedgerow" effect.
- Vertical Clearance: Maintain a minimum vertical clearance of 13.5 feet for all Strategic Fire Routes to allow fire apparatus access.

Guideline 1.10. Adopt as a regional standard Section 17 of the Uniform Fire Code Division II Environmental Hazards Control of Hazardous Fire (as follows and paraphrased): *The Fire Chief may remove and clear within 10' on each side of roadway all flammable vegetation or other growth. The Fire Chief may enter upon private property to clear. This does not apply to single specimens of trees, ornamental shrubbery or cultivated groundcovers provided that they do not form a means of readily transmitting fire. "Roadway" applies to portion of highway or private street improved or ordinarily used for vehicular traffic. This section also enables the chief to require reasonable alternative measures.*

Guideline 1.11. Identify and support additional roadside clearance projects for the purpose of reducing wildfire hazards using project specific information based on site conditions, fire behavior and suppression strategies. Consider the following strategies when identifying clearance projects:

- In strategic areas, where highly flammable brush or eucalyptus trees are adjacent to the road, establish 30 feet of sheltered fuel reduction zone on either side of the road (or additional distance as required by adjacent slopes or vegetation height).
    - Remove shrubs to create an open mosaic of grassland and less than 30 percent shrub density.
    - Remove any ladder fuels beneath the eucalyptus trees (loose bark and low hanging branches) to approximately 14 feet.
    - Remove trees to thin dense stands of eucalyptus along roads to achieve a long term goal of phased elimination, where appropriate.
    - Consider treating the understory of native oaks, bays and other trees to reduce their potential for a crown fire, where appropriate.

- Retain trees, ornamental shrubbery and cultivated ground covers that do not form a means of readily transmitting fire.

- Modify vegetation to create potential containment areas taking advantage of existing roads and topographic features.

- Where appropriate, incorporate safety zones for firefighters by modifying additional vegetation to reduce the flame length or other hazards.

The EIR evaluated an area of impact (see pages 33 and 34 of the Draft EIR) that was identified as being the combined acreage of all recommended treatment areas, 2,968 acres plus the estimated maximum area that may be treated along the 78.4 miles of defined and mapped strategic fire routes (570 acres). This assumes a maximum clearance of 30 feet in width from both edges of each strategic fire route (i.e., 60 feet total maximum width), based on the presumption that parkland exists on both sides of the road for 30 feet on each side. This is a conservative assumption that allows for a larger potential area of impact to be evaluated in the EIR. The Draft EIR notes that some of the strategic fire route maximum clearance area may overlap recommended treatment area acreage depending on the strategic fire route's location The area of impact comprises a total of approximately 3,538 acres that was evaluated for impacts to environmental resources in the EIR, and mitigation measures were identified as necessary and available. As noted in Plan Guideline 1.9, when accomplishing roadside vegetation activities for designated strategic fire routes, the performance standards for each vegetation type encountered during the activities should be followed as established in the Plan per Chapter V. Vegetation Management Program. These standards include measures to reduce the potential for invasive weeds, and do not promote clearance of all vegetation to bare ground. The Plan-prescribed 10 to 20 foot-wide fuels modification area along strategic fire routes is necessary, because a wind-driven 8-foot flame length moving through the 10 to 20 foot treatment area would continue to make evacuation and emergency access difficult. The issue of weed control is addressed in Chapter V. of the Plan for each vegetation type considered and in Appendix G, Prescriptions for the Control of Invasive and Plant Species and Noxious Weeds. The Draft EIR addresses the issue of the potential for invasion of treated areas by exotic plant species on pages 161-175, and the issue for the shoulder of treated and new strategic fire routes is addressed and mitigated per Impact BIO-3 of the Draft EIR.

Text on page 174 of the Draft EIR is revised as follows:

(12) Proposed Strategic Fire Route <u>and Invasive Plant Species</u>. Construction and maintenance of the proposed new strategic fire route in Claremont Canyon (per Figure III-5 and Plan Guidelines 1.9) could require the permanent removal of up to 0.2 acres of California annual grassland, 1.6 acres of xeric coastal scrub, 0.2 acres of coyote brush scrub, and 0.6 acres of oak-bay woodland, and could cause potential indirect impacts on downstream aquatic habitats, and potential impacts on nesting birds.

Text on page 175 of the Draft EIR is revised as follows:

Mitigation Measure BIO-3: The following procedures shall be implemented when constructing and maintaining ~~a new~~ strategic fire routes:

- The ~~road~~ shoulders of strategic fire routes shall be revegetated with a native grass seed mix, as approved by EBRPD Stewardship Department, to provide a competitive cover to minimize colonization by invasive non-native species.
- While maintaining ~~road~~ shoulders of strategic fire routes for fuel reduction and defensible space, the occurrence of invasive non-native species should be monitored and controlled per the guidelines in the Plan, and especially Appendix G: Prescriptions For the Control of Invasive Plant Species and Noxious Weeds. (LTS)

B3-7: The comment is noted regarding the quantification of costs for initial treatment and ongoing maintenance prior to implementation and the need to purchase power washers to clean vehicles likely to spread weed seed.

B3-8: The commenter writes that "native shrub communities will be significantly impacted," by vegetation management activities associated with the Plan that may occur in the areas within RTAs. However, the EIR authors disagree as the potential impacts to native shrub communities, oak woodlands and special-status plant species within those communities associated with potential Plan activities were identified, evaluated and mitigations were recommended in Section IV.B, Biological Resources in the Draft EIR (see especially subsections 2.b.(5) Maritime Chaparral on pages 164 to 166, 2.b.(6) North Coastal Scrub (Mesic and Xeric) on pages 166 to 170, 2.b.(7) Coyote Brush Scrub on page 170, and 2.b.(8) Oak-Bay Woodland on pages 170 to 171.) The comment that the RTA lines should be redrawn to focus on only the specific vegetation that needs to be managed for ember control, especially in RTAs PP001, WC005, and TI002a is noted.

B3-9: The comment is noted that RTAs CC009, CC010 and CC011 should be removed from the Plan because the commenter feels that these were old FEMA projects that should not be undertaken by the District. The commenter's opinion appears to be based on erroneous conclusions concerning the nature of past activities and the information used to determine the RTAs. The District has done and continues to do initial treatment and maintenance work in these RTAs, additionally future work is planned for these RTAs, and they meet all of the criteria (see Plan pages 30 through 32 for a description of the factors considered in the wildfire hazard assessment) for being included within an RTA for fuel reduction treatment activities.

B3-10: The comment is noted that the Plan proposes an over reliance on goat grazing, and the commenter recommends that the District use a selective mowing program (with a minimum cutting height of 6 to 8 inches) that favors native flora, and goats should only be used on unusual or steep sites where justified. See also response to comment B1-10 in regards to goat grazing. Mowing, while the preferred treatment in many areas of grassland and light scrub, can be limited by steep sites and mature or heavy brush. Both the Plan and EIR recognize the potential impacts of goat grazing, and

propose BMPs to minimize impacts. The District will continue to work to monitor and improve its goat grazing program.

B3-11: The commenter endorses the appropriate use of prescribed fire in carefully selected sites. The potential adverse environmental effects associated with the use of prescribed fire were identified and evaluated in the Draft EIR primarily in sections F. Air Quality and Global Climate Change; H. Hazards and Hazardous Materials, and I. Visual Resources.

B3-12: The comment that the District should hire a management level Natural Resource Manager to be assigned full-time to implementation of the Fire Plan is noted. Members of he Stewardship staff are fully trained and qualified in wildland vegetation management, botany and integrated pest management, and these tasks fall within their existing duties. This comment does not relate to the adequacy of the information and analysis within the Draft EIR; no further response is required.

B3-13: The comment that the Plan and RTAs should be amended to accurately designate and categorize RTAs is noted. See Figure V1-1 that identifies the implementation framework of the Plan and shows that it is the intent of the District to continuously update the information on Table III-2 as the Plan is implemented and activities are undertaken in the individual RTAs.

B3-14: The comment is noted that the proposed strategic fire route (the reader should note that this is not a paved "road," but would be an unpaved trail) in Claremont Canyon (shown in Figure III-7) should be removed from the Plan. Contrary to the comment, the potentially significant effects associated with the proposed fire route and the cumulative effects associated with fuel reduction activities in adjacent RTAs were identified and evaluated in the Draft EIR (see especially Impacts and Mitigation Measures BIO-3 and GEO-1). As the Plan is a more general and system-wide document, providing engineering analysis for the proposed trail is beyond the scope of the Plan. If the District decides to move forward with construction and design of the proposed strategic fire route, it will determine if any potentially significant impacts that were not considered or are more substantial than those identified in the Draft EIR would occur, and would prepare the appropriate CEQA document, if necessary. As the commenter notes, the existing fire road in the vicinity of Claremont Canyon is on UC property and jurisdiction, and is therefore not within the jurisdiction of the EBRPD in terms of its use or inclusion in the Fire Plan. See also Master Response No. 1.

B3-15: The commenter is not specific as to where in the Plan, Chapter V. Vegetation Management Program and the Draft EIR the descriptions of vegetation types are not consistent. The comment does not relate to the adequacy of the EIR and no further response is necessary.

B3-16: The comment is noted regarding the preference to convert eucalyptus and pine forests within the RTAs to native vegetation.

B3-17: Contrary to this comment, the Plan does it not say or imply that the District intends to or will "type convert" hundreds of acres of native shrublands. Table III-2 provides recommended "Vegetation Management Goals" and "Considerations and Guidelines" for fuel reduction activities within each RTA. As stated in the Plan on page 42, the suggested "vegetation management goal" on Table III-2 is the desired end state of vegetation types in the recommended treatment area. In many cases the vegetation type's end state would not change; in other circumstances, the determination made as a result of the wildfire hazard assessment and applied professional judgment is to gradually change an area's vegetation types to lower fire hazard vegetation. The suggested vegetation management goals were determined by EBRPD staff and consultant team personnel according to current vegetation types and hazards identified during site reconnaissance, known hazards previously identified by EBRPD and recorded in its database, applicable Land Use-Development Plans for the respective parks, and Plan goals and objectives. The "considerations and guidelines**"** **i**n Table III-2 include the preliminary treatment recommendations for fuel reduction and vegetation management actions for each recommended treatment area. These recommendations are composed of recommended treatment area-specific considerations and guidelines for identifying and conducting those actions necessary to reduce wildfire hazards and manage vegetation. Preliminary recommendations were determined by EBRPD staff and consultant team personnel according to current vegetation types and hazards identified during site reconnaissance, known hazards previously identified by EBRPD and recorded in its database, applicable Land Use-Development Plans for the respective parks, and Plan goals and objectives.

Potential effects to north coastal and coyote scrub communities associated with activities to implement the Plan were identified and mitigated in the Draft EIR (see pages 164 to 170), including potential impacts to nesting birds (see Impact and Mitigation Measure BIO-2 on pages 173 to 174) and the potential for invasions of exotic weed species (see pages 160-161 and Plan Appendix G). See also response to comment B3-6.

The first paragraph on page 161 of the Draft EIR is revised as follows:

> EBRPD recognizes that the control of invasive, non-native plant species on park lands before, during, and after treatment activities that are undertaken to reduce fuel loads is an important issue because of these species rapid proliferation in disturbed areas, their contribution to fuel loads and fire hazards, and their ability to adversely affect native and special-status plants and habitats. To reduce the potential impacts associated with invasive, non-native plant species, the Plan contains specific objectives and detailed guidelines and prescriptions for the control of invasive plant species common to the Study Area in Chapter V. Vegetation Management Program, Section B. Invasive Plants, and more specifically in the Plan Appendix G: Prescriptions for the Control of Invasive Plant Species and Noxious Weeds. <u>As stated on page 122 of the Plan, "In keeping with the Plan's goals, the following are three objectives for reducing the invasive and noxious weeds that the District should seek to address when undertaking specific fuel reduction actions: 1. Control weeds; 2. Identify and</u>

achieve resource management objectives such as wildland fuel reduction, wildlife habitat maintenance, ecosystem preservation, forage production, or recreational land management, and 3. Prevent reinvasion of the targeted weed or invasion of other noxious species.

B3-18: As stated in response to comment B3-17, the Plan contains recommendations for activities within each RTA for consideration by the District at the time they are implementing the Plan by preparing the individual prescriptions for a specific RTA based on site specific assessments. The "considerations and guidelines" identified in Table III-2 are not "projects," per the CEQA definition, and therefore, project specific analysis is not required in the EIR. See also Master Response No. 1.

B3-19: Comment is noted regarding the federal Biological Opinion (BO), which is considered in Impact and Mitigation Measure BIO-4. There is an existing BO and Section 7 permit for areas previously covered under the 2005 FEMA fuels grant.

B3-20: See response to comment B3-18 and Master Responses No. 1 and No. 2.

B3-21: The commenter does not provide a description of the "required purpose" or of an adequate plant "indicator" species for management activities. The comment does not question the adequacy of the EIR and no further response is warranted.

B3-22: The authors are not sure where in the Plan it states that the Plan monitoring program includes a contract with the Point Reyes Bird Observatory, as we are unfamiliar with that program and contract. See page 216 of the Plan Chapter VI. which notes that the District is open to the idea of coordinating and collaborating with volunteers and non-profit organizations. The comment that there should be an independent monitoring program on the implementation and efficacy of the Plan is noted.

B3-23: One of the four goals of the Plan is to "provide a vegetation management plan which is cost-effective and both financially and environmentally sustainable to EBRPD on an ongoing basis" (emphasis added). Implementation of the Plan is also designed to be flexible and adaptive, based on information gained over time, current conditions and needs and available resources. The Plan and EIR prescribe implementation guidelines, best management practices and mitigations. None of these will change. In the event of a reduction in funding or human resources, what will change will be the amount of work that is accomplished, not how it is accomplished.

Fuels management is expected to be an ongoing task into the foreseeable future. Measure CC provides baseline funding of approximately $9 million for this activity through the year 2020. The Park District has been very successful in finding supplemental funding for fuels management and other projects through sources like FEMA and the U.S. Fish and Wildlife Service.

B3-24: The comment is noted. All native plant resources are accorded a high level of protection in the Plan; but this protection particularly applies to special-status plant species which are, in some cases, the basis of the establishment of these preserves.

B3-25: The comment that the recommended vegetation treatment "rests on the modeling results for generic fuels categories" is incorrect. As stated in response to comment B3-17, a variety of considerations including the use of fuel modeling were used by the District and consultant team when preparing the treatment recommendations. The comment that the vegetation type categories are flawed because of the lack of field-collected data is incorrect. Field-collected data was acquired and used in a variety of ways to prepare and identify the vegetation types. Over 300 vegetation types were field-mapped by the District in 2006 (see Plan page 33). Vegetation types used in the Plan were determined according to available GIS data provided by EBRPD as well as the professional judgment of the EBRPD staff and consultant team personnel, based on field verification. This mapping system describes the vegetation type starting with the cover type, then lists in order of abundance the vegetation in the overstory as well as understory. The minimum mapping size was 0.1 acre. Please refer also to Appendix C, Wildfire Hazard Assessment and Treatment Areas and its Appendix D, Crosswalk from Vegetation to Fuel Characteristics, where the over 300 vegetation types are categorized in terms of their fuel characteristics.

Prior to making the Plan recommendations in Table III-2, each RTA was visited twice, and sometimes more often, by the consulting team and EBRPD staff collectively and individually and separately to field-check the conditions identified in the Plan and GIS database. In addition, the EBRPD Stewardship Group has data from past monitoring projects, along with local and regional databases on vegetation distribution and density.

The eight-foot flame length is achieved through treating fuels, by reducing fuel volume, continuity and proportion of dead material. In the VMP, potential treatments to reduce fire hazard severity are organized by vegetation type rather than only by fuel type for several reasons. Even though vegetation types may combine several fuel types, treatments are most often aimed at changing fuel conditions (e.g., fuel volume, continuity, proportion of dead material) without changing the vegetation type. In addition, the potential beneficial or adverse effects of treatments are more directly associated with vegetation types as they are linked to special-status species, wildlife habitat, and other resource concerns.

The Plan does focus on minimizing spot-fire hazards by treating eucalyptus and pine in the WUI fuel breaks and on ridgetops, the sources of crown fires and spotting.

The EBRPD Fire Department, Diablo FireSafe Council, local urban fire departments, and landowners in the East Bay Hills have an active ignition prevention program that includes red flag warnings and increased patrols to heighten awareness and improve wildfire detection. This effort complements the objectives, guidelines and recommendations within the Plan.

B3-26: The comment refers to Letter B4 from the law offices of Stuart Flashman which is contained in this document. Comment is noted that additional public comment is a key component of an effective program. See also Master Response No. 1.

B3-27: The comment is noted. See also Master Response No. 1.

B3-28: The commenter is not specific regarding where in the Draft EIR there are "technical inadequacies in this report with respect to site-specific biological resources and environmental setting," or "significant problems with the description and level of understanding of the vegetation communities to be managed and their ecology," or "failure to identify significant impacts." See also response to comment B3-25 and Master Response No. 1. No additional response is required.

B3-29: Comments regarding locally rare and unusual plants are noted. Section IV.B Biological Resources, contains an environmental setting regarding plants and the Draft EIR complies with CEQA requirements by defining special-status plant species for EIR analysis on page 137:

- Plants and animals that are listed or proposed for listing as rare, threatened, or endangered under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.) and/or the Federal Endangered Species Act (50 CFR 17.12 for plants; 50 CFR 17.11 for animals);
- Plants and animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17, Federal Register 69(86): 24876-24904, May 4, 2004);
- Plants and animals that meet the definition of rare or endangered under CEQA (14 CCR Section 15380), which includes species not found on State or Federal Endangered Species lists;
- Plants occurring on List 1A, List 1B, and List 2 of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California. The California Department of Fish and Game (CDFG) recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFG requests their inclusion in EIRs as necessary;
- Animals that are designated as "Species of Special Concern" by CDFG; and Animal species that are "fully protected" in California (Fish and Game Code, Sections 3511, 4700, 5050, and 5515).

Additionally, as stated on page 159 of the Draft EIR, "Plant species on List 1 and List 2 typically meet the requirements of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code, and are eligible for State listing. Therefore, plants appearing on Lists 1 or 2 are considered to meet CEQA's Section 15380 criteria and substantial adverse effects to these species are considered "significant." CDFG has not requested the inclusion in the EIR of any list 1A, 1B, and 2 species of the CNPS inventory. The CEQA Guidelines 15125(c) state that "special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project." The resources in question do not meet the criteria "rare or unique"

because List 3 species are those whose rarity has not been determined and for which more information is needed, and List 4 is a watchlist of species that are not rare now, but should be watched to see if they trend downward towards rarity in the future.

Section 15125a of CEQA does not require protection for species of local concern. It merely describes the environmental setting as the baseline from which a lead agency determines if an impact is significant. Section 15380 defines a species (even if not formally listed) as "endangered" when its survival and reproduction in the wild are in immediate jeopardy and as "rare" when the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens. There is no consensus that the EBCNPS List A1 or A2 species of local concern meet either definition. If they did meet those definitions, they would also meet the criteria for designation as CNPS List 1B or List 2 species. As noted in the comment, East Bay Hills populations on List A1 or A2 are outliers, range extensions or disjunctions of more widespread species, and there is no indication that these species are in danger of extinction. In general, plants on the lists identified in the comment do not meet the test for designation under CEQA as "rare' or "endangered."

Additionally, the District as Lead Agency has determined the following criteria of significance (page 160 of the Draft EIR) for determination of impacts to special-status plant species:

> Implementation of the Plan would have a significant impact on biological resources if it would:
>
> - Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or listed as rare, threatened, or endangered by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Furthermore, the Vegetation Management Program for each vegetation type (Chapter V of the Plan) contains avoidance, minimization, enhancement and restoration measures to promote biodiversity, conserve native plants, and reduce potential impacts to native plant communities. These measures call for pre-treatment inventories to define post treatment performance criteria based on species composition of plant communities, including locally rare and unusual plants. Post-treatment monitoring would determine if the performance criteria for each vegetation type was being attained, and if not, corrective actions such as invasive species control and/or reseeding would be used to restore native plant species composition, including that of locally rare and unusual plants, as appropriate.

Table IV.B-1: Special-status Plant Species Evaluated in EBRPD Study Area on page 139 of the Draft EIR is not intended to be an exhaustive list of locally rare and unusual plants in the East Bay Hills. To provide such a list is not relevant to the significance of biological impacts required to be evaluated under CEQA, as noted above. Additionally, Table 3 in Appendix E of the Plan is a list of locally unique

plants most likely to occur in the treatment areas based on published literature regarding their range and habitats. The species listed in Appendix E are provided as information to support Plan Guideline 2.4 when implementing the Plan.

Page 27 of the Plan is revised as follows:

> 2.4 Consider "keystone" and "indicator species," as well as locally rare and unusual plant species (as described in Appendix E) when planning and implementing treatment actions and preparing prescriptions for habitat protection and enhancement.

In response to this comment, the title of Table 3 on page 3 of Appendix E of the Plan is revised as follows:

> **Table 3: Locally Rare and Unusual Plants ~~in Evaluated~~ in EBRPD Study Area**

B3-30 Comment is noted regarding the ecological costs of maintaining non-native eucalyptus and pine plantations and the impoverishment and alteration of soils by terpenes produced by eucalyptus.

B3-31: Comment is noted that EBCNPS believes that the generally low wildfire hazard oak woodlands should be a low priority for fuels management, and that high hazard eucalyptus and pine plantations should have a high priority for fuels management activities.

B3-32: It is not the stated goal or intention of the District or the Plan to type convert disturbed "coyote brush scrub" into an "annual grassland" type. The disturbed brush scrub stands are often thick stands of seedling coyote brush that developed as a response to mowing and clearing treatments that were not properly followed up on and may occur in RTAs where annual grasslands are actually present and dominant (e.g., RTA CC-002). These areas also have heavy infestations of French broom and exotic weeds. The District's intention for activities in these areas is to manage the site for the current natural herbaceous cover, as annual grassland is highly resilient, since grass outcompetes many other species. In many cases these include sites that have components of native perennial grasses which will be encouraged, both short lived *Elymus glauca* (blue wildrye), *Bromus carinatus* (California brome) etc… and long-lived perennial grasses including *Nassella pulchra*, *N. cernua, Koeleria macrantha,* and *Danthonia californica*. Per the Vegetation Management Program guidelines, the District will consider prescribed fire and focused herbicide treatments as methods to reduce hazardous fuels and create ecological stability in these settings. Furthermore, the purpose of the Plan is not primarily to address the ecological functioning and "value" of coyote brush as a biological community, but rather to address it as a fuel hazard where its dominance on the landscape is maintained, in part, by virtue of the suppression of fire.

B3-33: It is not the intent of this Plan to distinguish and define coyote brush as a "native" or "invasive," or "natural" community, but rather to deal with the inherent fuel characteristics and high fire hazard (see pages 148 to 155 in the Plan) associated with it when it occurs in large, contiguous older stands particularly near residential areas. Chapter V of the Plan, the Vegetation Management Program, prescribes guidelines for *thinning* coyote brush stands into a more open mosaic, and also removing decadent and senescent plants, which represent a volatile fuel source. Coyote brush is an invasive species that thrives with continuous disturbance associated with yearly mowing of brush. The result can be an almost pure cover of coyote brush scrub. Management and intervention is needed to reduce the associated fuel hazards and "stabilize" these types of sites. The District will consider prescribed fire and focused herbicide treatments as methods to reduce hazardous fuels and achieve a stable grassland plant community that once existed prior to the removal of grazing and planting of eucalyptus on these lands. Coyote brush is invasive after major and continuous disturbance, and, without management, many acres of vegetation along the wildland-urban interface may well type-convert to coyote brush scrub by default. Comment is noted that many of California's once expansive native scrub communities have been type-converted to annual grasslands, especially in Southern California between 1945-1975. See also response to comment B3-32.

B3-34: David Amme, EBRPD botanist and Richard Nichols, LSA botanist, are familiar with the Hopkinson study. David Amme notes that this study was specifically looking for phytoliths which represented needlegrass (*Nassella*) species. Needlegrass is/was not necessarily the dominant native perennial grass in the East Bay. Unfortunately, there are no recognizable phytoliths that represent native bluegrass (*Poa secunda*), California brome, blue wildrye, California oatgrass, and California melica. These native grasses were probably much more common at the study sites. Therefore, looking just for *Nassella* phytoliths is not indicative of whether there was an abundance of native grassland prior to settlement. Accelerated erosion and soil lost can also contribute to the loss of Nassella phytoliths.

Richard Nichols notes that Hopkinson' contention that coyote brush, not grasslands, dominated the East Bay Hills in pre-settlement times as indicated by phytolith deposits appears to be inconsistent with observations by early explorers of Native American burning to promote grasslands, and pioneers' descriptions of the open "bald" nature of the East Bay Hills. It is also apparently contradicted by photographic evidence showing grasslands disappearing and being replaced by scrub in historic times and scholarly investigations (see McBride and Heady 1968 and McBride 1974 references in Section VII, Report Preparation of the Draft EIR) documenting succession from grassland to coyote brush scrub. The presence of coyote brush phytoliths may actually be evidence of the dynamic nature of succession in the East Bay Hills from scrub to grassland and back to scrub in response to disturbance cycles. This dynamic is acknowledged in the EIR, and this comment does not change its conclusions. See also response to comments B3-32 and B3-33.

B3-35: Comment is noted. Coyote brush is not considered an undesirable plant. The evolved entomofauna is very significant, not to mention the small rodent and bird populations

that thrive in the Baccharis vegetation type. Again, the Vegetation Management Program does not call for the removal of coyote brush, but rather for thinning, in order to decrease fuel loads and create a more open and diverse habitat mosaic. The District will be focusing on creating a more diverse (richer) assemblage of grassland and scrub interfaces. See also response to comments B3-25, B3-32 and B3-33.

B3-36: The Plan and EIR makes a clear distinction of the differences in species composition between xeric scrub and mesic scrub. The latter is described as being dominated by shrubs adapted to shaded and moist conditions including California blackberry (*Rubus ursinus*), thimbleberry (*Rubus parviflorus*), blue elderberry (*Sambucus mexicanus*), salal (*Gaultheria shalon*), and California hazelnut (*Corylus cornuta*). The former is described as being dominated by coyote brush (*Baccharis pilularis*) with California sagebrush (*Artemisia californica*), silver bush lupine (*Lupinus albifrons*), poison oak (*Toxicodendron diversilobum*), black sage (*Salvia mellifera*), and sticky monkey-flower (*Mimulus aurantiacus*) as co-dominants. See also response to comments B3-32, B3-33.

The implementation prescriptions require pre-treatment inventories of plant species composition, including cover estimates of dominant, sub-dominant, invasive, and any special-status plant species. These will be used to determine performance criteria for post-treatment monitoring and maintenance intended to achieve the goal of sustaining or enhancing native plant biodiversity. The pre-treatment inventories of the RTA's will provide more timely and site-specific information on plant composition than surveys done for the much larger EIR study area which will have been conducted, in some cases, long before treatment activities commence in a particular RTA.

B3-37: Comment is noted. See response to comments B3-25, B3-32, B3-33, and B3-36, and Master Response No. 1.

B3-38: The comment is noted.

B3-39: Comment is noted regarding the theories concerning whether shrubland communities are adapted to fire. In regards to the need for field collected data for modeling, see response to comments B3-25, B3-32, B3-33, and B3-36.

B3-40 This comment is on a footnote to a CDFG reference that lists sensitive plant communities, not special-status plant species. Table IV.B-1 in the Draft EIR is correct and up-to-date and does not need to be changed nor does the footnote.

B3-41: The comment is noted that the description of vegetation and recommendation for treatment of RTA SR001 should be revised. As noted in Table III-2 of the Draft EIR, the recommended treatment for this site is to remove understory shrubs, young pine, and low hanging branches beneath mature pines, and to remove all hazardous and structurally-weak mature pines. The District's objective in this RTA is to promote the growth of the young maple, madrone and other hardwoods in order to achieve the ultimate vegetation goal of an oak/bay woodland forest. For example, structurally-strong mature Monterey pines would be retained, but young pines would be removed as part of the maintenance activities. The eight-foot flame length would be achieved

through treating fuels, by reducing fuel volume, continuity and proportion of dead material all of which may occur without changing vegetation type.[12] Per the Plan's recommendations and implementation section, as with other RTAs, a site assessment would be performed prior to treatment which would identify and include information on species within the canopy, understory, and ground strata and would help to ensure that the presence of native vegetation types as well as special-status and hardwood species are identified prior to treatment and provided appropriate accommodations.

B3-42: The comment is noted that Monterey pine forest in RTA SR001 should be removed and the RTA "ground-truthed." See response to comment B3-41.

B3-43: The comments regarding updates to the Plan glossary are noted and will be considered for inclusion in the Final Plan.

B3-44: Comment is noted regarding the use of the Vegetation Almanac for the East Bay Hills as a resource in the Plan.

B3-45: See response to comment B3-8.

B3-46: Comment is noted that there should be more instruction for use of field survey worksheets when implementing the Plan, that the goals of monitoring should be clearly identified, and that use of the CNPS "rapid assessment protocol found on CNPS.org" is recommended.

B3-47: Comment is noted. A part of the pre-treatment site assessment and post-treatment evaluation will be photographic site records in many cases. It may be useful at some point to collate these as a visual record and guide to future treatments.

B3-48: The comment is noted, regarding future efforts to work together.

[12] Husari, Sue, H. Thomas Nichols, Neil Sugihara, and Scott Stephens. Jan W. Van Wagtendonk, Kevin E. Shaffer, Joann Fires-Kaufman and Andrea Thode. 2006. Fire In California's Ecosystems. University of California Press. Chapter 19 pages 444-465.

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Law Offices of
Stuart M. Flashman
5626 Ocean View Drive
Oakland, CA 94618-1533
(510) 652-5373 (voice & FAX)
e-mail: stuflash@aol.com

October 29, 2009

Brian Wiese, Chief
Planning & Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

RE: Wildfire Hazard Reduction and Resource Management Plan.

Dear Mr. Wiese:

I am writing on behalf of my clients, the San Francisco Bay Chapter of the Sierra Club ("Club"), the East Bay Chapter of the California Native Plants Society ("CNPS") and Golden Gate Audubon Society ("Audubon", and the foregoing, collectively, "Clients") to comment on the above-referenced plan ("Plan") and its draft environmental impact report ("DEIR"). My Clients appreciate the effort that has been put into developing the Plan. Clearly, the Park District has become aware of the fact that, while allowing vegetation in the District to go unmanaged is unacceptable in terms of fire safety, neither is it desirable or appropriate to simply chop down all vegetation that could conceivably pose a risk of fire along the urban-wildland interface. With this Plan, the District has recognized and acknowledged the necessity of balancing the need for fire protection against the need to preserve and enhance wildlife habitat in the East Bay. 1

Nevertheless, my Clients feel that the current Plan, and even more so its DEIR, fail to properly address the needs of the environment. Further, the DEIR improperly assumes, without supporting evidence, that adopting various strategies and "best management practices" will fully mitigate the potential impacts of the Plan. Unfortunately, mitigating the Plan's potential impacts is not that simple. By not accurately assessing the Plan's potentially significant impacts and by overestimating the extent to which these impacts will be mitigated or avoided by the strategies and BMPs included in the Plan[1], the DEIR underestimates the Plan's resulting impacts. Consequently, neither the Park District's Board of Directors nor the public have an accurate picture of the damage that will be caused if the Plan is adopted in its current state. Further, as is acknowledged in the Plan and will be discussed in more detail below, the Plan and its DEIR are programmatic documents. As such, they do not and cannot address in the required detail the impacts that will result from the Plan's local implementation, nor properly consider alternatives or mitigation measures to reduce or avoid those project-level impacts. Consequently, the Plan needs more detailed project-level environmental review before implementation through on-the-ground projects. 2

The remainder of this letter will be devoted to pointing out the deficiencies in the Plan and its DEIR and suggesting possible remedies, in the hope that once these problems are brought to light, the District will address and correct them.

Perhaps the most serious problem with the Plan is that it explicitly makes the preservation and enhancement of wildlife and habitat a secondary concern, with minimizing fire danger the primary concern. Consequently, many of the otherwise-admirable strategies proposed in the Plan in order to protect and enhance wildlife and 3

[1] For the most part, these are not yet defined or documented in either the Plan or its EIR.

its habitat include such "wiggle" words as "where feasible", "if possible", or "where economically feasible."

The following excerpt from the District's mission statement is highly relevant:

> Acquire and preserve significant biologic, geologic, scenic, and historic resources within Alameda and Contra Costa Counties. Manage, maintain, and restore the parklands so that they retain their important scenic, natural, and cultural values. [emphasis added]

If managing, maintaining, preserving and restoring the parklands to retain their important scenic, natural and cultural values is to mean anything, it cannot always play "second fiddle" to other values. While my Clients recognize that public safety must always be a primary concern, the protection of property should not necessarily always trump the protection of natural resources, especially special status species and their habitats. Deciding whether property protection or species and habitat protection is a higher concern clearly requires a judicious consideration of the consequences. That decision cannot be made on a global basis, but requires project-level consideration of the details of specific situations

3 cont.

A second major problem with the Plan is that, to a large extent, it leaves decisions about when or whether the protection of natural resources will be feasible or "cost-effective" to the future. Nevertheless, the DEIR concludes that all potentially significant impacts will be mitigated. CEQA does not allow such an approach. Either a mitigation measure is feasible, or it is not. If it is, then the District, in approving of the Plan, must commit to it. If it is not, or if the feasibility cannot currently be determined, the District must identify the impact as significant. In such cases, even if the District were to approve the Plan under a statement of overriding considerations, the District would need to revisit the impact and its possible mitigation at the project level. (See discussion of programmatic vs. project-level environmental review below.)

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The Plan also appears to ignore half of the fire protection equation – the decision on locating fire-susceptible uses in highly vulnerable locations. Obviously, it is generally neither appropriate nor feasible for the District to remove currently existing uses from places along the urban-wildlands interface where they are at high risk to be casualties during a wildfire[2]. However, the district can and should commit itself *in this plan* to working with neighboring local jurisdictions to assure that land use planning fully accounts for wildfire risks, as well as the financial and environmental consequences that might be forced on the District from having to defend future uses against wildfire risks. In particular, the Plan should call for the District to involve itself in commenting on this issue in LAFCO proceedings, as well as at the general plan, specific plan, zoning, and project approval levels, and asking neighboring jurisdictions not to place additional fire-sensitive land uses in areas at high risk from wildfires. In addition, the Plan should commit the District to working with local and regional jurisdictions, and the legislature, to assure that appropriate standards are both set and enforced to maximize the fire safety of those areas where development, and specifically residential development, has been or might be placed at or near the urban-wildlands interface.

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The District also needs to emphasize the practical limitations on its ability to protect fire-vulnerable uses that have been placed in high fire-risk areas. Even with the best-implemented Plan, the District cannot be expected to reduce the fire risk in high-risk areas to zero. Even if the remaining risk were only a 5% chance of wildfire damage in any one year, over the course of time that risk would grow mathematically to where

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[2] My Clients would note, however, that removing existing high fire risk uses from locations adjacent to District property may occasionally, in the long run, be a cost-effective strategy.

Letter
B4
cont.

wildfire damage would become almost inevitable. Neighboring jurisdictions with land use responsibility need to be informed of that risk and assume responsibility for the uses they allow in such areas. **8 cont.**

The Plan fails to distinguish clearly between fuel-driven and weather-driven wildfires. Much of the Plan is focused on the former, while it is the latter that have resulted in the most catastrophic effects. In the absence of the high winds, low humidity, and high temperatures that characterize weather-driven fires, fuel-driven wildfires are generally controllable without significant risk to people or property. Conversely, in a weather-driven fire, a high fuel load, while a contributing factor, is not essential for a wildfire to become dangerous. The Plan should, perhaps, focus more of its efforts towards identifying what factors would be most effective in preventing and controlling the far more dangerous weather-driven fires. **9**

In terms of more specific comments, my Clients applaud the District's efforts to develop a differentiated approach to managing fire danger, taking into account differences in the fire risk associated with differing vegetation types and the constraints placed on vegetation management by both topography and habitat values. However, my Clients feel this approach can and must be taken much further. In particular, while the District has made a good start at mapping both habitat types and areas containing special status species, the Plan admits that:

> ... [N]ot all treatment areas have been fully surveyed. As a result, unknown occurrences of special-status species may occur and will be incorporated into future iterations of this table and annual Fuels Treatment Plans as their presence is discovered. (Plan at p. 40.)[3] **10**

Given the incomplete state of knowledge of the location of special-status species, there are open questions about whether impacts to those species will be avoided by the mitigation measures and BMPs included in the Plan. Indeed, the Plan itself includes provisions for reporting dead or injured Alameda whipsnake specimens to the U.S. Fish & Wildlife Service.[4] Neither the Plan, the DEIR, nor any of the supporting documents provide substantial evidence showing that significant impacts to special status species will be mitigated to a level of insignificance[5]. Consequently, my Clients believe that, with the level of analysis presented, the District needs to find the impacts to special-status species under the proposed Plan, even after mitigation, to be significant.

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[3] The District includes as an appendix to the DEIR the U.S. Fish & Wildlife Service's 2001 Biological Opinion finding that the District's then-existing brush clearance activities would not affect federally-listed species. Given the changed circumstances since that time (in the District's proposed program, in federal regulations, and in the designations of federally protected species and their habitats), it is clear that the District can no longer rely on that opinion and must seek a new biological opinion on this proposed Plan. The EIR needs to make that clear.

[4] It does not, however, include any provision requiring that work be stopped and decisions about the work then in progress be re-evaluated if a dead or injured whipsnake (or other protected species) is found. Such a provision is badly needed. Otherwise, a flawed workplan may continue, resulting in what might be considered an intentional/reckless (and criminal) take of a protected species.

[5] The District is currently involved in a study of the effects of controlled burns on the Alameda whipsnake. (Personal communications from Laura Baker and Peter Rauch.) However, that study, being conducted by Karen Swaim, has been flawed in its experimental design, including failure to find whipsnake on the control site, changing the location of the study in mid-stream, failing to set up proper controls for variables at the controlled burn sites, etc. These flaws were documented by the District's own professional staff (specifically Doug Bell) in a meeting with some of my clients. As a result, the study will, unless the flaws are corrected, almost certainly be inconclusive in its results. Consequently, those results should not be used in formulating a new biological opinion.

Early on, the District acknowledged that the Plan is a programmatic document. That is to say, it is a broad-brush overall assessment of the District's need to reduce wildfire hazards and what actions should be taken to achieve that aim.[6] This assessment is confirmed in the DEIR itself, where, at page 34 of Chapter 3, the DEIR states, "The Plan and this EIR are intended to be flexible, adaptive and programmatic in nature." [Emphasis added.] The DEIR then goes on to state:

> Because vegetative conditions change over time, the Plan recommends that a specific field visit site assessment and treatment prescription be undertaken prior to treatment of any area. Should an area prove to be an exception to the recommended treatments, environmental considerations and BMPs outlined in the Plan and this EIR, the District will consider and determine if further CEQA review is required. In such a case, this EIR is intended to serve as a basis and baseline document for any subsequent CEQA review which may be required. (DEIR at Chap.3, p. 35.)

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Given that the Plan and its EIR are programmatic documents, and especially given the incomplete state of knowledge about the location of special-status species, the EIR needs to make clear that the District *will* undertake additional project-level environmental review prior to granting any project-level [i.e., polygon-specific] approvals, and certainly before undertaking any on-the-ground activities.

The project-level polygon-specific reviews need, however, to consider each polygon in context. While the proposed work plan may occur in one specific polygon, the project-level environmental review also needs to address impacts on and effects of neighboring polygons. Polygon-specific analysis cannot be an excuse for piecemeal evaluation of impacts, leading to underestimation of the extent of impacts. For example, if a polygon containing valuable native plant species habitat is located next to a polygon containing invasive weed species, extra care must be taken to prevent the spread of those weed species, over the course of treatment, from one polygon to the next. The EIR needs to identify this and similar risks as potentially significant impacts. The appropriate mitigation for these risks involves committing, at the project-level, to studying the risks and devising appropriate detailed mitigation measures to avoid them.

12

Different polygons will necessarily require different degrees of project-level review. Some polygons, where the plan would only call for continuing routine maintenance already in place, might not require much, if any, project-level review. For other areas, however, particularly areas involving habitat conversion or extensive treatment, a more detailed project-level analysis will be needed[7].

13

My clients are concerned about the District's designation of polygon boundaries. Obviously, the project-specific environmental review will be most efficient and effective if it focuses on project areas that are relatively homogeneous. While some of the polygon boundaries have been defined in relation to natural topography and ecology, other boundaries are, from an ecological standpoint, rather arbitrary. This can also lead to piecemeal evaluation of impacts and erroneous decisions about the significance of impacts. Wherever possible, polygon boundaries should follow natural boundaries and attempt to respect the integrity of ecosystems. The present polygon boundaries should be reviewed and, where appropriate, modified in accordance with this principle. For

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[6] See, Wildfire Hazard Reduction and Resource Management Plan Initial Study (DEIR Appendix A, at p.2.)

[7] Of course, the nature of that review will depend on the specific circumstances. Where the potential project-level impacts have been adequately discussed and mitigated/avoided in the EIR for the Plan, further project-level review may be limited to a negative declaration or an uncirculated addendum. Where project-level information discloses new or increased impacts. A project-level EIR would be needed.

Letter
B4
cont.

example, polygons to be managed as eucalyptus or pine forests should have their boundaries adjusted so that they do not include areas containing sensitive native vegetation, species, or habitat. **14 cont**

As an alternative to the District's proposed Plan, my Clients would suggest that, pending additional data on the location of special-status species and their habitats, the District consider a phased-implementation alternative. Under this alternative, only those polygons that could, with certainty, be shown not to harbor any special-status species or habitat for those species would move forward initially toward project-level approval and implementation. Even there, the District would need to conduct project-level environmental review before implementing treatment plans. **15**

In the meantime, the District would continue to gather evidence on the occurrence and distribution of special status species and their habitats[8] and would then proceed forward on project-level environmental review for polygons, with implementation priority based on their relative fire risk[9] and availability of complete information.

The Plan involves not just the removal of high fire-risk vegetation, but the manipulation of vegetation and entire ecosystems. Indeed, the Plan calls for the planned conversion of some "vegetation types" to other, lower fire-risk, types. In essence, this is more than ecosystem management; it is an attempt at ecosystem manipulation. While ecosystem conversion has often occurred, both intentionally and unintentionally, in the past, the results are far from predictable[10]. Consequently, my Clients believe that, rather than moving forward with widespread attempts at ecosystem modification, with unpredictable and potentially damaging impacts, the Plan in its present form should only include a pilot study of the proposed vegetation type conversion strategy, focusing on a small area and studying in detail both the loss and gain of biodiversity associated with the conversion, as well as other impacts. Once the results of that study are known, the District can then consider whether it makes sense to amend the Plan to apply that strategy on a larger scale. Such consideration will need to include costs, benefits, and potential impacts from this approach. **16**

Any proposals for ecosystem conversion should also include consideration of historical context. Many of the most fire-prone areas of the District are the result of the introduction of invasive non-native species, notably eucalyptus and Monterey pine. Prior to the introduction of these species, much of this land had stable native ecosystems. One goal of any ecosystem conversion should be to identify and attempt to restore stable, fire-safe, long-term native ecosystems that were disrupted by human intervention over the past two hundred years[11]. In this regard, my clients are **17** **18**

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[8] While the DEIR references: Lake, D, 2004. *Unusual and Significant Plants of Alameda and Contra Costa Counties*. California Native Plant Society, East Bay Chapter, Oakland, CA. (DEIR at p. 333), it does not otherwise indicate whether its listing of locally rare or significant plants will be used in determining special status species. Pursuant the CEQA Guidelines §§15125(a) [environmental resources that are rare or unique to a region deserve special emphasis] and 15380(b) [definitions of rare and endangered species], the EIR should identify as significant any project impacts on locally rare or unique species.

[9] The degree of fire-risk in any particular polygon should also be used in determining priorities for completing data collection on special status species and there habitat.

[10] See, e.g., Stanturf, John A. *Restoration of boreal and temperate forests* (2005. CRC Press, Boca Raton)

[11] An example of where the Park District has failed to acknowledge the artificial nature of introduced species is the District's attempt to "manage" the eucalyptus groves at Point Pinole. The District has failed to acknowledge the invasive expansion of the initial eucalyptus planting area, and has therefore allowed an expanded grove to continue, at the expense of native coastal prairie vegetation.

disappointed that the Plan takes a very conservative approach to the management of introduced pine and eucalyptus groves in the regional parks. The Plan proposes to thin and then maintain these groves (e.g., through controlled burns to control accumulation of ground-level fuel and debris), apparently indefinitely. My clients question whether this approach will be safe, effective, and economically feasible. Eucalyptus in particular is fast-growing, and the roots of removed trees will continue to produce replacement suckers for years, requiring frequent and ongoing treatment. This would appear to require considerably more intensive maintenance than is called for in the Plan. My clients suggest that the District should develop a backup plan for dealing with these groves in case the proposed management scheme proves infeasible, perhaps involving their conversion to a more stable, lower risk and lower maintenance ecosystem type[12].

18 cont

Moving on to the discussion of grassland areas, the Plan, while acknowledging that individual trees in a grassland area may have "aesthetic and/or habitat value," calls for their removal because they could, "provide a seed source for invasion of grassland habitats by woodland species." While this may be true for invading woodland trees at the periphery of a grassland area, some trees, such as oak trees, are a natural component of grassland ecosystems. They provide important perching and nesting sites for raptors, which are also an important component of grasslands ecosystems. (*See*, Hans Peeters and Pam Peeter, *Raptors of California* (2005, Univ. of Calif. Press.) The DEIR does not present any evidence to support its conclusion that such isolated trees, as opposed to encroaching woodland trees, threaten ecosystem conversion. As an alternative to removal, the EIR should discuss merely periodic monitoring of such trees and removal of saplings if they appear to be interfering with maintenance of the grasslands ecosystem.

19

A specific item of concern to my Clients is the proposed 0.8 mile cross-canyon road in Claremont Canyon. The DEIR states, "The Plan does not propose the construction of new or altered government facilities… ." (DEIR at p.4 [Introduction].) It would appear that the proposed strategic fire route (Figure III-7) would be a new government facility – i.e., a trail or roadway. As such, its inclusion in the plan appears to contradict one of the basic assumptions in the DEIR. My clients would suggest that consideration of this new roadway, and any other similar new facilities, be removed from the Plan and undergo its own separate environmental review process. Otherwise, the scope of the EIR needs to be expanded to also consider the impacts that would be associated with putting this new roadway into a sensitive wildlife area.

20

The Plan calls for extensive use of goats to control fire-prone vegetation. Goats may be effective for vegetation control in some limited circumstances, but the EIR does not adequately address the damaging impacts that can accompany inappropriate use of goat grazing. Goats are, for better and worse, relatively unselective in their grazing. They are the biological equivalent of clear-cutting. Not only does this result in unnecessary damage to the ecosystem, but it leave the grazed area especially vulnerable to invasive weed species. Thus goat grazing is totally inappropriate for areas that may contain special status plant species. Further, goats are well known for their tendency, if not closely managed, to chew off the bark of trees, thereby girdling and killing them. If goats are to be used in areas where this could occur, they must be closely tended and their grazing tightly supervised. My clients suggest that goat grazing in areas containing vulnerable native trees, saplings, or woody shrubs be restricted to small groups of animals under tight supervision by a shepherd who is knowledgeable of the ecosystem and its values and can prevent grazing impacts. Finally, goats are

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[12] This may be particularly appropriate because, as the Plan and DEIR point out, eucalyptus groves are not a particularly valuable ecosystem from a wildlife habitat perspective.

notorious for their tendency to spread invasive weed species seeds, both attached to their coats and through their feces. Goats used for District grazing must be "pre-cleaned" by several days' grazing in areas free of weeds and invasive plants, and should be inspected prior to being allowed on District land.

21 cont

CONCLUSION

The Plan and its DEIR show an admirable awareness of the importance of ecosystem preservation and enhancement. However, the overemphasis on decreasing wildfire risks at the expense of habitat values is disturbing. Even more disturbing is the DEIR's assertion that the mitigation measures and BMPs identified in the Plan are sufficient to fully mitigate the Plan's potentially significant impacts on wildlife and wildlife habitat. There is clearly insufficient evidence available at this programmatic level to reach that conclusion. While there are a number of individual changes that should be made in the Plan and the EIR, perhaps the most important is to recognize that additional environmental review will be necessary before project-level (i.e., polygon-level) approvals are given and actual on-the-ground work is begun.

22

Please keep both my Clients' leadership[13] and myself informed of future progress on this important project.

Most sincerely,

Stuart M. Flashman

Stuart M. Flashman

[13] District records should contain current contact information for each on my clients. If the District is lacking this information or feels updates are needed, please feel free to contact me for that information.

LETTER B4
Law Offices of Stuart Flashman
Stuart Flashman
October 29, 2009

B4-1: Comment is noted and is an introduction to the comments that follow.

B4-2: The District and EIR authors disagree that there is "unsupporting evidence" in the Plan and EIR to support the Vegetation Management Program (Chapter V of the Plan), recommendations for RTAs (Chapter III of the Plan), the proposed fuel reduction methods (Chapter IV of the Plan) and implementation strategies (Chapter VI of the Plan). The EIR contains over 300 pages of text, figures and tables which accurately and in a detailed manner assesses and mitigates the potentially significant adverse affects on the environment associated with implementation of the Plan. The Draft EIR does not underestimate the Plan's potentially resulting impacts, and through an analysis and mitigation of the area of potential impact (see pages 33 and 34 of the Draft EIR). The Draft EIR does consider alternatives (see Chapter V. Alternatives of the Draft EIR) and identifies mitigation measures (see Draft EIR sections A. through I.) to avoid significant impacts. See also Master Response No. 1.

B4-3: Comment is noted and relates to the purpose of the Plan, which is primarily the reduction of wildfire hazard and the protection of life and property, while at the same time protecting environmental values, and not the adequacy of the EIR. See also Master Response No. 1.

B4-4: The commenter appears to be criticizing the mitigation in the EIR in general, but does not give a specific example of a mitigation measure that is infeasible. The mitigation measures identified in the EIR and the Plan's BMPs and guidelines were reviewed and revised (per the Text Revisions in Chapter IV. of this document) to ensure they are mandatory, specific and enforceable, and not mere recommendations. The analysis of impacts contained in the Draft EIR does rely on the guidelines and BMPs contained in the Plan, as it was designed to be a self-mitigated Plan to the greatest extent possible. Specific performance standards to be met during and after the fuel reduction treatment activities identified in the Plan are contained in Chapter V, Vegetation Management Program of the Plan. Comment on the Plan is noted. Contrary to this statement, mitigation measures are identified in the EIR to address adverse significant impacts and reduce them to a less-than-significant level, and one impact is considered significant and unavoidable (see VIS-1). The mitigation measures identified in the Plan are feasible and the District, as lead agency of the EIR and sponsor of the Plan does commit to them. CEQA does allow such an approach; especially for plans and programs. For the significant and unavoidable impact that has been identified, the District will consider adoption of a statement of overriding considerations. See Master Response No. 1.

B4-5: As noted by the commenter, the District can only be responsible for vegetation on parklands within its jurisdiction. The Plan, however, did not "ignore" the responsibilities of adjacent property owners, see especially Chapter II. Plan, Goals, Objectives, and Guidelines of the Plan, Chapter VI. Implementation page 216 and Appendix B: Fire Safe Regulations and Information that contains guidelines (see especially 3.3 and 3.4) and information concerning firesafe development that can be used by adjacent landowners and jurisdictions.

B4-6: Comment is noted and relates to the purpose of the Plan and not the adequacy of the EIR. Please see also Plan objectives 9, 10, and 11 and guidelines 3.3, and 3.4 on pages 23 and 28 that encourage working with neighboring jurisdictions and adjacent landowners. The Plan was prepared in consultation with, and reviewed by, the Hills Emergency Forum.

B4-7: Comment is noted and relates to the purpose of the Plan and not the adequacy of the EIR. See responses to comments B4-5 and B4-6.

B4-8: Comment is noted and relates to the purpose of the Plan and not the adequacy of the EIR. The Plan does not claim that it can reduce fire risk in high risk areas to zero. See responses to comments B4-5 and B4-6.

B4-9: Comment is noted and relates to the content of the Plan and not the adequacy of the EIR. Further response is not required. By way of clarification, however, we note that in Chapter I. Introduction, the Plan does distinguish between fuel-driven and weather-driven wildfires (see page 6). On page 1, the first sentence of the Plan states: "This Wildfire Hazard Reduction and Resource Management Plan (Plan) provides sound, long-term strategies for protecting public health and safety by reducing fuel loads and managing vegetation within the East Bay Regional Park District's (EBRPD's) Study Area parks to minimize the risk of Diablo wind-driven catastrophic wildfire along the wildland-urban interface while ensuring the protection and enhancement of ecological values and resources within EBRPD's jurisdiction," and on page 7, "The threat of catastrophic wildfires under Diablo wind conditions presents significant risks to public health and safety, homes, and property along the wildland-urban interface. The hot and dry periods of late summer and fall in the Bay Area, the steep topography of the East Bay Hills, seasonal wind patterns, flammable vegetation, dense development patterns adjacent to parklands, and limited firefighting access all contribute to creating a substantial regional fire threat." The Plan does, in fact, through the participation and professional experience of fire science experts, senior fire department personnel and wildland managers identify what factors are most effective in preventing and controlling wildfire on District lands. The Wildfire Hazard Assessment presented in Appendix C of the Plan, clearly delineates the primary factors that contribute to wildfire threats: climate, vegetation and topography.

B4-10: Mitigation Measure BIO-4 clearly states that a new Biological Opinion may be required. In regards to specific Plan guidelines that mitigate potential impacts to Alameda whipsnake, see Plan pages 145 to 148 and Draft EIR pages 168 to 170. The

commenter alleges that the District's study of the effects of controlled burns on the Alameda whipsnake is "flawed in its experimental design," and that therefore the results of the study should not be used in formulating a new biological opinion. The commenter further contends that there is no substantial evidence provided in the Plan, the EIR or the supporting documents showing that significant impacts to special-status species will be mitigated to a level of insignificance. However, Section IV.B, Biological Resources on pages 113 to 176 provides substantial analysis, information, setting information, Plan guidelines and best management practices to determine significance impacts to special-status species and identifies appropriate mitigation measures to reduce those impacts to a less-than-significant level. In regards to resource guidelines contained in the Plan for work that may be undertaken in whipsnake habitat, see pages 145 to 147. As the sponsor of the Plan, the District does plan to comply with the goals, objectives and guidelines contained therein. See also responses to comment B4-2, B4-3, B4-4 and Master Response No. 1 and No. 2.

B4-11: See Master Responses No. 1 and No. 2.

B4-12: Regarding the potential spread of weeds see response to comments B3-6, B3-17 and Master Response No. 1 regarding pre-treatment site review for RTAs.

B4-13: Comment is noted regarding degree of project-level review. See Master Responses No. 1 and No. 2.

B4-14: Comment noted regarding the definition and revision of RTA boundaries, see Master Responses No. 1 and No. 2. It should also be noted that RTAs were delineated as a result of the Wildfire Hazard Assessment process described in Chapter III of the Plan, and are not intended to be homogeneous vegetative communities. Table III-2 of the Plan recognizes differences in species composition and other conditions within each treatment area; and it is anticipated that these sub-areas will be considered and treated separately according to the considerations outlined in the Vegetation Management Program (Chapter V), and each with a pre-treatment site assessment, as detailed in Chapter VI of the Plan.

B4-15: Comment noted regarding a phased implementation of the Plan as an alternative to the Plan to protect special-status species and their habitats. The Plan provides long-term strategies for protecting public health and safety by reducing fuel loads and managing vegetation. The Plan is designed to provide EBRPD with needed information and recommendations to guide decision-making on single and multi-year District actions, and as such the Plan will be implemented in phases over time. Individual treatment projects will also be reviewed on an annual basis. Additionally, Section IV.B, Biological Resources of the Draft EIR identifies, defines, evaluates and mitigates to a less-than-significant level potential impacts to special-status species that may be occurring in the Study Area and affected by the proposed project. Therefore, identification and evaluation of a "phased-implementation alternative" is not substantially different from the proposed project; necessary to reduce significant impacts associated with the project; or required to meet CEQA Guidelines section 15126.6. See Master Responses No. 1 and No. 2 and response to comment B3-29.

B4-16: Contrary to this comment, the Plan does not state that the District intends to convert or modify "entire ecosystems" within all lands within an RTA. Table III-2 provides recommended "Vegetation Management Goals" and "Considerations and Guidelines" for fuel reduction activities within each RTA. As stated in the Plan on page 42, the suggested "vegetation management goal" on Table III-2 is the desired end state of vegetation types in the recommended treatment area. Vegetation goals reflect assisting the natural succession of more fire-safe (and often native) species already present on the site. In many cases the vegetation type's end state would not change; in other circumstances, the determination made as a result of the wildfire hazard assessment and applied professional judgment is to gradually change an area's vegetation types to lower-hazard, primarily native vegetation. The suggested vegetation management goals were determined by EBRPD staff and consultant team personnel according to current vegetation types and hazards identified during site reconnaissance, known hazards previously identified by EBRPD and recorded in its database, applicable Land Use-Development Plans for the respective parks, and Plan goals and objectives. The "considerations and guidelines**"** on Table III-2 include the preliminary treatment recommendations for fuel reduction and vegetation management actions for each recommended treatment area. These recommendations are composed of considerations and guidelines specific to each treatment area for identifying and conducting those actions necessary to reduce wildfire hazards and manage vegetation. Preliminary recommendations were determined by EBRPD staff and consultant team personnel according to current vegetation types and hazards identified during site reconnaissance, known hazards previously identified by EBRPD and recorded in its database, applicable Land Use-Development Plans for the respective parks, and Plan goals and objectives. The Draft EIR evaluates the potentially significant impacts of the Plan, see Master Response No. 1. Comments regarding preference for a pilot study are noted. This plan represents a flexible, adaptive management strategy, which will adapt to changing natural conditions and take advantage of successes and lessons learned over time. At the same time, it is a comprehensive plan and methodology to deal with the very real and present problem of wildfire hazard at the wildland urban interface. This situation cannot wait for a pilot study.

B4-17: The Plan does not contain proposals for "ecosystem conversion." See response to comment B3-17, B4-16 and Master Responses No. 1 and No. 2. In regards to the introduction of invasive non-native eucalyptus, see Master Response No. 3.

B4-18: This comment is on the Plan and not the adequacy of the EIR. See Master Response No. 3.

B4-19: The commenter states that "The DEIR does not present any evidence to support its conclusion that such isolated trees, as opposed to encroaching woodland trees, threaten ecosystem conversion." To our knowledge, that conclusion is not presented in any portion of the EIR or the Plan, and the commenter did not cite where in the EIR or Plan that conclusion occurs. This comment, which pertains to the merits of the project, and not the adequacy of the Draft EIR, is noted. See Plan Chapter 5:

Vegetation Management Program for a discussion of vegetation types, including grasslands. See responses to comments B3-8 and B3-32, and Master Response No. 1.

B4-20: Contrary to this statement, the proposed strategic fire route in Claremont Canyon is *not* a paved "cross-canyon road." The "governmental facilities" discussion on page 4 of the Draft EIR identified in the comment, refers to the evaluation of public services in section XIII of the Initial Study contained in the Draft EIR Appendix A. In this context, a "governmental facility" is considered to be a more substantial project such as a building (e.g., fire or police station) or a paved road, and none are required to implement the Plan. It should also be noted that construction of the proposed strategic fire route is not necessary for the District and Fire Department to conduct the fuel reduction and vegetation management activities proposed by the Plan. Additionally, the potential effects associated with the proposed strategic fire route are evaluated in the Draft EIR (see especially Impact and Mitigation Measure BIO-3 on pages 174 and 175. See responses to comments B3-6 and B3-14 and Master Response No. 1. Plan Appendix C contains a description of the wildfire hazard assessment that was completed for the Study Area and included vegetation types mapped in the EBRPD GIS program.

B4-21: Regarding the use of goats, see responses to comments B1-10, B3-5, and B3-10 and Master Response No. 2.

B4-22: This comment provides a conclusion to those above. See also responses to comments B4-2 and Master Response No. 1. The District does not believe that there can be an "overemphasis" on decreasing wildfire risks; indeed, that is the stated purpose of the Plan. Furthermore the Plan does not propose to do this "at the expense of habitat values"; rather, it proposes a methodology where fuel hazards can be abated while natural resource values are protected and enhanced.

Letter
B5

EAST BAY PESTICIDE ALERT
Don't Spray California
2399 E. 14th Street #24 San Leandro, CA 94577 (510) 895-2312 beneficialbug@netzero.net

October 30, 2009

RECEIVED
OCT 30 2009
PLANNING / STEWARDSHIP

Brian Wiese, Chief, Planning and Stewardship
East Bay Regional Park District
WildfireEIR@ebparks.org

The East Bay Regional Park District (EBRPD) Draft Environmental Impact Report for Wildfire Hazard Reduction and Resource Management is based entirely on faulty premises. 1

First, evaluating health or environmental issues by a Risk Assessment model necessarily allows that a segment of the population of the evaluated species, including humans, is disposable.

Second, the assumption is that pesticides must be part of the EBRPD wildfire response and/or prevention strategy, and that pesticides can be used safely. 2

Third, it is assumed that native vegetation is superior to non-native vegetation. Acclimation and naturalization are not acknowledged for their role in an ever-evolving habitat. 3

Fourth, the very premise of wildfire prevention as an ecological approach is faulty, is in fact being challenged within many institutions, not the least significant of which would be the National Park Service. Wildfire prevention is responsible for significant environmental impacts in wildfire areas, where fire-dependent species, such as Alameda County's endangered Pallid Manzanita, evolved and are now being driven to extinction by the aggressive behavior of attempting to prevent necessary wildfires, rather than suppressing them in specific situations. 4

PESTICIDE TOXICITY:

Overall park district mismanagement has resulted in increased use of pesticides over many years' time, even taking into account added acreage, all under what is called Integrated Pest Management (IPM), a methodology supposedly set up to "reduce" pesticide use over time, but which more often than not has actually increased use wherever IPM programs have been implemented, because IPM language is legally vague and meaningless. 5

An alliance between the University of California and EBRPD violates any possibility of neutral, rational decision-making about pesticide use in the hills, since much pesticide research and industry 6

propaganda originates in the UC system. In fact, UC has a longstanding relationship with pesticide companies, such as Novartis, and Tom Klatt, the Manager of the UC Berkeley Office of Emergency Preparedness has steadfastly urged agencies and cities to use pesticides in the East Bay Hills. The latter was widely exposed in 2005 when both Tom Klatt, and Nancy Brownfield, EBRPD IPM Specialist, were urging the City of Oakland to use pesticides on the 1,000+ acres it oversees in the hills (http://dontspraycalifornia.org/wpad.html). Unbeknownst to us, while City of Oakland officials were seemingly backing off their contested plans to add yet another exemption to the city's weak pesticide ordinance, they were quietly preparing to collaborate with UC Berkeley in an extensive "Fire Mitigation Program", contributing financially to a project that clearly violates the city's own pesticide ordinance (http://oep.berkeley.edu/pdf/FireProjects/OtherDocs/ARfire_2005.pdf). At the time Nancy Brownfield, Tom Klatt, and various Oakland city representatives and agencies, as well as Jake Sigg, former president of the California Native Plant Society, and representatives of EBMUD, were all presented with thorough toxicological profiles of RoundUp (http://www.alternatives2toxics.org/catsoldsite/round.htm) and Garlon's triclopyr (http://www.pesticide.org/triclopyr.pdf), the pesticides they proposed for use. Additionally, at least Nancy Brownfield also received the most recent glyphosate (Roundup) toxicological profile (http://www.pesticide.org/glyphosate.pdf) published only a couple of months before.

6 cont.

7

The evidence is clear: these herbicides are toxic, and have been well known to be for decades, and they translocate. Once pesticides are released, they cannot be reined in. There is no serious debate around these facts. The fact that they are central to EBRPD plans is significant in showing us that the DEIR has been written based on either lack of information (absolute negligence, at best) or specific fraud (criminal). This DEIR should be tossed right now on grounds of propagation of misinformation.

8

- **How were the technical advisors, mentioned in the DEIR, chosen, and what are their affiliations?**

9

In this DEIR there is reference to the Marin Municipal Water District (MMWD) claiming that large vegetation management projects can't be successful without the use of pesticides. The EBRPD Board needs to understand this outrageous claim is based on lack of science, lack of acknowledgement of biological processes which have been out of balance for decades, because of EBRPD's and other agencies' mismanagement. MMWD's recent statements are in reference to a faulty study set up to look at decay rates for glyphosate, the so-called "active" ingredient in RoundUp (manufactured by Monsanto). The study couldn't have been set up more perfectly to mimic Monsanto's "informational presentations" for farmers, where they appear to be trying to confuse people.

Hip to more people being wary of pesticides, and specifically RoundUp, at one of these "informational presentations" in 2000 in Santa Rosa, Monsanto representative Martin Lemon said "glyphosate doesn't cause cancer". Well, at that time we already had plenty of information about cancer links, regardless the active ingredient, which was only 41% of the product. First, formaldehyde, a carcinogen, is one of glyphosate's breakdown products. In fact, it is a chemical on California's Proposition 65 list of reproductive or carcinogenic toxins. Then there is a contaminant of glyphosate, N-nitroglyphosate, from a member of a chemical family of which 75% are known carcinogens. A surfactant called polyoxyethylene alkylamine (POEA) added to products with glyphosate is three times more acutely toxic than straight glyphosate and is contaminated by 1,4 dioxane during manufacture. The Office of Health Hazard Assessment lists 1,4 dioxane as a carcinogen under Proposition 65.

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cont.

Meanwhile, the Department of Pesticide Regulation had already shown by almost 30 years ago possible adverse cancer effects of glyphosate, with rare tumor formation in the kidneys and adrenal cortex of test animals. Other studies found an increase of testicular tumors, thyroid cancer in females, and a rare kidney tumor (U.S. EPA). All that from a mid-1990's toxicological profile using data from the 70's, 80's and 90's, one of the profiles handed to Ms. Brownfield, and Mr. Klatt, and other representatives of EBMUD, as well as PG&E, the California Native Plant Society, Friends of Sausal Creek, Oakland Council member Quan and her aide, Sue Piper, January 26, 2005. In a 2004 toxicological profile we handed Ms. Brownfield in person the same night, right on the front page is the quote, "Studies of farmers and other people exposed to glyphosate herbicides have shown that this exposure is linked with increased risk of the cancer non-Hodgkins Lymphoma." Sodium salt of o-phenylphenol, a so-called "inert", caused cancer in lab tests. In cases of Multiple Myeloma, there is a suggested association with cancer, and both glyphosate alone and RoundUp formulations caused rapid cell division in human breast cancer cells.

10 cont.

Forget about cancer if you want, but recent studies demonstrated that POEA, the surfactant, kills human cells. Doesn't necessarily take cancer to kill, nor does it take an active ingredient being carcinogenic for cancer to be caused by the use of a chemical, or a chemical formulation. In fact, the use of POEA acts synergistically with glyphosate and other so-called "inerts" to dramatically compound the toxicity of a glyphosate product. Glyphosate is mutagenic, hormone-disrupting, causes miscarriages, kills beneficial insects, and is neurotoxic. Seriously, would you want your mother exposed? Your son? Your spouse? Your beloved pets?

So back to the MMWD study in question, since the authors of this Draft EIR insist on the assertion that these chemicals are safe ("no significant impact") and are necessary, and say that MMWD claims that this is the prudent way to proceed. As it turns out, the Marin study was based on the rate of decay for glyphosate alone. Well, isn't that interesting? They were happy to take $50,000 in taxpayer grant monies to prepare and conduct a faulty study and then perpetuate myths about it. We don't know about the people at the MMWD, but regardless whether they know the word "synergism", it isn't rocket science to know that chemicals act differently when they are mixed (http://www.ourstolenfuture.org/NewScience/synergy/mixtures.htm). Hence, all the kids with chemistry kits setting off explosions that delight them and strain their parents' patience while their old neighbors expect to see houses burning down any minute. Come on, testing for glyphosate decay when we know glyphosate is not used straight but as part of a formulation with at least one surfactant and usually a whole list of other so-called "inert" chemicals (http://www.ehponline.org/members/2006/9374/9374.pdf)? Can we say Welfare for the Agencies? Scraping the Pork Barrel, perhaps? People opposing the MMWD, including doctors, exposed the study for the shabby piece of misleading marketing it is. Stop reusing a study which is misleading. It's bad science, unethical to use to support this pesticide program, and what a waste of taxpayer money, which could have gone straight into manual removal of vegetation, were that really necessary.

11

If RoundUp, which was banned years ago in Denmark, because it was found in ground water as a result of soil mobility (http://www.twnside.org.sg/title/service76.htm), isn't enough of an insult, triclopyr will stand in to finish off the job. In lab tests it has caused an increase in cancers, and causes lethal mutations. Like RoundUp, it contaminates water sources and its major breakdown product is neurotoxic. It also affects the kidneys, the adrenal glands, causes a variety of birth defects and let's just say you don't want to be exposed to it under any circumstances. Yet, EBRPD's Nancy Brownfield backed by UC's Tom Klatt has no problem whatsoever foisting these poisons on EBRPD's own employees, park visitors, wildlife at the parks, and all the biological life downstream of the parks, and in the San Francisco Bay. And just think: put RoundUp and Triclopyr together and

you ought to be able to relieve Bay Area congestion considerably by virtue of death, what the DEIR refers to as "no significant impact". 11 cont.

And as we find that glyphosate and imazapyr (http://www.pesticide.org/imazapyr.pdf) herbicide formulations are being mixed together in the collaborative project between UC Berkeley and the City of Oakland, a health study of residents or workers in the area would likely show a marked increase in health problems. People and animals, insects and vegetation in the area are being used in an unethical chemistry experiment, all funded by taxpayer dollars. 12

In the EBRPD DEIR is an analysis of what is called an Environmentally Superior Alternative. The Mitigated Alternative is considered the Environmentally Superior Alternative. It is said to "reduce impacts to a less-than-significant level". Sounds great, except if you happen to be on the other end of "less-than-significant". Researchers have long described the cumulative effects of low doses of chemicals, which are considered more dangerous than the occasional major exposure in otherwise-healthy individuals (http://web72345.ntx.net/article/gulfwar.shtml). But there also is the non-monotonic dose response, where the effects of chemical exposure increase as the dose of chemical input is lessened. So in reality the less the individual dose, the more significant the response can be. Endocrine disruptors are one example of chemicals that cause a non-monotonic dose response (http://citybelt.typepad.com/LowDownonLowDoseEDs.PDF). Or as the body is excreting what it can of the toxin, toxic effects can increase as well. An example dating back to 1888 is that of fungicidal chemicals such as mercuric chloride increasing the fermentation of yeast (http://toxsci.oxfordjournals.org/cgi/content/full/77/1/151). This kind of process was demonstrated in Sonoma and Napa Wine Country, where health surveying revealed common overwhelming, systemic yeast overgrowth. Fungicides such as Copper Hydroxide, and Sulfur scraped from industrial smokestacks, are used everywhere in the vineyards and inversion layers in the valleys trap people and animals in an chemical soup. Another fairly common example shows itself around varied responses to coffee. While the general expectation is that a cup of caffeinated coffee will give people energy or "pick them up", for many caffeinated coffee is physically relaxing while decaf coffee, containing much less caffeine, gives them that "pick up". 13

- **What are the exact chemical ingredients, including so-called "inerts", carriers, surfactants, or other additives, for every part of the EBRPD fire plan?**
- **What are the cummulative and synergistic effects between each chemical, each product, and any previous chemical used in each of the locations of this plan?**
- **Are any of the ingredients in any of the products to be used in this plan, including so-called "inerts", carriers, surfactants, and other additives, endocrine disruptors or other chemicals which provoke a nonmonotonic dose response, where damage increases as the chemical exposure decreases?** 14
- **Which products contain chemicals that have not been fully tested for whether they cause cancer, endocrine disruption, or other health concerns?**
- **On precisely what evidence do you base your predictions of "no significant impact" from products of which not all ingredients are being disclosed, nor have been tested for all health concerns?**

We read "There are no significant impacts to Air Quality and Climate Change" and we see that what is addressed is the noise of machinery which is acknowledged to be a short-term consequence. 15

There is no acknowledgement of pesticides affecting air quality and climate change. So we ask again, do your homework:

- **How does pesticide use affect air quality?**
- **How does pesticide use affect climate change?**
- **How does pesticide use affect the ecosystem at large?**
- **What is the impact on beneficial insects which are in peril today?**
- **What is the impact on non-native, naturalized, or acclimated species?**

15 cont.

We read "There are no significant impacts to hazards and hazardous materials" with nothing written below that.

- **What does that statement mean?**
- **What hazards and hazardous materials are present in the East Bay Regional Park District, why are they there, and how did they get there?**
- **Are you referring to the very pesticides you're already using?**

16

The only specific general management practices mentioned in the DEIR refer to an inadequate requirement for notification signs, and the size and smoothness of cut tree stumps. EBRPD appears to be more concerned about the potential for splinters from logged trees, than about chemical poisoning from contact, drift, and other mobility of the pesticides applied to and around the stumps and other vegetation.

17

RISK ASSESSMENT:

We read, "Both the proposed project and the Mitigated alternatives would provide the least amount of potentially-significant impacts resulting from the fuel treatment and vegetation management activities with the Study Area. Both the proposed project and the Mitigated alternative would also provide sufficient guidelines, recommendations, and mitigation measures necessary to reduce potential impacts."

Obviously based on the above summary of dangers of pesticides, no chemical use is what provides the least amount of potentially-significant impacts resulting from the fuel treatment and vegetation management activities. As for the "Mitigated alternative" providing sufficient guidelines, recommendations, and mitigation measures necessary to reduce potential impacts, we surely do wish the DEIR authors would do some more sharing of their plans. Specific sharing that is. We have plenty of the "believe us" variety. We want facts and figures. For instance:

18

- **Who pays for the health care necessary as a result of exposure to EBRPD's pesticide use?**
- **Who pays for environmental damage done by pesticide use as part of the plan?**

- **Who pays for environmental damage done by tree felling as part of the plan?**
- **How does one quantify the loss of endangered species in the EBRPD, if pesticides or loss of habitat cause their demise?**
- **Who determines the worth of an endangered species?**
- **Who determines the worth of a naturalized species?**

18 cont.

Under the alternatives section of the EIR goals are stated as "Maintain and enhance ecological values for plant and wildlife habitat" and "Provide a vegetation management plan which is cost-effective and both financially and environmentally sustainable to EBRPD on an ongoing basis". Releasing toxins, which can irreversibly damage humans, wildlife, pets, insects, vegetation, and soil health, is not ecologically sound and does not achieve these goals.

Risk Assessment, the methodology used by industry and authors of Environmental Impact Reports, theorizes which risks are "significant" or "acceptable" to those who are paid to evaluate the financial cost-effectiveness of a plan. First, do no harm, Hippocrates' motto, and that of medical doctors and healthcare workers everywhere, recognizes that it is not ethical to call anyone an Acceptable Risk, nor is it ethical, from a standpoint of environmental sustainability, to apply Risk Assessment to wildlife, pets, insects, vegetation, and soil. Biology is clear: neither humans nor wildlife, pets, insects, vegetation, nor soil exist in a vacuum. Each is part of an intricate biological web from which one cannot be spot-removed without endangering the others. In fact, the USDA's Light Brown Apple Moth debacle has in part been exposed for the danger eradication attempts represent to biological habitats, meaning any habitat. Trying to eradicate something naturalized can create a hole of unknown consequences which we cannot predict so could not possibly know how such potential damage might be mitigated.

19

Environmental reviews should be based on the precautionary principle, which in a nut shell states "better safe than sorry", with a particular view towards protecting vulnerable species and populations, and not on a theoretical risk assessment approach, which determines how much risk to the lives of others is acceptable to those who theorize about the potential impact of an action.

- **In your risk assessment process, where do you draw the line between "acceptable" and "significant" risk?**
- **Specifically, how do you quantify the value of a person's health?**
- **Is it an acceptable risk if 15% of the population is at risk of negative health impact?** (According to the National Academy of Sciences 15% of the population is chemically sensitive to varying degrees.)
- **How about 1 in 8 children? Is that an acceptable risk?** (That's how many kids are vulnerable to chemical exposure because they have asthma.)

ALTERNATIVES:

While the DEIR mentions mowing, burning and hand removal, they say these options wouldn't be most cost effective, but do not elaborate with clear calculations. Readers and stakeholders are

20

expected to take the authors of the DEIR by their word. In fact, they do not include the many options we brought up in 2005 as standard alternatives to pesticide use, regardless of whether or not trees are being cut down.

Solarization, covering stumps in plastic, is as basic, economical, and efficient as would be coming in yearly for a few years to snip soft new eucalyptus sprouts. Letting them shoot up 20 or 30 feet as the City of Oakland did in Montclair in 2005, while expending a great deal of time, energy, and money on panic mongering with scary resprouting stories and photos, and writing proposals, demanding pesticide use, instead of simply keeping the eucalyptus shoots trimmed, is not useful. Other alternatives could include a high-pressure hot water system which shows great promise, radiant heat weeder (http://www.pesticide.org/radiant.html), or a simple flaming machine (backpack and wand system) used in many municipalities could be a great alternative for paths. What about good, old-fashioned discing, or using a weed wrench? Maybe controlled burns, which native peoples used successfully without burning down their much more quickly-flammable homes? Mowing is an old fave, and cherry pickers to avoid creating erosion on sensitive hillsides could work in some settings. **20 cont.**

Jobs are desperately needed. The unemployment rate hovers around 10% or more. In 2005 we calculated extensively, looking at the $125,000+ licensed pesticide applicators fee an agency would pay, along with chemicals and the related gear, and brought up the longterm healthcare costs and productivity loss as a result of inevitable pesticide poisoning, then calculated how many healthy jobs at reasonable wages with good benefits could be created for hand or mechanical removal of unwanted vegetation. Money needs to go into paying workers living wages and benefits, not paying licensed pesticide applicators who oversee others' applications. Just last year we were told that the EBRPD pays workers who do pesticide applicatons higher wages than their usual wages when they're not applying these chemicals. People know that it's dangerous work and most workers oppose pesticide use in the EBRPD and are resentful that they are put in the position of being told they have to apply poisonous chemicals as part of their jobs, or work in settings where they are exposed to these chemicals. AFSCME Local 2428, the union of the East Bay parks workers, has also expressed concern for park visitors who would be exposed to pesticides applied on EBRPD lands (http://dontspraycalifornia.org/AFSCME%202428%20resolution.pdf). Hand pulling and other non-toxic methods work, and are healthy work for people who need jobs. **21**

Another problem with the pesticide plan is that it eliminates the option to continue using the much beloved goat herds, because, as we learned in 2005, goatherders wait a year plus another rainy season before they let their goats graze on land on which pesticides have been used. EBRPD's wildfire plans would therefore impact the ability and freedom to use goats as much as possible to eat unwanted vegetation, a clear imperative made public by Oakland Hills residents voting for self-assessment via the Wildfire Prevention Assessment District in 2004, voting which was based on photos of goats grazing, which they were shown in the assessment campaign. **22**

This wildfire prevention plan feeds into the notion that pesticides are necessary and unavoidable, when in fact some municipalities have shown that pesticides are completely unnecessary. In California, the City of Arcata has a total pesticide ban, has in fact won the only case known to date against Caltrans' statewide roadside spraying, and helped to forcibly end that practice in several counties. Arcata has won awards for their ballfields, another setting in which people have been mislead to believe that pesticides must be used. The Town of Fairfax also has a pesticide ordinance under which town agencies are not allowed to use pesticides. Eliminating pesticide use altogether is not only possible, but a viable and necessary alternative, which provides opportunities for a deeper understanding of the surrounding ecosystem. **23**

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cont.

"INVASIVE" SPECIES:

Another goal of the plan mentioned in the DEIR is to "Preserve aesthetic landscape values for park users and neighboring communities". Again, releasing toxins which can irreversibly damage humans, wildlife, pets, insects, vegetation, and soil health, does not achieve this goal, nor does attacking non-native species of vegetation or other species. Acclimation and naturalization are normal evolutionary processes and have resulted in monarch butterflies overwintering in the East Bay Hills, where they might not if most or all of the eucalyptus were cut down. Incidentally, the Oakland Office of Parks and Recreation has boasted photos in their marketing materials showcasing eucalyptus, probably because most people agree it is beautiful, and are acclimated to eucalyptus surrounding us in the hills.

24

Landscape aesthetics are in the eye of the beholder, and forcing nature into the aesthetic preferences of a few comes at the expense of ecological health. Continued widespread removal of trees is leading to frequent mudslides in the hills, such as the mudslide being cleaned up at Centennial and Gauss, in Tilden Park, Thursday, October 22, 2009. These mudslides not only do not enhance aesthetic landscape values for park users and neighboring communities, they threaten to devalue the same, and more importantly threaten the health and natural patterns of the established ecosystem. Cars sliding off cliffs not only endanger the occupants, obviously, but create yet more fire danger. What we have seen in the hills as the various agencies collude to try to get rid of eucalyptus (a job works program acting as welfare for the agencies which benefit) is increased landslides and mudslides over the same years. Hillsides are denuded and soil comes washing down. Mismanagement is rampant in the hills, the East Bay Regional Park District being front and center in terms of mismanagement. The slide at Centennial and Gauss was most typical of the recent years' clearcutting philosophy of bulldozing and running. Piles of cut wood and slash have been common sights in Tilden and around the Oakland hills over the past few years. It is a testament to stupidity, frankly.

25

We have seen repeatedly that native plant restoration projects are being masqueraded as wildfire prevention projects and more insidiously, taxpayer self-assessments along with tax-supplied grants are being sold to taxpayers as necessary for wildfire safety. These scare tactics are unethical and, worse, will lead to an unwillingness in the future to supply money readily, when it might actually be needed, to fund manual removal of excess understory or grasslands vegetation. These scare tactics could lead, therefore, to more fire danger in the future as threats continue to build due to mismanagement.

26

We hear ad nauseum from EPRPD in this DEIR about their fixation with getting rid of what they refer to as non-native plants. Invasion Biologists have differing scientific opinions on when species have reached acclimation at which point even trying to remove them can pose biological danger.

David Theodoropoulos, an Invasion Biologist who is very critical of his field, and points to the historic involvement of the pesticide industry in establishing invasive species councils to do their bidding (http://www.jlhudsonseeds.net/NativesVsExotics.htm), shows photos of eucalyptus in the Oakland hills during the 1991 fire, in areas where the understory had been kept down (http://video.google.com/videoplay?docid=5437585345864241 76). The fire burnt out before igniting the trees in those areas. It is where agencies mismanaged in the hills and failed to cut back the understory since it hadn't been properly attended as an Urban-Wildlands interface or a Residential-Wildlands interface. That is no excuse for further mismanagement, unleashing potent, or any, toxins upon us.

27

EBRPD claims that "Invasive plants are harmful, non-native plants" and "Invasive species have no natural enemies in the environment". These are irrational, and just plain inaccurate claims. Species become naturalized. Some native plants can be quite invasive. Many predator species are generalists who'll eat just about anything. The irony of largely European descendents and other pilgrims to this country, vilifying "invasive", "non-native", "exotic" species, and claiming that native species must be defended from them by dumping toxics everywhere and killing living things, is not lost on immigrants and indigenous people alike. **28**

Various plants which have been identified for pesticide applications in the East Bay parks are edible or medicinal plants on which local wildcrafters depend, which includes many first generation Asian residents who forage for certain plants as part of their cultural traditions. The danger from pesticide exposure is exacerbated by the extremely limited notification of applications, which are required to be put up barely a day before the applications, possibly as few as 12 hours before, and it is not clear that the notifications would be posted in any language besides English. Some of the people foraging in the hills as part of their cultural practices may well not speak English well enough to understand the posting, and may be endangered by exposure at the site, and may further endanger family members and friends who eat these pesticided foods. It is also unclear whether such notification remains in place after the applications, and for how long. **29**

Meanwhile fire dependent species are endangered by wildfire prevention practices, which fundamentally violate their most basic survival needs. So much for native species. Among the species endangered by this plan are the Pallid Manzanita, Alameda Whipsnake, Pallid Bat, and the Red-Legged Frog. In fact, a recent lawsuit and settlement specifically aims to protect the Red-Legged Frog from both glyphosate and triclopyr, as well as dozens of other pesticides (http://www.biologicaldiversity.org/swcbd/PRESS/rlf-10-19-2006.html). **30**

WILDFIRE PREVENTION VS. FIRE SUPPRESSION:

Wildfire areas, by definition, are potential habitat of fire-dependent species. Pallid Manzanita is native to our East Bay Hills, has evolved there, is listed as an endangered species, and cannot exist naturally without wildfire. As such, wildfire prevention in and of itself, regardless of the methods, has significant impacts on all fire-dependent species, and represents a threat to their continued existence. Wildfire prevention is not a sustainable or ecologically sound practice.

The National Park Service in its document entitled "National Park Service Fire Management Program for the Pacific West Region" (National Park Service, U.S. Department of the Interior), in its recent edition states, "Without humans, almost all fire is caused by lightning. There is increasing evidence that many ecosystems in the Pacific West have also had human-caused, prescribed fire as an integral process for thousands of years". That certainly is true of local Ohlone practices, which included fires set to keep down the understory in areas where their native, quite flammable housing was clustered. The NPS document includes this big headline: "Small Burns Prevent Big Fires". Mismanagement in the East Bay Hills has included the allowance of easily flammable housing paired with constant fire suppression and prevention across the board, which has resulted in dangerous understory heights. One way or another, fire is inevitable and necessary in wildfire areas. **31**

The East Bay Hills Fire of 1991 was not a wildfire. It was caused by humans, was not fully extinguished, and was exacerbated by people getting disoriented, leaving cars in the middles of narrow streets, blocking fire and rescue people. The deaths and tragedy were furthered by the allowance of rebuilding with streets just as narrow when there was the opportunity to rectify the **32**

extra danger which had resulted in so many needless deaths that hot, windy day, and the needless endangerment of rescue people.

While some people carelessly have their homes built in wildfire areas, attempting to force nature to accommodate their unreasonable expectation of safety from inevitable natural processes, they not only put their own lives at risk, but drag working people in their service down with them. While these home owners jump in their cars to escape the blaze, firefighters are sent in to protect private properties as though they matter more than the lives of these courageous workers, a phenomenon which understandably has caused some resentment among firefighters (http://web.archive.org/web/20060926073159/http://wildfiremag.com/ar/dj_vu_again/index.htm), as well as been the focus of criticism by political historian and scholar Mike Davis (http://web.archive.org/web/20061129163007/http://www.rut.com/mdavis/letmalibuburn.html). **32 cont.**

- **Whose responsibility is it to protect misguided people, often the wealthiest with the most choices, who move into wildfire areas and build houses prone to catch fire easily**

- **With cuts to fire departments across the region, who is responsible for fire suppression, as opposed to fire prevention?**

CONCLUSION:

We struggled against EBRPD's Nancy Brownfield and others pushing the City of Oakland to use pesticides in the hills. And now we're back. We are struck by how it appears that none of the two RoundUp toxicological profiles nor the triclopyr toxicological profile, which Nancy Brownfield has had in her possession since January 26, 2005, seemed to have been even skimmed, let alone read. At the time we attempted to engage her in discussion about the dangers of RoundUp, and she expressed no interest in the topic, saying she thought RoundUp is "fine". Neither the scores of governmental and independent scientific studies on the toxicity of the chemicals nor the synergism between chemicals in the products, seemed to have moved Ms. Brownfield to action. Indeed, between 2005 and the present, she has increased pesticide use in the parks. Our experience in talking with Park Rangers and other park workers is that they are almost uniformly opposed to pesticide use and are concerned for their own safety and for park visitors' safety. Most notable about the DEIR is the complete lack of toxicological information about the pesticides proposed for use. We could not even find the manufacturer's limited and skewed Material Safety Data Sheets of the products proposed anywhere in this document. **33**

Pesticide pushers have relied on misleading and confusing people, by saying they'll use "just a little bit", or "only what's necessary", or "they won't be spraying, they'll only be spritzing", etc. Any pesticide exposure is dangerous in that it can accumulate even if it doesn't cause an obvious reaction in the moment. In fact, exposure to some pesticides causes reactions which become obvious 8 or 12 hours after exposure, or the next day, or the next week, and reactions can last weeks or longer. In the case of exposure to the Light Brown Apple Moth pesticides called "pheromones", people are having what started as acute reactions continuing over 2 years later. One of our collective members has had dramatic, ongoing health problems since exposure in July of 2008. This includes out of control blood sugar and menstrual bleeding of 10 - 11 days monthly. Some people developed tumors on their livers after exposure to that pesticide. **34**

The EBRPD action plan outlined in the DEIR is completely misguided, and if implemented, will likely create more fire hazard, the very hazard supposed to be addressed by this plan, through **35**

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flammability of the chemicals themselves, as well as by dying, dry vegetation resulting from the chemicals. Additional hazards could also be created by this plan, by creating more mudslide and landslide conditions in the hills, which can lead to harm to the public and the environment.

East Bay Pesticide Alert, also known as Don't Spray California when working on statewide issues, is a collective of individuals, most of whom are disabled by pesticide poisoning, and who are directly and negatively impacted by the continued use of pesticides.

35 cont.

We are opposed to the EBRPD's fire plan, and demand an immediate end to all pesticide applications.

Maxina Ventura
Chronic Effects Researcher
beneficialbug@netzero.net

Isis Feral
Disabled Access Advocate
isisferal@yahoo.com

CC:

EBRPD Board Members
- Whitney Dotson wdotson@ebparks.org
- John Sutter jsutter@ebparks.org
- Carol Severin cseverin@ebparks.org
- Doug Siden dsiden@ebparks.org
- Ayn Wieskamp awieskamp@ebparks.org
- Beverly Lane blane@ebparks.org
- Ted Radke tradke@ebparks.org
- Pat O'Brien pobrien@ebparks.org
- Clerk of the Board APulido@ebparks.org

EBRPD Workers, AFSCME 2428, c/o AFSCME Council 57 Oakland Headquarters
- webmaster@ca.afscme57.org
- Director George Popyack george.popyack@ca.afscme57.org
- Organizing Director Keith Uriarte keith.uriarte@ca.afscme57.org
- Political Director Cheryl Brown Cheryl.Brown@ca.afscme57.org
- Business Agent Jo Bates jo.bates@ca.afscme57.org
- Business Agent Len McBride lenny.mcbride@ca.afscme57.org
- Business Agent Greg Ramirez greg.ramirez@ca.afscme57.org
- Business Agent Brenda Wood brenda.wood@ca.afscme57.org
- Office Manager Claudia McHenry claudia.mchenry@ca.afscme57.org
- Executive Secretary Mary Minor maryminor@ca.afscme57.org

www.dontspraycalifornia.org

LETTER B5
East Bay Pesticide Alert
Maxina Ventura, Chronic Effects Researcher
October 30, 2009

B5-1: The commenter broadly alleges that the EIR is based entirely on "faulty premises," yet provides no citation or reference as to where in the EIR there are faulty premises. The EIR authors disagree with this introductory comment that the EIR is based entirely on "faulty premises." The Draft EIR Hazards and Hazardous Materials section describes the existing setting, establishes criteria for significance, and evaluates potential impacts of the Plan against those criteria. This methodology is consistent with CEQA guidance. The commenter is in error in that the EIR authors did not use a "Risk Assessment model" to evaluate health or environmental issues. Please refer to the responses to comments B5-14 and B5-19 for additional information regarding the methodology that was used for the DEIR analysis and the regulatory framework for chemical treatment methods.

B5-2: Comment is noted that the commenter's assumption is that pesticides must be part of the EBRPD wildfire approach. Chapter IV. Fuel Treatment Methods and Appendix D: Fuel Treatment Techniques provides a description of the methods, including chemical treatment (see Plan pages 92-95), that are and will be used by the District (and other wildland managers) for fuel reduction activities. For each of the methods identified in Chapter IV. the Plan provides a discussion of: specific techniques, personnel and equipment requirements; the timing of the treatment cycle; special considerations and limiting factors associated with the method; and best management practices (BMPs) to reduce potential adverse environmental effects associated with the use of each method. Appendix D contains more detailed descriptions of these fuel reduction methods. This chapter also discusses issues related to the selection of an appropriate method depending on the fuel to be treated and the timing of treatment methods to achieve fuel reduction and resource management goals. In the Draft EIR a multi-disciplinary team of experts identified, evaluated and mitigated, where necessary, potentially significant impacts associated with each treatment method, including the use of chemicals, through over 300 pages of text, tables, and figures. See especially Draft EIR Sections B. Biological Resources, D. Hydrology and Water Quality and H. Hazards and Hazardous Materials. A No Chemical Use alternative was considered in Chapter V. Alternatives of the EIR, see page 310.

B5-3: Commenter appears to believe that there is an assumption in the Draft EIR that native vegetation is superior to non-native vegetation. This is not the District's or EIR preparers' assumption, see Master Response No. 3.

B5-4: The District and the EIR authors strongly disagree with this comment that "the very premise of wildfire prevention as an ecological approach is faulty, is in fact being challenged within many institutions, not the least significant of which would be the National Park Service…" In actuality, federal agencies are bound by the National

Wildland Fire Policy (see http://www.fs.fed.us/fire/management/policy.html) which states, "Protection of human life is the first priority in wildland fire management. Once firefighters are committed to an incident, they are the number one priority. Property and resource values are the second priority, with management decisions based on values to be protected." It also includes the statement, "The role of federal agencies in the wildland/urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical assistance."

Further, the National Wildfire Coordinating Group, which represents all fire management agencies in the Department of Agriculture and Interior have the following guiding principles: "The firefighter and public safety is the first priority in every fire management activity…Sound risk management is a foundation for all fire management activities…Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives" (www.nwcg.gov/branches/ppm/fpc/archives/fire_policy/docs/exsum.pdf).

The National Park Services states in their Wildland Fire Management Strategic Plan, 2009-2012 (http://www.nps.gov/fire/fire/fir_wil_planningandpolicy.cfm) that one strategy is to "Participate in collaborative efforts to enhance community protection through community planning, and hazardous fuels mitigation."

The California Department of Forestry and Fire Protection's Fire Plan states, "The overall goal is to reduce the total costs and losses from wildland fire in California by protecting assets at risk through focused pre-fire management and increasing initial attack success." The state-wide plan provides specifics in ways to achieve that goal.

The EBRPD Plan and Draft EIR are consistent with the federal and State fire management policies in their effort to prevent fires and damage from fires through pre-fire fuel management to reduce the risk of wildfire.

B5-5: The commenter contends that the District's Integrated Pest Management Program language is "legally vague and meaningless." The IPM program was designed to set a framework for the use of IPM methods within EBRPD lands that is in compliance with local, state, and federal regulations for pesticide use. The IPM program requires a monitoring program for pests, evaluation of pesticide use by IPM specialists and/or the EBRPD Pest Management Advisory Committee, recordkeeping, public notification, and training. An Annual Pesticide Use Report is prepared by EBRPD as part of its compliance with District policy and program accountability to the EBRPD Board of Directors and the public. The IPM program was previously evaluated under CEQA, and is not part of the Plan evaluated in this Draft EIR. As the comment does not point out a deficiency in the environmental analysis or documentation, no further response is required.

B5-6: The commenter implies that there is some sort of economic "quid pro quo" between the District and UC Berkeley. Both agencies are trustee owners and wildland managers who follow State and federal mandated requirements in the reduction of

wildfire hazards, especially in the wildland urban interface, on lands under their jurisdiction. Both agencies participate in the Hills Emergency Forum, share information and coordinate with each other on issues pertaining to wildland management. Furthermore as the comment does not indicate any deficiency in the environmental analysis or documentation, no further response is required.

B5-7: Comment is noted regarding the City of Oakland's pesticide ordinance. See response to comment B5-6.

B5-8: The commenter alleges that the EIR "has been written based on either lack of information (absolute negligence, at best) or specific fraud (criminal)" and should be "tossed out." No citation is provided as to exactly where in the Plan or EIR there is insufficient, faulty or misleading information. As a general response, the District believes that, although there is disagreement regarding the methods identified in the Plan (primarily the use of chemicals for treatment) and the conclusions in the Draft EIR, the document completely discloses the potential environmental impacts of the project and addresses points of disagreement. Section 15151 of the *CEQA Guidelines* states: "Disagreement among *experts* does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." As stated in Section 15151 of the *CEQA Guidelines*, the analysis in an EIR "need not be exhaustive," but should provide decisionmakers with enough information to make a reasoned decision about the project. The Draft Plan and EIR were prepared by a multi-disciplinary team of technical experts, including specific professional expertise in IPM and chemical application. The EIR achieves this objective through over 300 pages of analysis of the potential environmental impacts of the project.

B5-9: Technical wildfire and resource specialists who could be called upon to advise the District and the consultant team when preparing the Plan were identified by the District and the consultant team at the beginning of the project in 2006. As work progressed, the team primarily consulted with the Hills Emergency Forum at strategic points during Plan preparation. See also Appendix I: Bibliography of the Plan and Section VII, Report Preparation of the Draft EIR. Additionally, technical experts in IPM and pesticide application at the District and on the consultant team, prepared the Draft EIR (see Plan page 210 and EIR page 325).

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B5-10: Comments refer to Marin Municipal Water District's statement that invasive weeds cannot be managed on a large scale without the use of chemical treatment, and allege that this statement is based on a "lack of science."

A report prepared by the Pesticide Research Institute of Berkeley for the Marin Municipal Water District (August 2008) on the herbicide risk assessment for Roundup (glyphosate) concluded that, of all the synthetic herbicides reviewed, "Glyphosate poses the least risk to workers and general public, moderate risk to terrestrial wildlife from direct sprays, and low risk to aquatic species." See also response B5-5.

B5-11: Contrary to this comment, neither the Plan or the Draft EIR state that "these chemicals are safe" as asserted by the commenter. All chemicals used are certified by the State and applied by certified applicators in strict accordance with label instructions. The Plan provides best management practices to avoid potential impacts when using chemicals and the Draft EIR evaluates and mitigates potential impacts associated with the use of chemicals primarily in Sections B. Biological Resources, D. Hydrology and Water Quality and H. Hazards and Hazardous Materials. See response to comment B5-10.

B5-12: Comment is noted. See response to comments B5-6 and B5-7,

B5-13: Comment is noted regarding the "non-monotonic dose response." See Draft EIR Chapter V, Alternatives for a discussion and analysis of the alternatives to the project that were considered in the Draft EIR.

B5-14: The commenter requests additional information regarding chemicals that might be used during implementation of the Plan. Specifically, the commenter requests exact chemical ingredients, cumulative and synergistic effects between all chemicals proposed for use and used in the past in the Fire Plan Study A\area, a discussion of whether the chemicals may be endocrine disruptors or provoke a non-monotonic dose response, and a list of chemicals that have not been fully tested. The commenter asks the basis of the determination of "no significant impact" for chemicals for which either all ingredients are not known or have not been tested for all health concerns.

It is not possible to delineate all the specific chemicals that would be used during the period the Plan would be implemented. As chemical products are developed and reformulated, scientific knowledge regarding chemicals and environmental effects expands, and management requirements on EBRPD lands evolve, it is likely that the chemicals used on EBRPD lands as part of wildfire management activities would change over time.

However, a framework has been established by federal and state regulatory agencies to review and certify the use of specified chemical pesticides, and by EBRPD to prevent significant impacts on human health or the environment as a result of chemical use on park lands. As detailed in Section H, Hazards and Hazardous Materials of the Draft EIR, laws and regulations from the U.S. EPA, California Department of Pesticide Regulation, and County Agricultural Commissioners regulate agricultural chemical use. These laws and regulations are supplemented by EBRPD policies which further restrict chemical treatments during wildfire hazard reduction operations.

As defined in Public Resources Code Section 21080.5, the DPR regulatory program evaluates environmental impacts in a manner functionally equivalent to an Environmental Impact Report (EIR). The DPR regulatory program is designed to study and test agricultural chemicals and mitigate potential environmental effects through established registration, labeling, and application control processes. These processes include adoption of the legally-binding US EPA label that prescribes

limitations on agricultural chemical use and defines required mitigations for proper use. California may add additional restrictions beyond the EPA label and does so through the classification of an EPA-labeled agricultural chemical as a California "restricted pesticide." The DPR process requires site-specific analysis before any agricultural chemical application, via a written recommendation for herbicide use prepared by a licensed pest control advisor. Finally, this program requires that the application of any agricultural chemicals be done by licensed qualified applicators. Through this process, DPR has determined that an agricultural chemical, if applied by a licensed applicator in accordance with its label, will not have a significant impact on the environment.

As detailed in the Hazards and Hazardous Materials section of the Draft EIR, EBRPD policies include an Integrated Pest Management (IPM) program, established in 1987. The IPM program was designed to set a framework for the use of IPM methods within EBRPD lands and to comply with local, state, and federal requirements for pesticide management. The IPM program requires a monitoring program for pests, evaluation of pesticide use by IPM specialists and/or the EBRPD Pest Management Advisory Committee, recordkeeping, public notification, and training. An Annual Pesticide Use report is prepared by EBRPD as part of its compliance with regulatory and EBRPD requirements.

The 1987 IPM program was previously evaluated under CEQA, and is not part of the Plan evaluated in this Draft EIR. The Plan includes additional measures that would further mitigate the potential for chemical use under the Plan to adversely affect human health and the environment. These include recordkeeping requirements, public notification of chemical treatment actions, adherence to EBRPD guidance, restrictions on application during adverse weather conditions, and restrictions on chemical treatments near creeks and water bodies.

The District’s Integrated Pest Management Policy outlines and describes the process of review of a pesticide prior to consideration by this District’s Board of Directors. This review process does include a toxicological review of relevant available documents (EPA, Cal-EPA, Chemical Science) by a State Board certified toxicologist and associated with the California Department of Health Services, Hazard Evaluation System and Information System (HESIS) unit. Given the site specific usage, applicator required training and use of personal protective equipment both Roundup (Glyphosate) and Garlon 4 Ultra (Trichopyr) were reviewed and approved for use in the District’s ongoing fuel management program.

Together, these laws, regulations, and policies would mitigate potential impacts from chemical use during wildfire hazard reduction operations to a less-than-significant level, as stated in the Draft EIR.

B5-15: The commenter requests information regarding effects of chemicals that might be used during implementation of the EBPRD Plan on air quality, climate change, the ecosystem at large, beneficial insects, and non-native species. Refer to Draft EIR page 283 for a list of EBRPD approved pesticides; as stated there, “No category I

(danger) or category II (warning) herbicides are on the Board-approved list of herbicides for EBRPD." Additionally, none of the approved pesticides contain ingredients or would be used in sufficient amounts that would significantly contribute to regional air quality or global climate change impacts associated with the major criteria pollutants evaluated in Section IV.F Air Quality and Global Climate Change (see Table IV.F-1 on Page 240). The Draft EIR on pages 285 to 286 describes and identifies the measures in the Plan to demonstrate how the use of chemicals would not create a significant hazard to the public or the environment (i.e., the "ecosystem at large") which also would include beneficial insects. In general and as stated in the Plan, herbicides would be used on non-native invasive plant species to reduce their incursion and fuel loads. Therefore, it is assumed that the use of chemicals would generally reduce non-native invasive species, as determined necessary by the District. Please also refer to the response to comment B5-14 regarding the laws, regulations, and policies in place to mitigate potential impacts of pest management chemicals on human health and the environment.

B5-16: Draft EIR Section H, Hazards and Hazardous Materials (pages 277 to 288) provides a complete discussion of the potential hazards and hazardous materials and impacts that were identified and evaluated against the stated criteria of significance to determine whether they were "less than significant" or "significant" prior to and after mitigations. The statement identified in the comments means that all of the potential impacts could be reduced to a less-than-significant level after consideration and application of the guidelines and BMPs in the Plan as well as the District programs currently in effect.

B5-17: Comment noted. See response to comments B5-2.

B5-18: See response to comments B5-2, B5-4, B5-8, Master Response No. 3.

B5-19: The commenter claims that "Risk Assessment" is the "methodology used by industry and authors of Environmental Impact Reports." The authors of this EIR do not agree with this statement and did not use "risk assessment" as it appears to be defined by the commenter (i.e., a "methodology that theorizes which risks are "significant" or "acceptable" to those who are paid to evaluate the financial cost-effectiveness of a plan"), especially since financial cost/benefit analysis is not an environmental topic that is required to be evaluated under CEQA. The commenter requests additional information regarding risk assessment and how the determination of "acceptable" and "significant" risk is determined. Chemical risk assessment is not part of the Plan currently under review, although risk assessment is part of the US EPA's decision-making process for pesticide regulation. Please refer to the response to comment B5-14 regarding the laws, regulations, and policies in place to mitigate potential impacts of pest management chemicals on human health and the environment.

B5-20: As identified in the Plan, the District does and will continue to use mowing, burning and hand removal as fuel reduction methods. Table VI-1 of the Plan identifies the relative costs of treatment methods. The District avoids discing as it spreads and broadcasts invasive weeds that then further contribute to the fire hazard. Please refer

to pages 310 to 311 of the Draft EIR for a discussion of why the No Chemical Use alternative was rejected from detailed consideration. In particular, this alternative would contribute to increased wildfire hazards compared to other considered alternatives and the proposed Plan. Chemical treatment is specifically intended to discourage eucalyptus re-sprouts and re-growth of other invasive plants. Areas previously treated by the District where chemicals were not used have reverted to their original high hazard fire condition.

Page 81 of the Plan is revised as follows:

> Hand labor can be the preferred fuel reduction method where heavy equipment use is undesirable or impractical. Hand labor can also be used to remove selected trees and reduce the overall number of trees.Solarization, covering stumps in plastic, hand labor to remove eucalyptus sprouts, high-pressure hot water system, and use of a radiant heat weeder are techniques to be considered as an alternative to chemical use in select circumstances; however, these techniques are generally not cost- effective on a large scale, and have limited applicability in managing large wildland areas with numerous trees on steep terrain.

Chapter V. Alternatives Draft EIR, pages 307 to 312 has been revised and is included in Chapter VI of this Response to Comments Document.

B5-21: Comment noted and also see responses to comments B5-19 and B5-20. While hand labor may provide an optimum solution in some cases, funding limitations limit its use. Furthermore, without chemical application, to permanently stop regrowth, hand-labor alone would require ever-increasing maintenance costs in perpetuity.

B5-22: Comment noted regarding the support for the use of goat herds.

B5-23: Comment noted, see response to comment B5-20. Examples provided are for maintenance work in relatively small, urban areas, not for fuel management projects that may be hundreds of acres in size.

B5-24: Regarding eucalyptus removal, see Master Response No. 3.

B5-25: The Draft EIR evaluated the potential for adverse geotechnical effects such as landslides associated with implementation of the Plan in Section C, Geology, Soils and Seismicity, see especially impact and mitigation measure GEO-1. The Draft EIR evaluated the potential for adverse visual effects in Section I. Visual Resources, see especial impact and mitigation measure VIS-1.

B5-26: Comment noted. See Master Response No. 3 regarding management of eucalyptus and native plant restoration.

B5-27: Comment noted. See response to comment B5-8, and Master Response No. 3 regarding management of eucalyptus and native plant restoration.

B5-28: Comment noted. See response to comment B5-2 and Master Response No. 3 regarding management of eucalyptus and native plant restoration.

B5-29: It is illegal to pick wild plants under the District's regulations (Ordinance 38). Signs advising of herbicide application are posted with sufficient advance notice to enable people to avoid the area, and conforming to State requirements. Public notification and posting are described and discussed under General Practices – Chemical Treatment – (Page 286 of the Draft EIR) and are incompliance with California Code of Regulations (CCR sections 6602, 6618, 6674 and 6678) and title 8 (Cal/OSHA) regulations and Federal Worker Protection standards (40-CFR Part 170) requiring the property owner and applicator(s) to follow the manufacturer's pesticide label, including re-entry interval as listed. In this setting it would also include the public on public lands.

B5-30 Potential impacts to special-status species related to activities associated with the Plan, including chemical treatment, are identified and addressed in Draft EIR Section B, Biological Resources, see especially impact and mitigation measure BIO-4.

B5-31: The Plan and EIR authors disagree with the comment that, "wildfire prevention is not a sustainable or ecologically sound practice." See response to comment B5-4 in regards to State and federal agencies continuing to practice wildfire prevention as a sustainable and sound practice as required by State and federal law. The Draft EIR identified and evaluated potential impacts of the project on special-status species that are fire dependent including the pallid manzanita (see Section B, Biological Resources, pages 129, 139, 164 -166, 175).

B5-32: The commenter asserts that, "the East Bay Hills Fire of 1991 was not a wildfire." See Chapter I, Introduction of the Plan (pages 5 through 9) for a discussion of the history of wildfire and need for the Plan, and Glossary (Appendix A) for the nationally accepted definition of "wildfire." Since the comment poses general questions regarding the fact that cities and counties allow building within the wildland urban interface and does not address the adequacy of the EIR, no further response is required.

B5-33: See responses to comments B5-1, B5-4, B5-5, B5-6, B5-7, B5-8, B5-11, and B5-14.

B5-34: See responses to comments B5-1, B5-4, B5-5, B5-6, B5-7, B5-8, B5-11, and B5-14.

B5-35: See responses to comments B5-1, B5-2, B5-8, B5-20, and B5-25.

Letter
B6

10/30/2009

Brian Wiese, Chief, Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Comments Regarding:

EAST BAY REGIONAL PARK DISTRICT DRAFT WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN ENVIRONMENTAL IMPACT REPORT, July 2009

Dear Mr. Wiese,

My congratulations to you and your colleges in the EBRPD, and the consultants at LSA Associates, for producing this thoughtful and important document. I believe that it contains the essential elements necessary to finally achieve meaningful vegetation management on Park District lands in the East Bay hills.

I have a very few, simple comments to make, specifically relating to vegetation management in the Claremont Canyon Regional Preserve. I'm sure you will agree that this particular park is unique among the Regional Parks in that it lies entirely within the so-called "urban wildland interface". To the north are the facilities of the University of California in Strawberry Canyon. To the south, the neighborhoods of Oakland and Berkeley which burned in the terrible 1991 Tunnel Fire. To the west lies the historic Claremont Hotel and Berkeley's Elmwood District, a neighborhood of great architectural and historical significance— not to mention schools, businesses and homes.

1

The inevitable, Diablo-wind-driven fire in Claremont Canyon threatens all of these cultural resources. Therefore, serious fuels-management is necessary in nearly every part of Claremont Canyon, to reduce the severity of such a fire, and create conditions necessary for its possible containment. So far, management efforts have been minimal in the areas of the canyon belonging to EBRPD. This is partly due to lack of funding, but also partly to a misunderstanding of the notion of a "preserve".

It is a commonplace in some quarters to equate preservation with neglect. Under this theory, whatever vegetative succession occurs more perfectly recreates a "natural", prelapsarian state. Unfortunately, this ignores the missing elements of the landscape, particularly grazing (historically by livestock, earlier by elk, et c.) and fire (both natural and anthropogenic). Proper habitat management seeks to restore the effects of these natural (if "destructive") processes, periodically reinvigorating the overall environment. To do nothing is to in fact encourage an unnaturally dense fuel load, composed initially of dense scrub, then eventually closed-canopy

Letter
B6
cont.

woodland. Both of these climax vegetation types are heavy in fuels, and low in biological diversity, relative to a mosaic of coastal scrub, grassland, and riparian woodland.

For these reasons I support the recommendations in this document for the restoration of mixed grassland/coastal shrub on the north slope of Claremont Canyon, particularly in Polygon CC011. I also support the creation of a Strategic Fire Route to access this area, both for fuels-reduction and (potentially) for firefighting.

1 cont.

I understand that grazing will be an essential element of maintaining any restored grasslands in Claremont Canyon, and I support this. However, I encourage the Rangeland Manager to select grazers that promote the survival of the native perennial bunch-grasses, native forbs and shrubs. This may be cows, or sheep, but NOT goats. Close observation of goat-grazing over the years has convinced me that, as indiscriminate browsers, they reduce overall species diversity and encourage weed infestations.

2

I would like to point out that there is an excellent alternative to goat-grazing in areas where other livestock is impractical. Humans! Hand-crews using appropriate power tools can accomplish the necessary fuel reduction on any kind of slope, much more efficiently, and with much less loss to desirable species. I encourage you to revisit the economics of this option, keeping the long-term health of the Preserve in mind.

Finally, I also encourage the EBRPD to abandon the notion of the "managed eucalyptus forest", except in very restricted, historical stands (such as Kennedy Grove). The Tasmanian blue gum (in addition to being dangerously fire-prone) is an extremely aggressive species, and is always one step ahead of any "management", according to my observations over the years. Total eradication should be the goal.

3

Thank you again for your tremendous efforts!

Martin Holden
Director (and former President) of the Claremont Canyon Conservancy
70-100 Stonewall Road
Berkeley, CA 94705

LETTER B6
Claremont Canyon Conservancy
Martin Holder, Director
October 30, 2009

B6-1: Comments regarding the Plan containing the "essential elements necessary to finally achieve meaningful vegetation management on Park District Lands in the East Bay Hills" are noted. Additionally, comments on the Plan concerning Claremont Canyon and support for restoration of mixed grassland/coastal shrub on the north slope of Claremont Canyon, particularly in RTA CC011 and for the proposed strategic fire route, are noted.

B6-2: Comment regarding concerns with the use of goats as grazers (because they are "indiscriminate browsers,") and support for hand crews is noted. Please see responses B1-10, B3-5, B3-10, and B7-8.

B6-3: Comment that the District should "abandon the notion of the 'managed eucalyptus forest' for blue gum eucalyptus and that "total eradication should be the goal" is noted. See also Master Response No. 3.

Letter
B7

THE CLAREMONT CANYON CONSERVANCY
P.O. Box 5551
Berkeley, CA 94705-5551

RECEIVED
OCT 30 2009
PLANNING / STEWARDSHIP

October 30, 2009

Brian Wiese,
Chief of Planning and Stewardship
East Bay Regional Park District
Box 5381, Oakland, CA 94605

Re: Draft Wildfire Hazard Reduction and Resource Management Plan and Draft EIR

Dear Mr. Wiese:

We extend our thanks for the district's one-month extension to the public comment period. It has allowed us to study the project polygons and scope of work much more carefully.

We would also like to extend our heartfelt congratulations and appreciation to LSA Associates and the park district for doing a thorough and thoughtful job in preparing this long-awaited 820 page Draft Plan and Draft EIR. **1**

Our concerns and the reasoning behind those concerns are as follows:

In broad overview of the Draft Plan and EIR, we first would like to call attention to what we believe to be the district's broad responsibilities for the Claremont Canyon Regional Preserve. The foundation document for the Canyon – "Land Use Development Plan and Environmental Impact Report" – was approved by the district on September 26, 1985. On page 35 it unequivocally states that "the purpose of a Regional Preserve is to protect features of outstanding elements of natural or historic significance, making them available for the enjoyment and education of the public". We understand the outstanding value of Claremont Canyon to be in its open space and native wildland. These are the public resources that we are all committed to preserving. **2**

We observe that the Draft Fire Plan and EIR contain several recommendations that significantly impact Canyon resources and are questionable as to their manageability and sustainability in the future.

We are seriously concerned with the proposed new "strategic fire route" that begins near the "Marron House" and winds its way across the center of the Canyon and up to the ridge top. Neither the Plan nor the EIR contains a statement of the rationale or justification for this major project in Claremont Canyon Regional Preserve. **3**

The technical and engineering feasibility of such a road, in our view, is questionable given the nature of the terrain. We observe that much of this terrain is 50% or greater in slope. We are concerned with the ecological integrity and stability of this slope, the likely introduction of invasive species and other environmental impacts of such a road. The cost/benefit of such a road, which must be considered, remains unstated in the district's plans.

The initial treatment and maintenance area designations for the polygons were also confusing and not **4**

helpful in specifying where new projects are proposed or where ongoing maintenance would happen without further notice. We note this confusion in the paragraphs below. **4 cont.**

One maintenance polygon (CC002) is correctly labeled and four maintenance polygons are incorrectly labeled. We understand that small projects have been started at the edge of polygons CC007, CC009, CC010, and CC011, but the work was not of sufficient scale to label the entire polygon as a maintenance area. In a similar fashion, four initial treatment polygons (CC001, CC003, CC008, and CC012) do qualify as maintenance polygons. All have had substantial work done that is consistent with the recommended plan. **5**

We discovered other specific examples of problems that occur in the Vegetation Goals, Considerations, and Guidelines section of the Resource Management Plan for Claremont Canyon.

Below are our comments for the 12 Polygons shown on Figure III-7.

CC001 (Stonewall area): This polygon is labeled an initial treatment area, but has in fact had substantial work done in the past 20-30 years. We agree with the stated vegetation management goal. Our membership overwhelmingly supports the removal of eucalyptus from Claremont Canyon. Therefore, we support the recommendation to remove eucalyptus trees within 200' of residences and to manage this area as a grassland fuel break. The lower section of this eucalyptus grove was thinned in the 1970s with more work required in the upper portion of the grove. Pile burning to remove branch and ground fuel has occurred on a number of occasions over the last 30 years, but to achieve the intended reduction in wildfire risk, the control of ground fuels will need to occur on a more predictable schedule if the grove is to be retained. All pine trees, pittosporum and clumps of pampas grass should be removed and a reasonable clearance of native shrublands created and maintained above the grove to reduce the chance of wind-driven wildfire spreading into eucalyptus tree crowns. **6**

CC002 (Panoramic area): We agree with the stated vegetation management goal, considerations and guidelines. In our opinion, this is the only place in Claremont Canyon Regional Preserve where goat grazing seems advisable due to the steep terrain, absence of diverse flora and the presence of residential structures directly above a steep, mostly grass-covered slope. **7**

CC003 (East-West Trail ridge line area): This polygon is labeled an initial treatment area, but has in fact had substantial work done in the past 20-30 years. We agree with the stated vegetation management goal for this area that has been managed as grassland for years with an increase in the invasion of French broom. Unfortunately stable shrub lands were encroached upon with brontosaurus work during the 2003 FEMA/US Fish and Wildlife Alameda Whipsnake Research Project, allowing even more broom to invade. Continued management of grassland using weed eaters along with hand work and chemical treatment of broom is appropriate. However, goat grazing and prescribed fire should not be management options for use in this area of Panoramic Ridge. **8**

Most of the Polygon is a mix of annual grasslands, French broom, and native shrubs. Goat grazing and fire will result in greater intrusion of non-native invasive plants. The use of prescribed fire is also risky and not appropriate on this ridge top polygon where fire truck access is limited to nonexistent on the steep hillsides that are subjected to unpredictable wind patterns. We are aware that the district has had success in the use of prescribed fire in the larger grassland parks that are far from the urban interface, but has not developed the skill or resident confidence to use this tool in the interface parks that are included in this study. We also understand that a relatively simple grass burn in Tilden in the fall of 2008 escaped and burned toward Orinda before control was established.

In our opinion, the district needs to manage its fuel break and grassland/mixed shrub areas using knowledgeable staff or contract hand crews and forget about using goats in areas where handwork is feasible. Neither the plan nor draft EIR justifies the use of goats from an environmental perspective, **9**

and the long-term impacts on park aesthetics and costs differences are also not justified. **9 cont.**

CC004 (Mid-Canyon eucalyptus area): We support the vegetation management goal for this polygon and the removal of all of the eucalyptus trees. Eucalyptus should be removed in the same way the district did with the FEMA project in 2008 at the west end of this polygon. Removing 50% of the trees in multiple stages will double or triple both fiscal expense and environmental costs. If 50% of the trees remain for any period of time, the maintenance costs for pile burning (we don't support prescribed fire under eucalyptus on steep slopes above homes) will occur every five years, and control of eucalyptus resprouts and seedlings will be more difficult and prolonged. A single-stage removal contract will save money, reduce impacts for traffic on Claremont Avenue and reduce environmental impacts by allowing the native understory vegetation that exists within the grove to recover more rapidly. **10**

CC005 (Mid-Canyon area above private eucalyptus): We support the vegetation management goal for this polygon and recommend that experienced and knowledgeable staff or contract crews do the work by hand. We see a conflict between the vegetation management goal and the composition of the polygon. The goal is bay oak woodland but it contains a eucalyptus forest. **11**

CC006 (between houses on Claremont Avenue): We support the vegetation management goal for this polygon, but object to using goats. Goat grazing will result in intrusion of weeds that will only require extended and costly management, and should not be considered in this area of mostly closed canopy shrub land. Any required fuel reduction and thinning should be done carefully with hand crews and weed eaters. **12**

CC007(Upper Cardiac Hill trail area): This polygon is incorrectly labeled a maintenance polygon. We understand that small projects have been started at the edge of this polygon, but they were not of sufficient scale to label the entire polygon as a maintenance area. We believe that work in this polygon should be completed in accord with roadside treatment standards from the ridge top to Stonewall Grove. We object to the use of grazing and prescribed fire in this polygon. **13**

CC008 (Gelston house area): This polygon is labeled an initial treatment area but has in fact had substantial work done in the past 20-30 years. We support the vegetation management goal and the considerations and guidelines recommended for this polygon. All aspects are appropriate to create the required defensible space for the Marron House. **14**

CC009 (Gwin Canyon): This polygon is incorrectly labeled a maintenance polygon. We understand that small projects have been started at the edge of this polygon, but they were not of sufficient scale to label the entire polygon as a maintenance area. We support the vegetation management goal for this polygon. However, we have several comments and concerns about the ideas listed under considerations and guidelines. We recommend that the district continue to manage flammable vegetation for the first 30 feet below Grizzly Peak Boulevard and Marlborough Terrace. We also recommend that the district work with the homeowners along the west side of Gwin Canyon to create and regularly maintain a fuel break of 100 to 200 feet in width below homes. French broom and mayten are currently the most serious fire and exotic plant threat to a healthy native plant community in Gwin Canyon that will require concentrated and aggressive management. Tamia Marg removed all of the broom that appeared after the 91 fire on her family's 15 acre property using a combination of selective herbicide and hand labor, and continues to maintain it broom-free with vigilant monitoring to keep broom seedlings from re-establishing themselves. We suspect that broom seed dispersal onto disturbed soils on district land after the 1991 fire has created the major problem that the district now faces. We do not believe prescribed fire is appropriate or safe in this Canyon given the amount of broom and the development stage of vegetation that exists eighteen years after the last fire. We recommend that contract hand crews and a qualified herbicide contractor be retained to reduce fire and eliminate broom and other invasive plants in the Canyon. **15**

CC010 (area between Gelston and Hemphill) and CC011 (Northern Uplands area): We assume polygon #10 is the area from the old pipeline road down to Claremont Avenue. These polygons are incorrectly labeled maintenance polygons. We understand that small projects have been started at the edge of these polygons, but they were not of sufficient scale to label the entire polygons as maintenance areas. We recommend that these two polygons be dropped to allow a natural and healthy shrubland to develop and exist in the central area of Claremont Canyon Preserve. Broom removal and control should happen in these areas as well as where ever required in the Preserve without the designation of a polygon. The vegetation goal in CC011 to convert the polygon to a grassland is unrealistic as is the recommendation to keep shrub land cover under 30%. We also believe prescribed fire is not appropriate or safe for this location. **16**

CC012 (near KPFA tower): This polygon is labeled an initial treatment area, but has in fact had substantial work done in the past 20-30 years. We support the vegetation management goal and the considerations and guidelines recommended for this polygon. A large pine tree grove on the ridge burned and reseeded after the 1970 fire with surviving 20' tall trees removed following the 1991 fire. This ridgetop is a key fuelbreak for fires coming off Fish Ranch Road and should be managed as a scattered shrubland of monkey flower and ocean spray with open grasslands along its rocky slopes. French broom needs to be eliminated and remaining pine removed as recommended. **17**

Thank you for the opportunity to make comments and suggestions. We look forward to working with the Park district as planning and implementation steps move forward.

Sincerely,

Barry Pilger
President
Claremont Canyon Conservancy

LETTER B7
Claremont Canyon Conservancy
Barry Pilger, President
October 30, 2009

B7-1: Comments regarding the extension of the comment period, and congratulations and appreciation for the "thorough and thoughtful job in preparing" the Plan are noted.

B7-2: Comments concerning the District responsibilities for the Claremont Canyon Regional Preserve as stated in the District's Land Use Development Plan and EIR are noted.

B7-3: The commenter requests a statement of the rationale or justification and a cost/benefit analysis for the proposed strategic fire route in Claremont Canyon (shown in Figure III-7), and identifies concerns regarding the strategic fire route, and suggests that the technical and engineering feasibility of such a route is questionable. The potentially significant effects associated with the proposed fire route and the cumulative effects associated with fuel reduction activities in adjacent RTAs were identified and evaluated in the Draft EIR (see especially Impacts and Mitigation Measures BIO-3 and GEO-1). As the Plan is a system-wide and more general document, providing an engineering analysis for the proposed trail is beyond the scope of the Plan. If the District decides to move forward with construction and design of the proposed strategic fire route, it will determine if any potentially significant impacts that were not considered or are more substantial than those identified in the Draft EIR would occur, and would prepare the appropriate CEQA document, if necessary. See also Master Response No. 1.

B7-4: The commenter notes that the treatment designations for RTAs within Claremont Canyon (shown on Table III-2 of the Plan and EIR) were confusing as an introduction to the following comments.

B7-5: The commenter suggests that treatment designations, vegetation goals, and considerations and guidelines for RTAs within Claremont Canyon (either Initial Treatment or Maintenance as defined on pages 29 through 33 of the Draft EIR and shown on Table III-2 of the Plan and EIR) be revised or updated. See Master Response No. 2.

B7-6: Comments regarding CC001 are noted and will be taken into consideration by the District and consultant team.

B7-7: Comments regarding CC002 are noted and will be taken into consideration by the District and consultant team.

B7-8: Comments regarding CC003 are noted and will be taken into consideration by the District and consultant team. The Draft EIR evaluated the potential environmental effects associated with grazing and prescribed burning (see especially sections B. Biological Resources, F. Air Quality and Global Climate Change, I. Visual Resources, and revised Chapter VI. CEQA-Required Assessment Conclusions in Chapter IV of this document).

The "Considerations and Guidelines" for CC002 state, "Consider grazing." Goats are not specified, and grazing is not required. Furthermore, the polygon does not appear to host any special status plant occurrences that could generate conflicts with grazing, even with goats. So it is unclear to the District what the basis for the commenter's objections are. Grassland and oak-bay woodland are the vegetation goal for this polygon. Grazing is an appropriate tool for maintaining both vegetation types, and should not be precluded.[13] Prescribed burning includes piling and burning of unwanted fuels, including limbs, tops and other material from forest vegetation, such as pines and eucalyptus found in this polygon. Prescribed burning of piles adjacent to a road and along a ridgeline is a proven tool that has been used successfully for decades.[14] Prescribed broadcast burning is an important tool to use for maintaining grasslands and oak woodlands.

B7-9: The use of grazing as a fuel reduction method was identified in Plan Chapter IV. Fuel Treatment Methods, section 5. Grazing, pages 105 to 108 and Appendix D: Fuel Treatment Methods, and evaluated in the EIR, see especially Section IV.B pages 166 and 170 regarding potential impacts to vegetation types related to the use of goats for grazing. The District notes that it considers grazing as an appropriate tool for reducing fuels and maintaining certain vegetation types. See response to comment B7-8 and Master Response No. 3.

B7-10: Comments regarding CC004 are noted and will be taken into consideration by the District and consultant team.

B7-11: Comments regarding CC005 are noted and will be taken into consideration by the District and consultant team. See also response to comment B7-5 and Master Response No. 2.

B7-12: Comments regarding CC006 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8, B7-9 and Master Response No. 2.

B7-13: Comments regarding CC007 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8 and Master Response No. 2.

[13] Swanson, John. Assistant Fire Chief EBRPD. Personal communication with LSA Associates Inc. January 2010.

[14] Ibid.

B7-14: Comments regarding CC008 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8 and Master Response No. 2.

B7-15: Comments regarding CC009 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8 and Master Response No. 2.

B7-16: Comments regarding CC010 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8 and Master Response No. 2.

B7-17: Comments regarding CC011 are noted and will be taken into consideration by the District and consultant team. See also responses to comments B7-5, B7-8 and Master Response No. 2.

Letter
B8

Executive Summary of Measure CC Plan/EIR Comments Submitted by the Hills Conservation Network

10/30/09

As members of the Hills Conservation Network, we live in the wildland-urban interface close to many of the East Bay Regional Parks District lands. Most of us live within the area that burned in the 1991Tunnel Fire, and many of us lost our homes in that fire. We studied the Plan/EIR with great interest and hope because we are deeply concerned with the EBRPD's efforts to mitigate fire in its parklands.

As detailed in our lengthy comments below, we believe that the Plan and EIR are seriously flawed. We are therefore requesting that the plan be rewritten to correct internal inconsistencies, and that the EIR then be revised to correct numerous substantive flaws and incorporate realistic alternatives that would meet most of the project's goals while reducing the adverse impacts of the Plan. At that time the EIR must be recirculated per CEQA guidelines, as we have detailed in our comments below. **1**

Although the EIR has fatal flaws unrelated to the Plan, it also is flawed in that the underlying Plan is fundamentally flawed. The Plan mis-states the intention of Measure CC, wildfire protection, by adding a second goal, native-plant restoration, that is not mentioned in Measure CC. This results in a flawed CEQA purpose and need statement, which, in turn, leads to the EIR rejecting otherwise feasible alternatives. We realize that the preservation of native plants is part of the EBRPD's mission, but the mission of fire mitigation is what citizens voted for. Attempting to combine the two missions results in a lack of clarity, and in the consideration and selection of a suboptimal "preferred" alternative. As a direct result of the mischaracterized project objectives, the current "preferred" alternative is not only less than ideal from a fire-risk mitigation perspective, but is also unnecessarily expensive and results in extensive environmental damage. **2**

Throughout the Plan/EIR, there are unsubstantiated assertions that display a strong and consistent bias. Assumptions are made that are not supported by factual, objective, and verifiable evidence. In particular, the Plan/EIR repeatedly and erroneously asserts that native plants are inherently more fire-resistant than non-natives, that there is a relationship between being "native" and being fire-resistant. **3**

We have organized our comments as follows:

- A list of unsubstantiated assertions in the Plan/EIR. These assertions, which underlie the alternatives offered by the EIR, are arbitrary, unsupported, and do not constitute the "substantial evidence" required by CEQA.
- Comments on EBRPD's Best Management Practices. CEQA requires that the EIR must demonstrate an analytical trail showing how a particular BMP results in a particular outcome. It is not permissible under CEQA to simply assert, as the Plan/EIR does, that a mitigation measure

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isn't required because a BMP is being employed, without identifying the BMP and clearly describing how the use of this BMP would result in the desired outcome. But this is what the EIR does.

- A description of the basic conflict in the Project Description. The Plan document appears to be directed towards native-plant restoration, while fire-risk mitigation is the goal of the EIR.
- A detailed discussion of the deficiencies in the Plan/EIR's technical analyses of impacts, and mitigation measures: Biological Resources; Geology, Soils, and Seismicity; Hydrology and Water Quality; Air Quality and Global Climate Change.
- A discussion of inconsistencies and deficiencies of the inputs to the FlamMap program, which appear to have been manipulated to achieve a predetermined outcome and, in any case, are unevenly applied and skewed. CEQA requires that there be a clear chain of evidence to support the selection of the "preferred" alternative. This chain of evidence does not exist in the Plan/EIR.
- An evaluation of the five alternatives that the EIR considered (but did not actually analyze). We found that the EIR did not adequately analyze a range of reasonable alternatives as required by CEQA. In addition, the EIR fails to identify an environmentally superior alternative other than the No Project Alternative and the proposed project.
- Identification of a true "environmentally superior" alternative, as required under CEQA. This alternative achieves better fire-risk mitigation at a lower cost and with far fewer adverse environmental consequences than the EIR's "preferred" alternative.
- Identification of fatal deficiencies in the EIR's cumulative impacts from other vegetation management projects combined with those that EBRPD has proposed in this Plan/EIR. In this section we provide a brief synopsis of the cumulative effects that the removal of tens of thousands of mature trees will have on the environment. The EIR, however, fails to actually assess many of the cumulative impacts of the extensive list of projects either completed or planned for the East Bay Hills.

4 cont.

In conclusion, our review and the attached comments clearly show that the EIR does not meet even the most basic CEQA analytical and disclosure requirements. It must be rewritten to correct the myriad deficiencies highlighted above and detailed herein, and recirculated for public review. In addition, the Plan should be revised to comply with Measure CC requirements for appropriate expenditure of public funds. We look forward to continuing to work with the District in pursuit of a Plan that resolves the fire issues while respecting the environment, and an EIR that complies with the CEQA statutes and Guidelines.

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cont.

Comments on Plan/EIR for "Draft Wildfire Hazard Reduction and Resource Management Plan"

1. The EIR is insufficient because it reaches conclusions based on erroneous assumptions and questionable sources. The use of these unsubstantiated assumptions has a direct bearing on the alternatives offered and hence on the overall quality of the EIR.	
UNSUBSTANTIATED ASSERTIONS IN THE PLAN:	PAGE #
The Executive Summary states that "the primary purpose of this Plan. . . is to protect lives, property and natural resources from a catastrophic wildfire." In the next sentence, it states a different purpose: to provide "Best Management Practices" and guidelines intended to "protect environmental values and enhance and preserve habitat for native plants and wildlife species." The concern with this is that there is a lack of clarity as to the purpose of this Plan, leading to the inability to properly assess the adequacy of the EIR.	Executive Summary E-4
The Introduction claims that a "wildfire assessment process" has identified areas with vegetation that would produce "a flame length over 8 feet in height or that would generate a large number of embers and firebrands . . ." According to the Hills Emergency Forum (HEF), ***all*** vegetation except redwoods and riparian forests has the potential for producing a flame length of more than 8 feet. Also, many types of vegetation, as well as parts of burning houses, especially wood shingles, and even book pages, generated embers and firebrands during the 1991 Tunnel Fire. Please provide evidence for the erroneous assumption in this Plan that specific types of vegetation (unidentified at this point in the Plan) that could exceed an 8-foot flame length can be singled out as the only species that generate embers and firebrands. Please provide documentation comparing the firebrand-throwing capabilities of various types of vegetation.	Intro. 1-2
The sidebar "Blue Gum Eucalyptus: A Wildfire Threat" is a propaganda piece that singles out blue gum eucalyptus without any evidence supporting the biased statements that are presented as "facts." Please provide the name and credentials of the author who wrote this piece and explain how these questionable sources qualify as "experts." The sidebar contains the following unsubstantiated and false assumptions: • that there is oil in leaves, bark and seedpods that ignites readily and is conducive to ember "spotting." There is oil only in the leaves, which are flammable, but they also contain 50% water. (See References: Dhanya Joy, "What Do Koala Bears Eat?") The euc leaves' water content and relative thickness make them more fire-resistant than "fine fuels" such as grass and chaparral, for instance. (See References: Nature Conservancy article "Eucalyptus Globulus" in *Bugwood Wiki*.) There is no evidence presented	Intro. 3

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for the charge that euc embers spot more than embers from other vegetation types. See comment above.

- that eucalyptus duff is more flammable and releases twice as much heat as a grassland fire. When and where was the experiment performed that resulted in this conclusion? Please provide figures that compare the heat released from a grassland fire with the heat released from eucalyptus duff.
- that the height of eucs contributes to fire spread and that their tops, when ignited, are dangerous for firefighters to extinguish. The EIR has no evidence that a crown fire in a eucalyptus grove is more difficult to extinguish than a crown fire in a pine, oak, or redwood grove. Singling out eucalyptus trees is a clear instance of bias against this species. Pines, oaks, and redwoods can and do grow to the height of eucalyptus trees. It is common knowledge that a grassland or chaparral fire is more difficult to extinguish than a fire in a euc grove. (See HEF Management Recommendations for information on dangers of grassland fires.)
- that euc limbs break more easily than the branches of other trees. The EIR lacks any evidence supporting this biased statement that euc limbs (in the absence of several days of below freezing weather as happened in the early 1970s) break and fall more easily than oak (fell 8/31/2009 on a patrol car in Atlanta; *Atlanta News*), pine (fell 4/3/2009 on a child in Santa Rosa; More Marin.com), or redwoods (a branch fell 4/14/2008 and killed a woman in San Francisco; *SF Chronicle*). See p. 58 of *Plants of the East Bay Parks* by Dr. Glenn Keator for ***facts*** about why *coast redwoods* topple over more easily than other tree species. Unlike the writers of the Plan's propaganda piece, Dr. Keator, a teacher, writer, botanist and expert on plants and trees of the East Bay, says nothing biased or negative about eucalyptus trees when he describes them on p. 52 of his authoritative book.
- that euc leaves contain calcium that creates an allelopathic effect as the leaf litter decays. Please supply an analysis of the allelochemicals in euc leaves compared with the leaves of other trees to prove this claim.
- that euc flowers suffocate birds. This is hearsay based on the reports of two writers who have not produced any "suffocated" birds for examination or autopsy as evidence for their claim. David L. Suddjian, a biological consultant (see References) writes ". . . in my experience, and the experience of a number of other long time field ornithologists, we have seen very little evidence of such mortality." Evidence to the contrary: Euc flowers do ***not*** have deep throats like morning glories or trumpet vines. They are flat and fluffy like chrysanthemums. (That is why butterflies prefer to perch on them in the winter—because they are flat.) Euc flowers are not filled with gum, and they are not sticky. The key here is that the EIR's conclusions are arbitrary and unsupported and, therefore, do not constitute the required "substantial evidence."
- that euc trees create "bird sinks" by giving birds a false sense of security for nesting. Where are the Point Reyes Observatory's reports on the fallout rate of hummingbird nests? According to the Nature Conservancy article "Eucalyptus Globulus" in *Bugwood Wiki* (see References) and in David L.

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Suddjian's article (see References), more than 100 types of birds (in addition to Anna's hummingbirds) nest safely in eucalyptus trees, or feed on nectar or insects at the flowers. Some of the birds that prefer eucalyptus flowers listed in either the Nature Conservancy article or the Suddjian article: brown creepers, robins, chickadees, red shafted flickers, Bewick wrens, house wrens, starlings, downy woodpeckers, ruby-crowned kinglets, Western tanagers, orioles, red-tailed hawks and great horned owls. Suddjian's article references Stephen Rottenborn's article in *Journal of Raptor Research* 34:18-25. "Rottenborn found that hawks nesting in eucalyptus and other exotic species were found to have higher breeding success, due to better stability and cover provided by those trees compared to native species." Please provide evidence for the statements made in this biased sidebar. Such unsubstantiated "information" has no place in a report that should be scientific and based on objective evidence. This bias influences the treatment/maintenance decisions in the EIR and suggests that many of the conclusions in the EIR are based on prejudices against non-native species. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.		**11 cont.**
Where is the evidence for the description of eucalyptus trees as "highly flammable"? What are the "fuel characteristics" of eucalyptus trees and Monterey pines that present "wildfire threats in EBRPD parklands"? The Plan/EIR presents no analysis of the ember production or duff production of these trees vs other species of trees; resprouting vigorously is ***not*** a fuel characteristic, nor is continued growth of understory vegetation. The shade canopy that eucalyptus trees provide actually reduces ladder and ground fuels. The Plan/EIR makes the unsubstantiated assumption that eucalyptus trees are more flammable than other species, and then distorts the facts to justify its preconceived and biased assumptions. The oily leaves of eucalyptus trees do make them flammable, but their height, relative lack of understory, and thick hardwood trunks make eucalyptus trees more fire-resistant than other species. What about poison oak, bays, coyote brush and other oily species? This Plan assumes that everyone agrees with the notion (presented without proof) that eucalyptus trees are inherently more flammable than other species, when both grasslands and chaparral have higher potential flame lengths than eucs, and are "fine fuels" that are much easier to ignite than either eucalyptus trunks or eucalyptus leaves.	Intro. 3	**12**
Unsubstantiated; no evidence provided for statement that "managing vegetation to achieve . . .high levels of biodiversity but inherently low fire hazards is more effective over the long term than the occasional treatment and/or ongoing maintenance of high fire-hazard vegetation such as . . . thick groves of resprouting young eucalyptus trees." Where are the comparative analyses of the costs that would prove that one fuel management is less expensive than the other?	Intro. 4	**13**
The evolution of "native vegetation of the East Bay Hills" is described without any definition of what is "native." Is it vegetation that was here 200 years ago? 500 years ago? This description goes on to state that eucalyptus groves "pose a high fire hazard" and that large, "unmaintained groves of eucalyptus are recognized	Intro. 5	**14**

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cont.

worldwide as high fire-risk areas. . ." No evidence is given to support this assertion. There is no mention of highly flammable, fire-dependent chaparral/brush, grasslands, and oak-bay woodlands that create thousands of fire-risk acres and are responsible for most of the recent fires in California. There are many more acres of chaparral/brush and grasslands on EBRPD parklands than eucalyptus groves.		**14 cont.**
Once again, "groves of unmaintained pine or eucalyptus" are blamed for increased fire risk. Why doesn't EBRPD maintain these supposedly hazardous groves by thinning them and removing the understory and litter? There is no evidence given that removing the non-native trees is more cost-effective than maintaining them in a fire-safe manner. Our proposed alternative is both more cost-effective and less environmentally destructive than the alternative selected in the EIR, and, as such, it needs to be analyzed.	Intro. 6-7	**15**
The Plan suggests, without evidence, that the 1991 Tunnel fire was caused by pines and eucs. Blaming the eucs for that fire—and apparently for any future wildland fire in the North Hills—is repeated over and over as if it were unassailable truth. Yet the fire departments' online reports immediately after the fire state that the fire started in brush, and they do not mention the eucs as a major factor in spreading the fire. (See References: OES, California, The East Bay Hills Fire.) Mentioned as major factors were the overall fuel load, including native oaks and bays as well as pines and eucalyptus, dry grass and brush, wood-shingled roofs, narrow roads, communication problems, electricity and water problems, the heat of the day, and the Diablo wind. But since the Plan seeks to claim that pines and eucs were responsible for that fire, it should report where groves of pines and eucs were located at the time of the fire, and how the fire supposedly spread through the non-native trees. In fact, The 1991 fire rapidly became a structure fire, with one wooden house, surrounded by flammable brush, igniting the next. (See References: FEMA, US Fire Mitigation Report 919.)	Intro. 8	**16**
The Plan should present an analysis of the carbon sequestration in the trees that EBRPD would cut down. Otherwise, the claim that a Diablo wind-driven fire would "negate any carbon sequestration benefits that currently exist" is completely unsubstantiated. It is also an example of an erroneous temporal baseline. California law mandates that setting is the on-the-ground condition at the start of the EIR process.	Intro. 8	**17**
The Introduction includes the Angel Island Wildfire as a case study that erroneously claims to prove the virtues of fuel management involving the removal of eucalyptus and pine trees. The sidebar claims that the fire would have been worse if the eucs and pines had not been removed. Such tortured logic belies the facts and is an example of both bias against non-native trees and conclusatory analysis (not acceptable to CEQA). Before the removal of the non-native trees, there had never been a large fire on Angel Island. 80 acres of eucalyptus trees were removed before the fire broke out in October of 2008. Only 6 acres of eucs are left on Angel Island. In the absence of shade canopy provided by the eucs, 400 acres of native grasslands had replaced the trees, and that is what burned. In fact, the fire did ***not*** burn the euc forest that remained. It stopped at the edge of the euc forest. (See	Intro. 9	**18**

References: Zito, *SF Chronicle*, October 14, 2008, and Fagan, *SF Chronicle*, October 15, 2008.)		**18 cont**
The Plan/EIR makes the unsubstantiated assertion that one plant community is more natural than another. What is the definition of a "natural plant community"? What makes one plant community more "natural" than another? What is a "naturalized species" and how long must a species be here before it is classified as "naturalized"? These terms should be defined in the Glossary, Appendix A of this Plan. Assuming that there is a hierarchy of plants, with native plants somehow superior to non-natives for this wildland-urban interface, despite the flammability of many native plants, is irrational, biased, unscientific and totally lacking in objectivity.	Intro. 14	**19**
The Plan/EIR assumes, without any evidence, that protecting and restoring native species will reduce fire risks and is cost-effective. Why does the Plan/EIR reference the unscientific CNPS Green Paper, which is clearly an effort to lobby EBRPD, a public agency that should resist such pressures? Measure CC says nothing about restoring native plants, and it is highly doubtful that taxpayers would have passed Measure CC if they had known that their money would be used not for fire mitigation but to restore native-plant landscapes.	2. Goals, Objectives, Guidelines GOG19	**20**
Eucalyptus and Monterey pines once again are vilified for being "associated with threats from torching and crown fires that cause ember flight." The fact that no other tree or plant species is associated with torching, crown fires and causing ember flight is a clear case of bias. Why do new treatment areas focus on eucalyptus and Monterey pine assuming that they are associated with threats from torching and crowning fires? Please provide evidence that pines (What kind of pines? Most pines in this area are not Monterey pines) torch more than other species such as cypresses, bays, oaks, and redwoods. In a Diablo wind-driven fire, if the understory has not been removed and ladder fuels eliminated, any tall tree (or chaparral or tall, dry grass—native or non-native) will crown, torch, and cause ember flight. Why does the Plan continually present opinions and assumptions as if they are factual truths? This sort of "information" about torching and crowning is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	GOG 24, 26	**21**
All vegetation considered on p. 26 (shrubs, grassland, oaks, bays) has a potential flame length that is higher than eucalyptus. There is no rational evidence given for singling out eucalyptus trees for removal. Why is it not possible for fuel management to be species-neutral since, according to the HEF, shrubs, grasslands, oaks, and bays all have a potential flame length of more than 8 feet?	GOG 26	**22**
"The following areas were given greater emphasis in assessing wildfire hazards. . . Areas of vegetation with the potential to produce greater than 8 foot flame lengths." But almost all species (except redwoods and riparian forests) produce such flame lengths. There is no evidence given for singling out non-native species for special attention. Why were fuel characteristics accepted by nationally known fire experts (See References: Jon Keeley, Richard Halsey, J. Douglas Doran) not used instead of	3. WHA Summary 31, 37, 41	**23**

fuel characteristics invented by local experts who are biased in favor of native species despite their flammability?		**23 cont**
Wildcat Canyon Regional Park WC011 The desired outcome is an "emerging and established oak woodland, grasslands where no trees exist." There is no proof that oak woodland and grasslands will be more fire-resistant than the vegetation presently at this site. In addition, oak woodlands, by definition, contain trees; this sentence makes no sense.		**24**
Tilden Regional Park TI003, TI005, TI006, TI007abc, TI009, TI014, 16-19 The objectives here, to remove eucalyptus groves and replace them with the oak-bay monoculture, show a clear bias against non-native trees. While personal or institutional bias is unavoidable, this bias must be isolated from the EIR analysis, but in this case it was not. It appears that the objective of this EIR is to justify native-plant restoration despite the evidence that the bay-oak woodland could become a hazardous wasteland due to Sudden Oak Death, that bays and oaks have a potential flame length of more than 8 feet, and that the work could result in heightening, not lowering, the fire risk.		**25**
Claremont Canyon Regional Preserve CC001, CC03, CC04, CC05 There is no evidence that destroying the tree canopy here and in the other areas listed for Claremont Canyon would result in a lower fire risk. (Note: Most of this work appears to have already been done.)		**26**
Huckleberry Botanic Regional Preserve 001 There is a clear bias here in removing non-native species to replace them with native plants and trees. There is no proof that removing only certain species in a fire break will work, especially if the native species left in the fire break are highly flammable. Promoting one species over another has nothing to do with mitigating fire risk.		**27**
Redwood Regional Park RD001, RD002, RD004 The assertion has been made that only sick, diseased trees were to be removed and that enough trees would be left to preserve the canopy. Yet, healthy trees have been removed, and the canopy has been opened with consequent invasion by weeds such as broom and thistle. There is no evidence to support removing understory and litter under some trees, and not from others. Despite the many biased statements to the contrary, a native-plant landscape is ***not*** more fire-resistant than a landscape of non-natives. (See References: J. Douglas Doran.) Native and non-native are ***not*** fuel characteristics!		**28**
Leona Canyon Regional Open Space Preserve LE006 The EIR includes no evidence that scrub and grass, native or non-native, are less flammable than any tree species.		**29**
Anthony Chabot Regional Park AC001, AC006, 7, AC0010 The EIR provides no evidence that would support the creation of more oak-bay woodland, and removing eucs from ridgelines while allowing oaks to remain there. This is not fire-risk mitigation; it is native-plant restoration.		**30**

Lake Chabot Regional Park LC001-LC004, LC005b, LC007a-d, LC008, 9 See comments above.		31
Miller Knox Regional Shoreline 005 There is no proof that removing only pines will result in an effective fire break. A fire break should be clear of all vegetation, native and non-native.		32
Some fuel characteristics, accepted by nationally known fire experts, are omitted here. Examples of nationally accepted fuel characteristics: plants with leaves and stems that dry out in summer (as in native chaparral and grasslands), small leaf size, size and height of trees, height from ground to lowest branches. (Trees such as oaks or scrub oaks and bays with branches that overhang close to the ground are more likely to ignite, especially if there is an understory of tall, dry grass.) The fuel characteristics presented on this page are from questionable sources; they are biased in favor of native plants and against non-natives. (See References: Jon Keeley, Richard Halsey, J. Douglas Doran.)	4. Fuel Treatment Methods FT 78	33
The biased assumption here is that canopy has only disadvantages. Yet the evidence shows the importance of maintaining a canopy: shade inhibits the growth of understory, especially invasive weeds such as star thistle, pampas grass, and broom.	FT 78-79	34
Suggesting that eucalyptus trees are as invasive as blackberry and French and Spanish broom is highly exaggerated and erroneous. In general, eucs occur in the U.S. only where they were planted years ago in Hawaii and California. (See USDA species maps/Plant profile, Eucalyptus Globulus.) They have a narrow range along the coast of California. They have not "invaded" neighboring states. The Plan/EIR provides no evidence to support the unsubstantiated CNPS propaganda about the so-called invasiveness of eucs. The roots of eucalyptus trees do not spread rampantly underground like blackberry. Seeds of eucalyptus do not spread easily because they are not usually carried by wind or animals. In fact, the seeds rarely open unless they are "cooked" by fire. (See References: Tudge.) Like redwoods and many other species, eucs are fire-adapted. They do not reseed easily but grow from resprouting where they have been cut down. (See *Bugwood Wiki*.)	FT 81	35
It sounds as if grasslands are very difficult to maintain in a safe condition. How cost-effective is it to maintain grasslands, which are equally flammable whether they are native or non-native (because they are a "fine fuel"), yet not clean up the bark litter and ladder fuels under eucs, which would make their trunks just about impossible to ignite?	FT 86	36
Bias against eucalyptus and pines is shown again by stating that they are species with oily resins that are more ignitible than other species. The leaves of many species of native chaparral also contain oily resins. Equating bays with oaks assumes without evidence that they are equally hazardous or "safe." But bay leaves are flammable because, like euc leaves, they contain oil. The chart hazard ratings assume without evidence that some grass has a moderate hazard rating, and others are even low. Native and non-native grasses have the same high potential flame length, which, according to HEF, is higher and more hazardous than eucalyptus trees (grasslands: 12-38 feet; eucalyptus: 6-21 feet—even counting the litter under the trees).	5. Vegetation Management VegMan 112	37

Rothermel's report appears to be a highly questionable source for the fire hazard ratings given in Table V-1 since much of that report uses grass and logging scrap as the fire fuel source. The Rothermel report mostly compares dead fuels with live fuels. Please cite exactly where the hazard ratings in your table come from. The source for the ignition potential figures on p. 121 are also mysterious, since they basically seem to have been developed by "a consensus of resource managers as members of the Hills Emergency Forum." These ignition potential figures appear to be highly subjective, not based on objective analyses or experiments with the vegetation types listed. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	VegMan 112, 121	**38**
The fuel rating of grasslands as moderate is unsubstantiated. Grass is a fine fuel, which is considered (by all but "local experts" who seem to base their ratings on whether vegetation is native or non-native) as highly hazardous, and extremely easy to ignite when dry at the height of the fire season. The description of native grass as being less hazardous than non-native is biased, apparently based on questionable California Native Plant Society sources, and not based on objective facts. The flame lengths for grass given here are at odds with those given in the HEF Management Guidelines.	VegMan 125	**39**
The description of airborne embers not being carried ahead of the flame front is unsubstantiated. Reports of grassland fire in Southern California include photographs showing grasslands pitching embers to spread fire to areas at a significant distance from the flame front. Also see References: *Bushfires in Australia* by wildfire experts R. H. Luke and A. G.McArthur. The authors note that "In grasslands, spot fires are fairly common up to 100 m or so ahead of the flame front and are mainly carried forward by thistle heads or seed heads. . . ."	VegMan 126	**40**
Here again there is bias for native-plant restoration. More concern is shown for preserving native grass species than for creating fire safety. Measure CC did not provide funding for a native-plant restoration project.	VegMan 128-130	**41**
On page 132, the hazard rating of Maritime chaparral is Extreme. Yet the information on page 133 is contradictory. The idea that it could be cost-effective to encourage, protect and enhance Maritime chaparral (because it is native) is simply another case of bias. Reducing the overall plant density and fuel quantity of Maritime chaparral to make it less hazardous would require expensive and laborious gardening on wildland slopes.	VegMan 132-138	**42**
There is a clear bias here for protecting and enhancing shrub/brush communities even though annual treatment/gardening would be required to make them fire-safe —and even then, fire safety would be far from assured. Most fires in California ignite in dry grass and spread into brush. (See References: Keeley.)	VegMan 144	**43**
The Plan does not consider the high proportion of dead (fine, highly flammable fuel) wood tangled below the new growth of coyote brush and similar chaparral environments. It simply says that the proportion of dead wood should be reduced by maintenance to less than 20%. Then, that "maintained" condition is the basis for the biased fire rating claimed for that vegetation type. But the Plan does not follow	VegMan 154	**44**

the same logic for euc litter (where unmaintained litter is counted to make the fire rating more hazardous). Nor does it realistically consider the physical difficulty of weeding out dead wood under poison oak or coyote brush—compared to the comparative ease of gathering up strips of shredded bark under a blue gum. In *Bushfires in Australia*, Luke and McArthur point out that, even in unmaintained litter, only the bark litter close to the surface is dry, and shredded bark is unlikely to loft at any distance into the air; the litter below the surface is decaying and moist. "In forests, the upper part of the surface litter is normally drier than the lower part and is more likely to be consumed by fire."		**44 cont.**
The bias against eucalyptus trees is shown again on p. 162. Why should the flame lengths of eucs be based on the depth of litter below trees, the stand density, etc. when none of these factors were considered for native species? The ignition potential (1) of eucalyptus trees is totally unsubstantiated since they are ***not*** fine fuels at all and they are difficult to ignite, especially if the litter is picked up on a regular basis and the trees are limbed up to 8 -10 feet. All trees are susceptible to "insect attacks" and "freeze damage." Branches of eucs do not suffer from freeze damage unless there has been below freezing weather for several days. Euc leaves and bark do not loft and create spot fires any more than the leaves and branches of other trees. The biased description of eucalyptus trees on this page and throughout this Plan/EIR rises to the level of malicious obfuscation of objective facts, most likely due to the highly questionable CNPS sources it is based on. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	VegMan 162-164	**45**
Since bays with branches overhanging tall grass are quite flammable, especially since their leaves are oily, please present objective facts—not biased opinions—as to why the Plan suggests it is desirable to convert euc forests to oak-bay woodlands. This suggestion appears to be based on an ideology that favors native plants over non-natives, not on fire-risk mitigation.	VegMan 167, 170	**46**
The fuel characteristics of young eucalyptus forests are unsubstantiated and biased. Any dry, dead material, whether it be in a eucalyptus tree, in chaparral, or in a diseased oak or pine tree, is hazardous. Please rewrite this section and present some evidence to support the conclusions made. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	VegMan 169	**47**
The reason for replacing eucalyptus "plantations" with hardwood forest or grassland (eucs happen to be hardwoods) seems to boil down to the fact that they are non-native even though an objective analysis would show that eucs are more fire-resistant than the non-native species that would replace them. This is species racism, and people who voted for Measure CC would be disgusted to know how EBRPD plans to use their money.	VegMan 173	**48**
More unsubstantiated assertions: "convert to a more fire-safe vegetation type (e. g. grassland or oak-bay woodland) that existed prior to introduction of eucalyptus." Is the Plan suggesting that there were no fires before eucs were introduced? Native Americans historically set fires easily and frequently when native grass, oaks and	VegMan 174	**49**

Letter **B8** cont.

bays were the primary fuels. (See References: *The Ohlone Way* by Margolin.)		49 cont.
Unsubstantiated assertions about why Monterey pines receive a high fuel hazard rating: that diseases contribute to their fuel loads (all tree species are subject to their own diseases—why single out Monterey pines—except for the bias against them?); that they are easy to ignite (but they are not as easy to ignite as dry grass), that they contain volatile resins (so does chaparral such as coyote bush and poison oak), that they are "aged." How old? Older than oaks and bays? Please supply some figures on how old these pines could be, and why a healthy, old pine of some height and able to provide canopy should not be preferred over a young oak that is likely to fall prey to SOD.	Veg Man 176	50
The "scary" figures about ignition potential, the Fuel Model number, and the fire hazard rating for Monterey pines and eucalyptus trees as well as the favorable numbers for highly flammable native species appear to have been pulled out of the air. Inventing such numbers and adapting information from irrelevant sources such as Rothermel makes readers of this Plan question the overall quality of the EIR. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	VegMan 180	51
Bias here in the description of the "moderating effects of canopy cover" in giving oak-bay woodland a low hazard rating; these effects were not considered, of course, in rating the non-native species. Throughout this description, characteristics that were described negatively for eucs are described positively for oaks and bays even though oaks and eucs are often of similar height and both grow on ridgelines. Also, why should oaks and bays be considered together since they have different fuel characteristics, with bays more flammable than oaks (except for scrub oaks, which are even more flammable)? Examples of positive language used to describe oak-bay woodlands: "fairly benign," "understory is kept moist and cool by the tree canopy's shade," "difficult to ignite," "most benign of any vegetation," "live leaves are relatively fire resistant," "low potential for spotting" (with the unsubstantiated "reason" that "their embers are typically not distributed long distances"), "generally have a low heat output," "thick layer of leaf litter and occasional herbs."	VegMan 187	52
Here again "eucalyptus stands" are singled out for special condemnation, without any facts or comparative analysis about which trees torch, crown, and cause ember flight. Since almost all vegetation species have the potential to produce flames greater than 8 feet in height, it is clear that assessments are based primarily on the judgment of unidentified "local experts." This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	6. Implementation Imp. 206	53
Since tree removal is most expensive, it is difficult to understand why the Plan/EIR would not simply follow a species-neutral policy in maintaining and managing its parklands instead of removing non-native trees and replacing them with native species that are in some cases more flammable.	Imp. 215	54

Letter
B8
cont.

Definition of "flammable vegetation" is incomplete and biased in favor of native species. There are other fuel characteristics than those listed here. Please include them. (See References: David Carle's *Introduction to Fire in California.)*	Appendix A-Glossary 3	55
Definitions of "Integrated Pest Management," "Introduced (Species), "Non-Native Species" are questionable. IPM is not necessarily ecologically compatible; to say that it is begs the question of whether use of chemical herbicides can ever be good for the environment—that it is better than other, non-chemical methods. The definitions of "Introduced" and "Non-native" require some explanation and analysis of which plants could be "original" in an area, and at what prehistoric time that would be. In an earlier era, there were no plants here at all. Definitions should be given of "Native," "Natural Plant Community" and "Naturalized" Species since these terms are used in the text and their meanings are far from clear.	App. A 5	56
This flyer, which was repeated earlier in the Plan (see Intro. p. 3), has nothing to do with fire regulations. The mis-statements and propaganda in this document, which was obviously written by nativists, has no place in the EBRPD's Plan/EIR or in any other document that expects serious consideration as an objective, scientifically based report. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	Appendix B Fire Regs. 5-6	57
Bias against eucalyptus trees in the description of them as "representing significant threats from torching and crown fires that can cause ember flight." Compare with assessment of oak-bay woodlands, which have similar characteristics but get a pass because they are native species.	Appendix C 5	58
Since just about all vegetation species have a minimum potential flame length of 8 feet, there is bias in creating inputs that appear to show that some species are relatively harmless simply because they are native.	App. C 8	
Adjustments by "field observation and/or expert opinion" are biased to favor native species. Why didn't EBRPD use nationally known experts, instead of "local experts" who appear to be biased against non-native vegetation?	App. C 19	59
The height from ground to crown of a 100-foot blue gum eucalyptus is more than 4 feet! This type of "statistic" is typical of the skewing of figures to create as negative a picture of eucalyptus as possible. How can this so-called "crosswalking" be trusted when it was obviously created to bias the results?	App. 28	60

SPECIFIC COMMENTS ON EIR:	PAGE #	
The goal of "restoring native vegetation" may not be consistent with the goal of "reducing wildfire hazards. . ." Restoring native vegetation is not mentioned in Measure CC. Again, the issue here is what the intention of this Plan is, and the effect of this lack of clarity on the adequacy of the EIR. It is not the same as "protection of ecological values," which is in Measure CC.	Intro. 2	61

There is no scientific basis for the presumption that native plants are inherently more fire-resistant than other plants. Whether a plant is "native" has no role in fire-risk mitigation treatments; yet the entire Plan and the conclusions it draws for its prescriptions are based on the erroneous and biased strategy of replacing non-native plants with native ones (that are often more flammable than the plants they will replace).		62
The Introduction asserts that written comments received on the Notice of Preparation were taken into account during the preparation of the EIR, and are included in Appendix A. This statement is false. The Hills Conservation Network wrote three letters to Cheryl Miller (1/4/2008, 1/9/2008, and 6/27/2008). None of these letters is included in Appendix A to the EIR, and none of the concerns that HCN communicated in those letters and that Peter Scott commented on at the May 2008 meeting are addressed in the EIR. It appears that EBRPD and its consultants decided to ignore public comments that disagreed with conclusions they had already reached.	Intro. 3	63
By the way it organizes and describes vegetation types (grasslands, scrub, eucalyptus forest, Monterey pine forest and oak-bay forest) the EIR reveals its bias against specific non-native species. The EIR follows the same organization and description of vegetation types as the Plan, isolating the eucalyptus and Monterey pine in single-species categories. This is an unusual system for organizing vegetation types. Most botanists or writers about plant and trees species divide the vegetation of California into three large groups: grasslands. shrublands, and woodland/forests. By placing eucalyptus and Monterey pines in single-species categories, the Plan and the EIR can focus on negative (fire-prone) aspects of each tree. The euc, according to the unsubstantiated assertions in the Plan, is invasive and creates litter. (Its fire hazard and ignition rating are based not on the tree itself, but on its *unmaintained* litter.) Pines are nearing the end of their life span (the life span is never stated), and contain dead wood, etc. Positive aspects of these non-native trees are ignored; for example, the euc is green year round, provides canopy that restricts understory and weeds, has a trunk that is extremely difficult to ignite, and is an effective windbreak. In contrast, the category oak-bay forest is favored, and only positive characteristics are presented for that vegetation type. Yet the oak-bay ignition and hazard ratings are based on a *maintained* understory; the low limbs of both oaks and bays and the oiliness of bays provide an explosive ladder to a crown fire; the oak-bay's flame length is 50% longer than the flame length of the mature euc forest. The bias in favor of the native oak-bay model is clear, and it prejudices the entire EIR.	3. PROJECT DESCRIPTION PD 19	64
Measure CC says nothing about managing "invasive plant species" and promoting "fire-resistant native-plant species."	PD 19	65
What are "naturally functioning ecosystems"? This term is undefined, but it obviously includes native-plant restorations. What proof is there that native plants are more sustainable than plants that have become naturalized and have evolved over the past 100 years? It is one thing to protect existing "native" species when they are encountered in the process of vegetation management,	PD 20	66

but it is something else—that shows definite bias—to tear out perfectly good non-natives to foster the growth of equally flammable plants such as grasslands and brush/chaparral. This is quite simply a diversion of funds not authorized by Measure CC.		**66 cont.**
Please explain how this Plan/EIR contains/embodies principles that correspond to those in the VMC Plan, even though the EBRPD board accepted the VMC principles in 1996. The VMC report states in its summary, "There is no consensus on the flammability of many plants, even the species recommended as fire-resistant." Yet the EIR repeatedly demonstrates bias by asserting (without any evidence) that native plants are inherently more fire-resistant. Another example: The VMC report and other fire-risk assessments make the variability and timing of the moisture content in plants a critical element in judging ignition and flammability. The Plan/EIR ignores this issue in comparing vegetation types, perhaps because it interferes with the biased assertions about oak-bay woodlands and shrub/brush communities that the Plan/EIR chooses to make. For instance, in the summer-fall high fire season, an oak-bay woodland with a parched grass (fast, hot flames) understory is far more prone to ignition and laddering (with its long flame lengths) into a crown fire than a mature euc forest with its shaded litter understory. The Plan/EIR cherry-picks information to omit the conclusions that it does not want. The recent Southern California fires are examples of the volatility and uncontrollability of oak-bay woodland and grassland/brush fires when the moisture levels are low, even without the help of Santa Ana winds. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	PD 21	**67**
See comment on Intro. 3 above. The public involvement component did not include stakeholder interests that happened to disagree with the biased conclusions that EBRPD and its consultants had already decided to pursue. We who live and own homes within the area that burned in the 1991 Tunnel fire expected that our concerns would be heard and that we would see some response to them in the Plan/EIR. We have the most to lose if this project is less than successful. That is why we question the strategy of restoring native plants—no matter how flammable they are—because that strategy diverts attention and funds from our primary goal: mitigation of the risk of ignition and wildfire.	PD 22	**68**
The Plan/EIR fails to address the difference between climate/wind-driven fires and fuel-driven fires. The two basic types of fire are described by fire ecologist Richard Halsey in *Fire, Chaparral and Survival* in Southern California. Peter Scott (who lost his home in the 1991 Tunnel fire) pointed out this difference in his written comments concerning the EBRPD's May 2008 meeting, citing the research by Dr. Jon Keeley. (See *Introduction to California Chaparral* by Ronald Quinn and Sterling Keeley. "Dr. Keeley. . . concluded that in extreme fire weather conditions . . . managing fire hazards through fuel reduction is likely to be ineffective for fires that burn during fierce winds. . . ") Peter Scott's comments were ignored. The point is critical	PD 26	**69**

because vegetation management, aka fuel reduction, is a strategy addressing fuel-driven fires, while the Plan's goal (contrary to its underlying bias in favor of native plants) is to address Diablo wind-driven fires. The fire characteristics are different, so the risk-mitigation strategies must be different. For instance, the fire's rate and direction of spread are different, so the appropriate response changes. Also, highlighting a basic flaw in the Plan/EIR, the proposed species-specific treatments make no sense in a wind-driven fire.		**69 cont.**
In many cases in the RTA tables, "succession to oak-bay woodland" is the goal. This goal is biased and has nothing to do with fire-risk mitigation. See comment above on PD 19. The VMC report does not recommend replacement of euc forests with an oak-bay woodland. There is no science-based evidence that the oak-bay woodland is fire-resistant. Both oaks and bays have low, overhanging limbs, providing a fuel ladder from the ignition-prone grass. The bay's oil content is highly flammable and prone to torching, and the dense wood burns long and hot; the oak provides a high percentage of fine, dry fuel, prone to both ignition and spotting. The validity of the idea of plant succession has been increasingly questioned in modern times. See *Introduction to California Plant Life* by Richard Ornduff. Also, due to Global Climate Change, it is uncertain that plants that were once native to this area will survive into the future.	PD RTA Tables—Considerations and Guidelines	**70**
The objectives and policies listed in the EIR for the various parklands demonstrate the bias against non-native species that was detailed in the Plan. It is assumed without evidence that eucalyptus groves are subject to "uncontrollable wildfires." Yet grasslands and brushlands (which are much easier to ignite and have longer flame lengths) will be "retained and not managed."	4a Land Use & Planning Policy (LU)	**71**
Most of this section describes native-plant restoration. This appears to be where most of the Measure CC money will be spent—even though taxpayers did not vote to restore native plants. Prescribed burns, for instance, will not be used primarily to mitigate fire risk, for example, by clearing the understory of hazardous weeds. Instead, small fires will be set at regular intervals to encourage fire-adapted native species (such as highly flammable grasslands and chaparral). Even wildlife populations will be sacrificed to encourage native plants.	4b Biological Resources (BR) 115	**72**
The unsubstantiated assertion about the flowers of eucs suffocating birds, which was stated twice in the Plan, is repeated here once again. The sources for this story are two members of the California Native Plant Society. According to Douglas Long, curator of the Oakland Museum's Dept. of Natural History and a long-time member of the Audubon Society, this claim that euc flowers suffocate birds "makes no sense." David Suddjian (see References) notes that field ornithologists have not observed birds dead from suffocation under eucalyptus trees, and he strongly suggests that more evidence is needed. This sort of "information" about eucs suffocating birds is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.	BR 133	**73**

The final unsubstantiated assertion in the above table is typical of the Plan/EIR. There are many other fallacious assertions about non-native trees similar to this one that are introduced in the Plan and assumed as truth throughout the EIR. No scientific evidence is presented for any of these biased and unsubstantiated claims. It is clear that EBRPD has responded to the lobbying pressures of the Sierra Club and the California Native Plant Society in creating an EIR that has very little to do with fire mitigation and everything to do with native-plant protection, maintenance and restoration. A main purpose of the Plan/EIR is, in fact, to continually bias readers against eucalyptus trees and other non-natives, by exaggerating any of their flammable characteristics while ignoring characteristics that make them more fire-resistant than the native plants that would replace them.

The California Native Plant Society has continually aided and abetted the irrational fears about non-native species. It has erroneously blamed non-native species for the 1991 Tunnel Fire.

Immediately after the 1991 fire, the Mayors' Task Force on Emergency Preparedness and Community Restoration, in its final report issued on February 3, 1992 (see References), stated that the blue gum eucalyptus and the Monterey pine had not been significant factors in spreading the fire. Their recommendations include: "Do not target specific species such as blue gum eucalyptus or Monterey pine for eradication. . . Existing stands of pine and eucalyptus must be regularly maintained, and debris processed to substantially reduce susceptibility to fire. Rapid conversion of these stands could cause negative ecological impacts. . . " Even Jerry Kent, formerly of the EBRPD, and a member of the CNPS and the Sierra Club, stated that, "to be fair, the 1991 Tunnel Fire was not primarily a eucalyptus fire in origin." Yet, within a few years and up to the present, the non-native trees, most pointedly eucs and Monterey pines, were blamed for the fire and all evidence to the contrary has been ignored.

The Plan/EIR does not substantiate the assertion that non-native trees caused the 1991 Tunnel fire or that they were a significant factor in spreading the fire.

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While blue gum eucalyptus trees do shed a great deal of bark litter on a seasonal basis, this litter could be easily maintained. The Plan/EIR does not substantiate the assertion that this litter is more flammable than dry branches and dead leaves shed by native trees. Three Australian wildfire experts have, in fact, written that grasslands and brush in Australia are more flammable than eucalyptus trees. (See References: Alexander Kerr, R. H. Luke, A. G. McArthur.)

In a wind-driven fire, all tall trees, shrubs, and tall grass may crown and produce fire brands and embers that create spot fires ahead of the flame front. The Plan/EIR does not provide any evidence of windborne fire brands specifically from eucalyptus trees.

Finally, the Plan/EIR provides no evidence for its biased claim that native vegetation is more fire-resistant than non-native trees and plants. In fact, this claim, which is erroneous, forms the basis for the native-plant restoration that would use most of the taxpayer money financed by Measure CC.

Summary Comment: As the result of the consistent bias demonstrated throughout the Plan and EIR documents, alternatives that should have been considered were ignored, resulting in the EIR not analyzing the best alternatives. The EIR did not analyze environmentally superior alternatives that would meet most of the project objectives, as required by CEQA. To correct this, the EIR must be rewritten so as to fairly consider all reasonable alternatives that would

achieve the project goals of decreasing fire risk at the lowest cost and with the least negative effects on the environment.

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2. The EIR must clearly explain how the use of each of its Best Management Practices (BMPs) will result in the desired outcome.

The Plan uses the term Best Management Practices (BMPs) throughout the document, but it does not list or describe these practices or explain how and why they would produce the best result. Please add all BMPs to the Plan and EIR and recirculate the documents for public review.

The reader is assured 2-8 times in each section of the Plan that EBRPD staff uses "site specific fuel reduction treatment actions and best management practices (BMPs) for reducing wildfire hazards while protecting environmental resources, etc. etc. But these BMPs are never explained. The reader is never told why EBRPD considers them the "Best," other than that they are the ones that EBRPD and its local experts have chosen to label "Best."

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In the EIR, the term BMP is used many more times. There it seems to cover any treatment, mitigation, or procedure that EBRPD has decided to use. It is used 6 times on one page of the Hydrology/Water Quality section, 5 times on one page of Cultural Resources. There are 2 uses of Best Management Practices and 13 uses of BMPs in the 12- page section on CEQA. **Please provide a comparative analysis to show what other practices were considered, and why each choice of "Best" was made.**

The Plan/EIR's mantra-like repetition of "Best Management Practices" over and over appears to be attempting to reassure us, that despite all rational evidence to the contrary, the methods they have chosen will mitigate fire even while protecting and restoring highly flammable native plants.

On pages 126-132 of the Plan, for instance, there are detailed guidelines and BMPs for encouraging, protecting, and restoring native grasses in grasslands that dry out at the height of the fire season—so they will still be extremely hazardous even after all the laborious and expensive work of trying to maintain them has been done. How could restoring native grasses be a BMP if the goal is the mitigation of fire risk?

Alexander Kerr, author of "An Evaluation of the Fire Management Plan for the UC Hill Area," had been a wildfire control officer in Australia for seven years when he wrote his 1991 report for UC Chancellor Chang-Lin Tien. Kerr concluded that grass fires are much more dangerous than eucalyptus fires. "What makes grass fires particularly dangerous?" he asked, then responded to his own question: "The three interrelated characteristics of wildfire that can make it difficult or impossible to control are rapid rate of spread, high intensity, and instantaneous response to changes in wind direction or speed. The influence of wind is much greater on grass fires than in forest fires. Providing a strong wind is blowing, fast rates of spread are possible in grasslands at very low temperatures and high humidities. Grass fires frequently continue to spread vigorously throughout night-time hours whereas forest fires tend to become self-extinguishing once fuel moisture content rises much above 20%."

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Yet the Plan's BMPs play down the risks of grass fires, apparently assuming that if the grasses are native, there is no need to worry.

Many more pages detail the BMPs for protecting and encouraging native chaparral (brush) of various kinds despite the clear evidence that, in a wind-driven fire, this type of native vegetation as well as native grasslands will burn just as furiously as non-native shrubs and non-native grasslands. The Plan/EIR has not provided any valid evidence that native vegetation is less flammable than non-native. In the recent southern California fires, native as well as non-native shrubs and grasslands were observed not only to burn, but to crown and throw embers far ahead of the fire front. (See References: Richard Halsey's *Fire, Chaparral, and Survival in Southern California,* and David Carle's *Introduction to Fire In California.)* **77**

The Plan/EIR does not analyze or report on the dangers of herbicide treatments, especially those that might be applied incorrectly by inadequately trained workers. BMPs are, after all, instructions that are created with word processing programs that might be carelessly written to include small but critical errors in quantities of Garlon or Roundup, for instance, that might be applied on vegetation at an unsafe distance from streams.

We are told that workers who spray and apply herbicides are carefully trained, but we have seen EBRPD workers, dressed in hazmat suits, spraying herbicide broadcast on the ground and into the air all around weeds, acre upon acre of them in Claremont Canyon and at the Sibley Triangle site. We have seen Garlon painted on stumps close to where adults, children, and dogs walk, most recently at the Skyline gate area. We question how these workers could be using BMPs. **78**

We know that EBRPD may be carefully following the directions and assurances of safety given by Dow, Monsanto and other suppliers of these hazardous materials. **CEQA case law does not consider use of herbicides according to safety data provided by the manufacturers of these products as sufficient evidence that the risk associated with the use of these substances is less than significant**. Herbicides have been shown to be hazardous, especially to chemically sensitive people, to say nothing of how they might affect animal species that are not able to read the signs posted in the toxic areas. The EIR must include an objective, independent, ***worst case*** analysis of health risks and water quality impacts of proposed herbicide use, and include procedures for safeguarding the public and the environment (when herbicides might be inadvertently spilled into a creek, for example). Independent specialists in the use of toxic substances should be hired to carry out objective risk assessments. Without such third-party studies, the District's assurances that it has used Best Management Practices, developed by their own "experts," have little or no value.

On page 92 in the Fuel Reduction section of the Plan and also in Appendix H, it seems odd that the Plan cites Marin Municipal Water District's studies in the use of non-chemical methods for controlling invasive plants. This seems to suggest that EBRPD has not conducted its own studies on the impacts of controlling invasives using non-chemical methods, and that it has not compared the environmental impacts of chemical vs non-chemical methods. Surely, a Best Management Practice in this important issue of whether or not, and how much herbicide should be used, must include a study by EBRPD of alternative methods. It is strange also that EBRPD ignores the fact that its own HEF partner, the East Bay Municipal Water District, does not use herbicides on its watershed lands. **79**

One would have to believe that, if anything, EBMUD's successful experience with not using chemical controls is more relevant than the Marin experience. Yet the Plan chooses to describe what it assumes to be Marin's problems rather than EBMUD's successes—which are not mentioned anywhere in the

Letter
B8
cont.

Plan/EIR. Could the reason be that EBRPD wants to justify the chemical treatment program it chose with the aid—and based solely on the research—of the companies who sell the chemicals?

Before reporting that its own IPM policies are the Best Management Practices it can come up with, the Plan/EIR must consider EBMUD's Best Management Practices, which do not use chemical herbicides in its watershed, and may be more cost-effective than the BMPs of EBRPD, which are expensive, controversial, and have potentially adverse impacts to water quality, plants, animals and people.

79 cont.

Page 92 of the Fuel Reduction Plan includes the comment that "repeated use of chemicals is not preferred because unwanted species develop resistance to chemicals." So why use them at all if the end-result is the creation of chemical-resistant monster weeds?

The Plan/EIR's analyses are skewed to reach the conclusions that the California Native Plant Society favors. As detailed above, they do not disclose the hazardous fuel characteristics of native vegetation such as grasslands and shrubs. They have deliberately omitted details critical to identifying environmental impacts and implementing fire-risk mitigations in native grassland, chaparral, and oak-bay woodlands.

The writers of the Plan/EIR, in their zeal to compare their use of herbicides with the supposed used of herbicides by the Marin Municipal Water District, in fact, seem to have completely misinterpreted—or misrepresented—the MMWD reports.

80

Summary Comment: It is not permissible under CEQA to simply assert that a mitigation isn't required because a BMP is being employed. CEQA requires that the EIR must demonstrate how the use of a particular BMP results in a particular outcome. This EIR does not do that, relying instead on the use of unsubstantiated assertions. This is not legally permissible or acceptable. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.

3. PROJECT DESCRIPTION. There appears to be some inconsistency in the project description, leading to the conclusion that the EIR would be hard pressed to accurately assess the impact of the project.

In the Plan document it is stated that "the purpose of the Plan is twofold: (1) specify a framework for undertaking ongoing fuel reduction, resource management and maintenance activities that take into account and respond to the unique environmental conditions that exist on the District's East Bay park lands; and (2) identify an effective decision-making process aimed at creating low fire hazard, diverse ecosystems with an emphasis on protecting, enhancing, and restoring native species and their habitats in a cost-effective and environmentally sustainable way, where possible."

81

The first concern here is that it appears that what the Plan is calling for may be different from permitted expenditures under Measure CC, which reads as follows:

To increase public access to shoreline, hillside, and urban parks and trails, enhance public safety (police and wildfire protection), and provide critical environmental maintenance in Zone 1 (western Alameda and western Contra Costa Counties) of the East Bay Regional Park District, shall a resolu-

tion be approved authorizing a parcel tax, based upon occupancy, of $1 per month ($12 per year) per single-family parcel, or 69 cents per month ($8.28 per year) per multi-family unit, to expire in 15 years?

While it is clear that the voters approved a measure aimed at increasing access and enhancing safety, they did not approve a measure to fund radical landscape transformation. The following statement in the second paragraph of the project description is indicative of the divergence between what was approved under CC and what is being proposed:

"(2) identify an effective decision-making process aimed at creating low fire hazard, diverse ecosystems with an emphasis on protecting, enhancing, and restoring native species and their habitats in a cost-effective and environmentally sustainable way, where possible."

81 cont.

While this statement might appear to be somewhat benign, it tends to drive a series of actions throughout the Plan/EIR that are geared towards achieving something other than increased public safety through fire-risk mitigation, which is what the voters agreed to pay for.

Given that this bias exists throughout the Plan, the result is a Plan document that is geared towards achieving a goal that is different from what is intended, with the additional effect that the EIR attempts to analyze a Plan that is not really appropriate given the text of Measure CC. Clearly, an EIR that evaluates a Plan that is invalid is itself invalid.

We believe that the Plan must be in clear alignment with the intention of the voters, and that the EIR cannot be valid if it is analyzing a Plan that is intended to achieve something different from what the voters approved. This discrepancy can be fixed only by modifying the plan to be species-neutral and then analyzing the effects of that Plan.

In the introduction section of the EIR the following is listed as the reason for the project:

"EBRPD is responsible for providing a sound strategy for managing vegetation and resources to minimize the risk of catastrophic wildfires along the wildland-urban interface while ensuring the protection and enhancement of ecological values and resources within its jurisdiction."

We believe that this description is in fact in alignment with the will of the voters in that it is focused on reducing the risk of wildfires, not altering the mix of vegetation in the East Bay Hills. The problem here is that while the EIR's explanation of the project goals appears to be consistent with what Measure CC called for, the Plan is not.

Additionally, on page 307 of the EIR, the goals and objectives contained within the Plan are listed as follows:

82

- "Reduce fire hazards on District-owned lands in the East Bay's wildland-urban interface to an acceptable level.
- "Maintain and enhance ecological values for plant and wildlife habitat consistent with fire reduction goals.
- "Preserve aesthetic landscape values for park users and neighboring communities.
- "Provide a vegetation management plan which is cost-effective and both financially and

environmentally sustainable to EBRPD on an on-going basis."

Yet again, the goals seem to have shifted. While goal 1 is consistent with Measure CC, it appears to be different from what the Plan called for. Additionally, while goal 3 makes a lot of sense, it is different from what the Plan calls for. In fact, we would assert that the alternative that we are proposing would be a much better fit with the project goals stated in the body of the EIR than the alternative that was chosen. We see many instances in the Plan where the approach suggested for a given polygon is far from the most cost-effective and environmentally sustainable; yet that is what is recommended.

The question this raises is: what are the goals of this project? To have a Plan document that is geared towards a goal that is substantially different from what the voters approved, while specifying a different goal in the EIR, leads one to wonder what exactly the EIR is analyzing. It appears that while the EIR's stated project goal is in alignment with Measure CC, the Plan is not. In short, there is a significant misalignment between the goals specified in the Plan and those specified in the EIR, with the result being difficulty in assessing the validity of the EIR.

82 cont.

Summary Comment: We think that the only viable solution here is to rewrite the Plan so that it is in clear alignment with Measure CC and to ensure that the EIR analyzes *that* plan.

4. SETTING, IMPACTS, AND MITIGATION MEASURES

A. Biological Resources

Although the background section of the biological resources section of the EIR is lengthy and comprehensive, the impacts analysis is lacking. Following are some of the deficiencies noted.

While there is extensive description of the planned use of nest surveys as a means to avoid killing raptor chicks in their nests, the whole question of habitat loss is not addressed. Given the size of this project (not to mention the cumulative impact with other planned and completed projects in the area) and the consistent bias towards removing tall trees in favor of smaller trees, shrubs, and grasslands, there is simply no question that this project will cause a very significant loss of raptor habitat. We believe that the raptor habitat loss as a result of this Plan as well as the cumulative removal of eucs may be so significant as to effectively eliminate these species from most of the project area.

83

As with a number of other areas of this EIR, there does not appear to be any analysis of the effects of widespread habitat loss on the viability of the raptors in the area. To suggest that simply not killing them in their nests is a sufficient mitigation is ludicrous. Per CEQA, this EIR needs to analyze the impacts of the loss of habitat associated with the removal of large quantities of tall trees (which are required by raptors as habitat), but it simply does not.

Additionally, the use of a Biological Opinion published in 2001 for a different project, that did not consider the potential impacts on the California Red Legged Frog or cumulative impacts of all vegetation management projects in the area, is analytically inadequate. To further suggest that to consult with USFWS after this EIR is approved to potentially alter the 2001 document makes it impossible for the EIR to adequately consider the impacts of this Plan. Essentially, the EIR cannot analyze the Plan because it

84

is not yet known what mitigations might result. . . because the biological opinion has not really been completed. **This inappropriate and impermissible deferral of analysis to mitigation measures is prohibited under the Sundstrom v. Mendocino decision.** It is incumbent on this EIR to review the effects of the Plan once a current and comprehensive biological opinion has been rendered. To attempt to release this EIR prior to the completion of this work creates a situation where an accurate analysis of the Plan is simply impossible. **There must be a current biological opinion for *this* project area at *this* time as a precondition to the release of the EIR.** 84 cont.

Also, the suggestion that obtaining "take" permits is an adequate mitigation against the possible loss of protected species is completely unacceptable. An effective mitigation would result in the avoidance of mortality of endangered species. **To possibly obtain a permit to kill endangered species is not in any way an acceptable mitigation and we believe it is unacceptable under CEQA.** 85

Additionally, while the EIR acknowledges that Sudden Oak Disease is a problem in the project area, there is no analysis of what the University of California calls "an epidemic" in the East Bay Hills. (See UC IPM online, statewide integrated pest management program.) The disease has been confirmed in Alameda county and, according to UC, "there is no known control for Sudden Oak Death." 86

Given that the clear effect of the implementation of the Plan would be to replace large areas of healthy eucalyptus and pine forest with oak and bay woodland, and given the susceptibility of this "desired" vegetation to SOD, it is incumbent on the EIR to address the risks resulting from the creation of the sort of monoculture environment that the Plan would create.

Summary Comment 1: The EIR must analyze the impact of the habitat loss that will follow from the removal of non-native trees. 87

Summary Comment 2: A current biological opinion is needed for this project. 88

Summary Comment 3: While there is some question as to the fire-mitigation benefits associated with creating more of an oak and bay woodland monoculture, there is little question that in so doing the risks of catastrophic tree loss to a single pathogen increase exponentially. The EIR must address this risk. 89

B. Geology, Soils, and Seismicity

This section describes the setting in detail, but it does not analyze the impact of large-scale tree removal and vegetation conversion on the treatment areas.

On page 186, the EIR, quoting from the 1997 EBRPD Master Plan, states that the District will 90

- "identify existing and potential erosion problems and take corrective measures to repair damage and mitigate causative effects. . .
- "manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. . .

- "Where vegetative cover has been reduced or eliminated, the District will take steps to restore it, using native or naturalized plants adapted to the site."

It is not clear which plants qualify as "native" or "naturalized," so it is impossible to determine the adequacy of this mitigation. Considering the number of times plants, trees, and general vegetation are described as "native," this term as well as "naturalized" should be defined in Appendix A to the Plan, Glossary.

90 cont.

The Plan/EIR should specifically identify the plants that will be used in the District's attempt to mitigate this impact: to restore vegetative cover in each treatment area "where vegetative cover has been reduced or eliminated." **In areas where tall trees with deep roots have been cut, it is highly unlikely that other plants and trees, especially when young, will have roots capable of holding the soil in place.** Roots of new native vegetation will be inadequate to hold the soil in place if they are no longer adapted to the area. They might require watering and even some fertilizer to encourage root growth, an additional cost that should be considered before the non-native trees are cut down.

91

In section 2c. on page 189, the EIR identifies:
Impact GEO-1: Fuel reduction activities may result in increased slope instability.

The EIR assures us that the project includes BMPs designed to avoid or minimize the potential for vegetation management activities to cause soil erosion and impacts to water quality.

The EIR states that "Under most circumstances, most of the increase in landslide activity after a tree removal operation can be attributed to a decrease in slope cohesion resulting from root decay." No mitigation of this impact, other than planting native or naturalized vegetation, is given.

The EIR does not consider the possible impact of its treatments that could result in mudslides which could occur on any slope, especially where a previous landslide has not been mapped and where there is no visible evidence of slope instability. Mudslides could be caused by decayed root systems or by the inability of newly planted vegetation to hold the soil. We have seen many examples of such mudslides in the North Hills where non-native trees were cut down. The impacts of mudslides would not be mitigated by Mitigation Measure GEO-1 on page 191 since such slides would not appear on USGS landslide maps. A qualified geotechnical engineer or engineering geologist should be retained to evaluate the potential impacts of fuel reduction activities or vegetation type conversion in the Treatment Areas. It is inadequate for the EIR to state (on page 192) that the EBRPD staff will determine on a case-by-case basis whether to retain a qualified professional to conduct a geological analysis to evaluate potential impacts of fuel reduction activities or vegetation type conversion. Such an analysis must happen before the EIR is released so that appropriate mitigations can be considered.

92

As Impact GEO-1 notes on page 189, herbicides to prevent resprouting of non-native species will eventually kill the roots after vegetation is removed. **The Plan/EIR should include an analysis to determine how long the roots of poisoned stumps might continue to hold the soil in place, and an analysis of the soil-holding capabilities of vegetation that might be planted—or weeds that might invade the area—to replace the roots of poisoned stumps**. Grass and shrubs, for instance, do not have deep roots, and various tree species have different kinds of roots, some better for holding the soil than others. According to "Eucalyptus Globulus," a study done by the Nature Conservancy (*Bugwood*

93

Wiki) eucs may have a taproot of 10 feet, much deeper and stronger than the roots of oaks, bays, redwoods, or pines. **93 cont.**

Of the five treatment options discussed on page 190, hand labor is described as lowest in risk of impacts to slope stability although this activity could still "remove soil-binding roots and change subsurface moisture conditions." **Please analyze the cost-effectiveness of thinning all vegetation in a species-neutral way vs. destroying the non-native vegetation with hand labor or mechanical treatments combined with chemical treatments**—even though "repeated use of chemicals is not preferred because unwanted species develop resistance to herbicides." (See 4. Plan-Fuel Reduction, page 92.) **94**

To analyze the susceptibility of the ground to instability, the Plan/EIR should consider the transpiration rate of the trees that will be removed in each area. Slope stability is sensitive to the moisture content of the soil. High moisture content tends to reduce the ground's resistance to landslide and mudslide movement, both for static and seismic loading. When any large tree is cut down, the suction that transfers moisture from the ground, functioning as a drain of subsurface water, is cut off. A geotechnical engineer can and should estimate the amount of water that each tree removes from the ground based on its transpiration rate.

The importance of large trees in maintaining slope stability should not be underestimated. According to the following link: http://www.ramin.com.au/creekcare/trees/shtml a large blue gum eucalyptus tree transpires nearly 200 litres of water a day. That amount is equal to approximately 2.2 gal/hr., the amount that one would expect from a horizontal drain installed to stabilize a landslide.

Contrary to the low moisture rating that the FlamMap gives to eucalyptus trees, a blue gum eucalyptus forest is relatively moist and cool, often dripping as much as 10 inches of fog in the summer under a shady, closed canopy. It is certainly more moist than an oak-bay woodland, grassland, or shrubland, all of which become dangerously dry at the end of the summer, the height of the fire season. Eucalyptus leaves may be 50% oil, but they are also 50% water, certainly calling into question how flammable they might be. (The National Park Service website, in fact, reports that euc leaves are fire-resistant.) It is clear from the transpiration rate referenced above, that eucalyptus trees have an extremely high water uptake. According to the authors of *Bushfires in Australia* (see References), only the surface of the litter on the ground is dry in the summer. Below the surface, the decaying bark is moist. **95**

Without the non-native trees taking up water from the ground, it is highly likely that the water table will be raised, another factor that leads to potential slope instability.

It is also highly likely that erosion will increase when the tall trees are removed because the "braking" and "dispersing" effects as the foliage intercepts the raindrops will no longer be there. Trees function as dispersal systems both for water falling as rain and for subsurface water. When a large tree is cut down, the transfers of moisture from the ground up into the trunk and leaves are cut off. The most beneficial, and certainly the most safe course of action to prevent erosion and landslides, would be to thin the trees, taking care to leave the larger ones standing.

Summary Comment 1: The Plan/EIR should analyze how much more water will be left in the ground after the trees are cut than would be in the ground if the trees were left standing. It should analyze how the soil will change after the trees are cut down. This is a more important **96**

baseline than the baseline suggested on page 191: that the potential for slope instability would be adversely affected for the long term if one or more major wildfires were to occur within the Study Area. In fact, CEQA Guidelines (section 15125) mandate that the EIR's setting must be the on-the-ground conditions at the start of the EIR process, so adverse conditions that might or might not happen cannot be considered. 96 cont.

Summary Comment 2: The argument that the District will restore sites where erosion would occur cannot be considered adequate. Such an analysis must be done before the EIR is released so that appropriate mitigations can be considered. 97

Summary Comment 3: It is clear that many of the treatments involving vegetation removal proposed by the Plan/EIR will have a long-term negative effect on slope stability and erosion. The Plan/EIR is inadequate because it does not analyze these effects and include BMPs that might mitigate them. 98

C. Hydrology and Water Quality

The Plan/EIR has not addressed the potential impact of this project on Hydrology and Water Quality. We are especially concerned with erosion and water pollution/degradation impacts, which the Plan/EIR has not identified or analyzed adequately.

From page 201 of the EIR:
"The project consists of different treatment options for fuel reduction and conversion of vegetation from one species to another. Some of the treatment options involve actions that will result in ground disturbance. The hydrology and water quality of the Study Area may be adversely impacted as a result of these treatment actions. Examples of such impacts could include the violation of water quality standards through the introduction of contaminants, increased turbidity of surface water, increases in stormwater runoff volume or duration, increased erosion and/or sedimentation, or changes to drainage patterns."

Because the Plan/EIR does not identify and analyze the potential impacts on hydrology and water quality in each polygon of the Recommended Treatment Areas specified in Table III-2 of the Plan's Section 3, it is impossible to tell what those impacts will be and how the BMPs will avoid or minimize them. 99

Five treatment options are proposed to achieve the Plan/EIR's objectives, and each is supposedly geared toward achieving different fuel reduction results.

Listed in the EIR, page 201:

These treatment options include:

• **Hand Labor**--minor pruning, mulching, weed pulling by hand, and shrub removal. "These activities generally pose a low risk of impacts to water quality because the disturbance would be minimal."

• **Mechanical treatment**—"poses a high risk of impacts to water quality because soils

could be deeply disturbed and vegetative cover removed, which could allow for substantial erosion and sedimentation."

• **Chemical Treatment**—includes the application of herbicides to control the growth of vegetation. Although we are assured that this option would create no risk of ground disturbance, and that the potential for erosion-related water quality impacts would be low, this option could not only degrade water quality of close-by streams, but also cause runoff into streams throughout the hills. Potential water quality impacts related to pesticides entering runoff or directly landing on water bodies could cause a considerable amount of water quality degradation.

The fourth and fifth standard treatment options, **Prescribed Burning** and **Grazing,** can expose soils to erosion, soil displacement, and mudslides where the majority of vegetation is removed.

The EIR continues on pages 201-202 with the dire warning that "wildfire accelerates erosion rates to the degree that post-fire erosion is considered a major factor in overall sediment production," and that if the Plan is not implemented (assuming that the Treatment options would really prevent or minimize the potential for wildfires—a huge assumption) overall erosion rates could increase.

99 cont.

The Plan/EIR then goes on to list the self-described BMPs for the five standard treatment methods it always lists.

To suggest that the use of these BMPs will mitigate concerns without explaining exactly how this will happen is not adequate under CEQA. To further suggest that the relevant erosion comparison is between a burned area and the "treated" area is also invalid under CEQA as this is an incorrect baseline. CEQA mandates that the current condition be used as the baseline, not a hypothetical condition; hence the argument that is made is inherently invalid.

It is clear from the BMPs and EBRPD policies listed that the only treatment option that would result in minimal impact to hydrology and water quality is expensive hand labor.

It seems obvious to us who live in the area that burned in the 1991 Tunnel Fire that the Best Management Practice would be to use **hand labor** to clear out the understory throughout the hills rather than reduce the number of trees. This treatment option would cause the least negative effects to creeks, streams, and other water resources in the hills while preserving the trees, with all the air-quality, climate and soil stability benefits they provide, not to mention the importance of canopy in minimizing the invasion of highly flammable weeds such as broom and star thistle.

100

We are especially concerned about the use of chemical herbicides to eradicate weeds such as broom and non-native trees such as eucalyptus.

Chemical treatments would not only degrade the water quality but also have possible side-effects with runoff into streams and contamination of groundwater throughout the hills.

101

- The Plan/EIR does not identify the number of non-native trees and invasive weeds that will be cut in each treatment area.
- It does not specify the location of creeks, streams and other water resources close to the stumps

and weeds that will be chemically treated.

- It does not indicate the types of herbicide that will be used.
- It does not quantify the amount of herbicide that will be painted on each stump, or sprayed into the air around each invasive weed.
- It does not tell us how often the vegetation will be sprayed.

101 cont.

Without these analyses, the EIR is invalid because it is impossible to tell what the impact will be on the hydrology and water quality.

The use of herbicides such as Garlon (Triclopyr), painted on eucalyptus stumps to prevent resprouting, and Roundup (Glyphosate), sprayed on the leaf surfaces of invasive broom, would not only degrade the water quality but also have possible side-effects on humans and animals with runoff into streams and contamination of groundwater throughout the hills. A suit brought by the Center for Biological Diversity in behalf of an endangered species, the red-legged frog, has already established that Roundup is harmful to amphibians, although its use is permitted to remove "invasive species." This exception does not change the fact that Roundup is known to be harmful to amphibians. We suspect that the use of Garlon in Claremont Canyon has also led to the virtual disappearance of salamanders and newts, and several neighbors have commented that, despite the wet weather, it was extremely rare last winter and this past spring to see garden snails or slugs. We never thought we would miss garden snails, but their disappearance suggests that herbicide use may have already affected the creatures who live close to the soil.

102

According to recent research reported in *Scientific American*, June 23, 2009 (see References), an inert ingredient in Roundup kills human cells, especially embryonic, umbilical and placental cells, even at a more dilute concentration than used on lawns and farms. Research in Argentina where Roundup is sprayed on crops shows "a high incidence of birth defects and cancers in people living near crop-spraying areas." Garlon (see below) is considered to be even more toxic than Roundup.

Herbicides must be applied over and over again in increasing amounts to eradicate non-native trees and weeds. Yet the Plan/EIR has supplied no evidence for the assertion that what will replace the non-native vegetation—grass and brush, the kind of vegetation that fueled huge fires throughout California in the past few years —will be less flammable than what is there now.

Ironically, Garlon is itself a fire hazard. Åccording to its Material Safety Data Sheet (MSDS) this chemical, which is a serious health hazard, contains 31% kerosene. **According to the National Fire Protection Association's rating system, Garlon has a fire hazard rating of 2 which means that the flash point temperature is between 100 degrees and 200 degrees F.**

103

Page 92 of the Plan, states that "repeated use of chemicals is not preferred because unwanted species develop resistance to herbicides." How much sense does it make then to continue to use chemicals? The natural resistance of vegetation to increased use of chemicals makes sense only to chemical companies that research ever more toxic products to sell to EBRPD.

Several questionable assertions are made in this Hydrology and Water Quality section of the EIR. Let us look more deeply into one of them.

104

On p. 92 of the Fuel Treatment section (also called Fuel Red.), in Section 4 of the Plan, we are assured

that "Using herbicides to control invasive plant species that exacerbate wildfire risk can be an efficient and cost-effective method that the District uses under the auspices of EBRPD's IPM policies and practices and in combination with other treatment measures (e.g. mowing, burning and hand removal). Recent studies conducted by the Marin Municipal Water District (MMWD) confirm this approach; the results of their studies on the use of non-chemical control methods for the control of invasive plants indicated that non-chemical alternatives are ineffective for large-scale vegetation management projects. (See Appendix H for additional information on these studies.)"

That paragraph from the Plan emphasizes that MMWD has found that non-chemical methods for controlling invasives are ineffective. But when we turn to Appendix H, we find a document titled "Marin Municipal Water District Herbicide Study Information." This document, which is dated 2/2/2007, describes the activities that MMWD staff will pursue in 2007 "***to evaluate the latest information on herbicide toxicology, potential exposures to humans and other organisms.*** . ." The activities include plans for a considerable amount of public involvement with a series of public workshops to study the data.

It should be emphasized that, at the time this MMWD document was issued, chemical herbicides had not been used in the Mt. Tamalpais watershed since 2005. It is true that the MMWD was concerned that its non-chemical methods were not working, and that the "infestation of invasive weeds" was spreading.

104 cont.

However, the point of the document was ***not*** to announce "the results of their studies for the use of non-chemical control methods." It was to announce that the latest information on herbicides would be studied and evaluated ***in the coming months;*** also that a risk assessment of all available weed control tools and methods would be done.

MMWD's investigation into the possible use of three conventional herbicides, three additives used to improve herbicide performance, and three organic products was turned over to an independent toxicologist. The assessment was to look at "most likely use and worst case scenarios. It will also address inert ingredients, researcher biases and conflicts of interest, and data gaps." The question and answer section of the document ends with these statements: ***"The Board's current position is that the use of any herbicide is the least preferred alternative. . . The current suspension on herbicide use will continue while the analysis is conducted."***

It seems strange to us that the Plan/EIR would somehow misunderstand and thus misrepresent the Marin announcement as some kind of assurance that, without herbicides, a fuel management program cannot be successful. Our understanding of this announcement is that it is saying something quite different.

We would encourage EBRPD to hire an independent toxicologist and conduct a study such as the one that MMWD has conducted since March of 2008 on all available methods of weed control, in addition to hand pulling and mechanical control. The MMWD document lists some methods that EBRPD does not seem to have considered such as soap-based heat control, and non-toxic herbicides. These should be included in a new EIR alternative to the proposed Plan.

105

Without such a scientific study as the one described by the MMWD, with a thorough analysis of all weed control methods, their "effectiveness, air pollution potential, water pollution potential (including

half-life), toxicity (including known links to cancer. acute toxicity, endocrine disruption, reproductive and developmental problems, or neurotoxicity), and exotoxicity with regard to birds, fish, aquatic invertebrates, and insects," this Plan/EIR is both inadequate and invalid.

105 cont.

We already know some of the results of the Marin Municipal Water District study. There is a more recent document than the one that EBRPD referenced (apparently without reading it or understanding what it contained). The new document is titled Marin Municipal Water District Herbicide Risk Assessment—Draft August 26 , 2008.

Here is a summary of the important information and some conclusions in that MMWD August 26, 2008 draft report:

Conclusion from the MMWD 2008 draft report: "There is no such thing as a "safe" herbicide; all herbicides have the potential to cause adverse health effects at some level of exposure."

Five herbicides were assessed. The three chemical ones are Glysophate (Roundup), Triclopyr (Garlon 4 Ultra), and Clopyralid (Transline). [We know that EBRPD uses Garlon on euc stumps; EBRPD also uses Roundup.] The two other herbicides are organic. [EBRPD has not revealed whether it uses any organic herbicides.)

106

Conclusion from the MMWD 2008 draft report: "Triclopyr poses the highest risk to workers, the general public and most aquatic and terrestrial wildlife. The primary factor contributing to high human risks is dermal exposure from handling the chemical during applications or from vegetation contact." [Note: That's Garlon that the report is talking about. EBRPD may use this herbicide more than any other in its chemical arsenal.]

Also, from the MMWD report: "Triclopyr is the herbicide of greatest concern for runoff into water bodies, both because of its high mobility and high toxicity. Use of no-spray buffer zones around water bodies and placing limits on the total acreage treated in a single year would significantly reduce the likelihood of herbicide runoff. . . " Note: These sound like real attempts to mitigate the impacts of herbicide runoff. The Plan/EIR should include such impacts and mitigations.

Also, please note: According to an e-mail confirmation from MMWD on October 5, 2009, MMWD still does ***not*** use herbicides anywhere on their lands, except in a small experimental area where it is using a form of Roundup in a half-life study.

Conclusion from page 13 of the MMWD 2008 draft report: "Triclopyr is particularly toxic to pregnant animals, causing severe birth defects in the fetus if the mother is exposed during pregnancy. . . Triclopyr and clopyralid are an order of magnitude more toxic to birds than the other herbicides, and triclopyr is the most toxic of the five herbicides to bees."

107

We urge EBRPD and its consultants to read this report and to consider its results as seriously as they would consider their own health and the health of their children.

We have seen (and photographed) stumps painted with Garlon that were allowed to fall into streams in Claremont Canyon. We have seen (and photographed) technicians, dressed in their protective hazmat suits, supposedly well trained in the application of Roundup; yet we note that, whatever BMP they

were taught, they are spraying this toxic material liberally into the air around broom, instead of carefully spraying it onto leaf surfaces.

There has been no analysis of water in chemically treated areas to find out how much damage chemicals have already done to creeks and groundwater in the hills. Studies are needed to analyze the health of animals in treated areas. If chemical herbicides must be used—and we seriously doubt their necessity—please let them be used only as a "last resort" and as sparingly as possible.

Summary Comment: The EIR does not make any serious study or analysis of the impacts of herbicides it has used and still intends to use in the Treatment Areas. Perhaps EBRPD has been too dependent on the advice and recommendations of both the native-plant lobby and chemical companies. The EIR must analyze the latest research on the toxic effects of herbicides on humans and animals. Without this analysis, the EIR cannot begin to analyze the impacts of herbicides on water quality in its parklands.

107 cont.

D. Air Quality and Global Climate Change

The EIR did not adequately address the potential impact of this project on Global Climate Change. The arguments made in the EIR as to why the effects of this plan on Global Climate Change are less than significant are flawed.

On page 264 of the EIR the following statements are made explaining the rationale for reaching this conclusion:

"While some of these activities (e.g., tree removal and prescribed burning) may appear to conflict with short-term GHG emission reduction goals, the State and District expect that there will be reductions in long-term overall emissions (associated with catastrophic and damaging wildfires) and larger net gains in vegetation health. Tree removal and thinning or brush clearing may cause short-term emissions (through the use of vehicles to transport personnel and mechanical equipment) and loss of some carbon sequestered in vegetation, but these emissions are expected to be offset by the promotion and regeneration of native and low fire hazard vegetation and growth and wood products. The activities identified in the Plan are intended to reduce the frequency and severity of wildfires, and as a result, CO2 emissions will be reduced and more carbon will ultimately remain in wildland biomass in the cumulative condition. However, quantifying the specific GHG benefits associated with avoiding wildfire through fuels treatment would be speculative and is difficult because of the unpredictable nature of fire."

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While there is an acknowledgment that there will be a loss of carbon sequestration associated with large-scale removal of tall trees (a consistent theme in the Plan), there is essentially no analysis offered and no chain of logic that would result in the conclusion that the effects are insignificant.

Nowhere in the Plan is it stated how many tall trees will be cut. This is a staggering omission given that the number will likely be in the tens or hundreds of thousands. In the much smaller UC FEMA projects being planned for the adjacent area, UC acknowledged that they expect to remove 70,000 trees. One could easily conclude that given the much larger scale of this project, the number of trees slated for removal could be many times that. This analysis cannot be adequate if the actual impact of the project is not clearly stated—and it is not.

Additionally, the Plan/EIR tries to argue that whatever carbon sequestration is lost as a result of the removal of (possibly) 100,000+ trees will somehow be offset as follows:

"...but these emissions are expected to be offset by the promotion and regeneration of native and low fire hazard vegetation and growth and wood products."

This argument makes no sense. How is it that "the promotion and regeneration of native and low fire hazard vegetation" will achieve this exact carbon sequestration offset? In analyzing the treatment recommendations for the roughly 130 polygons in this project it is clear that the net effect is to substantially reduce fuel loads (this is a direct reason for the project) and to remove tall, large-diameter trees in favor of smaller trees and grasslands. There is no argument that, whatever their disadvantages are, tall trees sequester greater quantities of carbon than smaller trees, bushes, and grasses. While it may be advantageous from a fire-risk mitigation standpoint to replace tall trees with smaller vegetation types (although we assert this is not in fact the case), there is simply no logic that would allow one to conclude that, in the process of swapping out one form of vegetation for another, there would not be a net loss of carbon sequestration.

A review of other vegetation management districts in the U.S. indicates that many of them specify: "Limit removal of trees to those less than 8 inches in diameter" because of the "importance of increasing the average tree size in the remaining forest."

109

The EIR must provide figures for the difference in CO2 absorption between the non-native trees it plans to cut down and the CO2 absorption of the various shrubs, grasses, chaparral, and native trees that may (or may not) eventually regrow in those areas.

The favorable effects of trees on carbon dioxide have nothing to do with whether the trees are native or non-native. The important factors to consider in determining how much carbon dioxide each tree can absorb are: the size (height and diameter) of the tree, its age, where it is located, its general health, and whether it is hardwood or softwood, with hardwoods (like eucalyptus) absorbing more carbon dioxide than softwoods (such as pines and redwoods). The amount of CO2 taken in from the air in a hardwood tree's average lifetime of approximately 100 years can be calculated for each tree depending on its size. Calculators are available online. (See References.)

Also, as soon as the trees are cut down, before anything takes their place, organisms in the soil will increase their production of carbon dioxide. In *The Tree*, scientist Colin Tudge describes what happens after deforestation: "The organisms in the soil are constantly releasing carbon dioxide. . . from the organic material on the forest floor. When the trees are gone there is nothing to absorb this carbon dioxide, and the organisms of the soil add yet more to the climate's woes."

This EIR simply does not analyze these effects, instead making a broad based and illogical assertion that there would be an equivalent offset. . . . an assertion that flies in the face of the stated intention of the plan to reduce fuel loads.

Summary Comment 1: Per CEQA, the EIR must analyze the impact of this loss of carbon sequestration, but in order to do this the EIR would need to at a minimum calculate the net change in

carbon sequestration associated with the replacement of 100,000 tall trees with some number of smaller trees, shrubs, and grasses. This EIR makes no attempt to do this and as a result is deficient. 109

Summary Comment 2: Per CEQA, it is not permissible to use any baseline other than the current baseline in analyzing the effects of a project; yet in this case the assertion is being made in the EIR that there will be no carbon sequestration loss because, if the trees were not cut, they would burn. This is simply not acceptable logic under CEQA. The baseline *must* be the current condition where these trees are standing, not a hypothetical condition where they have burned.

The EIR also uses an impermissible speculative future baseline here rather than existing on-the-ground conditions. The EIR states:

"The activities identified in the Plan are intended to reduce the frequency and severity of wildfires, and as a result, CO2 emissions will be reduced and more carbon will ultimately remain in wildland biomass in the cumulative condition." 110

This EIR must compare the effects of the removal of the number of trees planned for removal with the expected resequestration resulting from the growth of other vegetation, not with some speculative future fire condition. Given that the intention of the plan is to reduce fuel loads it would be impossible to argue that there would be no net loss of carbon sequestration because this is precisely the goal of the project.

The EIR must analyze the impacts so that the proper mitigations can be developed (either reduction in tree cutting or purchase of carbon offsets). In short, the EIR does not adequately address the issue of Global Climate Change and needs to be rewritten to do this.

On the question of impacts to air quality, similar concerns exist. On page 261 the EIR states:

"Some vegetation management activities, such as prescribed burning and mechanical treatments to remove understory vegetation and non-native plants to reduce wildfire risks, would create some measure of additional air pollution in the short-term, but these amounts would be far less than the air pollution created by a wildfire that could result if such vegetation were left untreated. Any air pollution created by the vegetation management and fuel reduction activities identified in the Plan would have only short-term negative impacts, whereas the amounts of air pollution created by wildfires would have more significant, longer-term impacts to health and safety of both sensitive receptors in the immediate vicinity as well as populations further from the Study Area due to prevailing wind patterns and the sheer volume of air pollutants sent into the area." 111

Again, the assertion that the relevant baseline for comparison is the state in which the trees have burned is invalid under CEQA. The analysis that must be made is the effect of adding these pollutants to the air as compared to the *current environmental conditions* where the trees are standing. As was the problem in the prior section, there was simply no analysis done here. What one would expect to see is a detailed analysis of the expected air pollution emissions that would result from this project as compared to the current state where these emissions aren't being created. This EIR provides no quantitative analysis of the effects; rather it simply asserts that the effects will be irrelevant because

they might be worse if there were a catastrophic fire. This is not an analysis at all; it is instead an unacceptable argument for not doing the analysis.

The EIR also states:

" the Plan contains a number of best management practices that will be implemented prior to, during, or following execution of prescribed vegetation management and fuel reduction activities in order to reduce the potential for elevated levels of pollution that may result from these activities. In addition, the potential pollution levels produced by such activities are significantly less, and are of a shorter duration, than the levels of pollution likely to be created in the event of a catastrophic wildfire in the Study Area."

The assertion that the negative effects of this project will be somehow mitigated by the use of "best management practices" is not sufficiently supported or analyzed. What are these best management practices and how would their use minimize the negative effects? The Plan/EIR simply states that they will be used, but does not explain how the use of these practices will eliminate the need for subsequent mitigations. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.

Also, the argument (once again) that the relevant baseline for comparison is the state in which all the trees are burning is not acceptable per CEQA. The relevant baseline here is the current state, and there must be an analysis of the effects of the project relative to the current state.

111 cont.

The EIR does not consider the beneficial effects that trees have on air quality in addition to their absorption of carbon dioxide. When tall, mature trees are left standing, they filter pollutants from the air and add oxygen to it. According to the U.S. Forest Service, trees filter sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and particulate matter that are a major cause of respiratory disease.

Another important beneficial effect that the EIR ignores is the effect on the microclimate that the current vegetation has on the canyons and hills. Tall trees intercept and retain the moisture from the morning and evening fogs that sweep into the canyons from the west. During the morning, the water collected from the fog drips from tall pines and eucalyptus onto the shady ground, helping to create a moist environment. Because of their extensive root system, eucalyptus trees store moisture in the soil, thus increasing the humidity where they grow. The shading and windbreak effects of the high canopy retain the humidity in the hills. Removing the trees targeted in the Plan will transform a moist, humid, shaded environment—that many animals have adapted to—into a dry one, unprotected, except in the draws, from wind or sun.

San Bernardino County, on September 5, 2007, had to settle with the state of California in a lawsuit that requires that the County inventory and mitigate greenhouse gas emission that would result from their land use planning decisions. The lawsuit had been filed by California Attorney General Jerry Brown under CEQA in April of 2007.

Summary Comment 1: The EIR does not adequately address the issue of effects on Air Quality and needs to be rewritten to do this. It should then be recirculated for public review.

Summary Comment 2: As required by California law (AB32) which sets goals for the reduction

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of greenhouse gases, the EIR must quantify, analyze, and mitigate the loss of carbon sequestration if the existing trees are cut down. By 2010, this state law stipulates that greenhouse emissions must be reduced to what they were in 2000. The EIR must show compliance with AB32, per the current OPR draft CEQA checklist and BAAQMD October 2009 revised draft guidelines for CEQA compliance.

112 cont.

Finally, the EIR does not address the question of how well formerly "native" plants and native grasses, some of which are now rare in this environment, will survive in the future. As one of the consequences of Global Climate Change, the climate in the East Bay Hills has become, and likely will continue to become, warmer and dryer. Species that may have thrived 100 years ago in many cases may no longer be able to succeed in this location. We see this as a serious problem that could be exacerbated if the Plan is implemented as currently proposed.

The EIR must address the fact that the climate is changing. To embark on a program to recreate the vegetation that was here when the climate was different (which is a clear objective of the Plan) could well result in the unintended consequence of an even greater loss of vegetation than was intended under the Plan, further adding to the loss of carbon sequestration. The EIR must analyze the suitability of the desired vegetation outcome to the expected climate of the future.

113

Andrew MacDougall, of the University of Guelph, Ontario, has concluded from two studies that attempts to restore native-plant landscapes may be futile because of Global Climate Change, especially because of increased levels of carbon dioxide. The research he did on an 86-acre Nature Conservancy sanctuary of oak-studded grassland for rare or endangered plants and animals on Vancouver Island is especially relevant. (See References: Christopher, *New York Times Magazine*, June 29, 2008.) "Initially he supposed that simply removing the foreigners would prompt a renaissance of the native grasses and wildflowers. The actual response was quite different. For three years, MacDougall removed the invasive grasses…yet the native flora didn't rebound significantly. In some cases the decline of the native-plant species instead accelerated, and the fundamental character of the flora within the plots began to change, with woody plants encroaching on the formerly open, grassy areas."

The same article tells how Lewis Ziska, a weed ecologist with the USDA, experimented with the ways heat and increased levels of carbon dioxide might affect the growth of weeds. He found that they promote the growth of weeds while making them more resistant to herbicides and more difficult to control.

5. FlamMap

A. The fundamental flaw in EBRPD's fire-risk mitigation Plan is that the proposed treatments are not supported by accurate, appropriate or complete data.

The EIR is inadequate because it relies on an inadequately supported and erroneous fire-risk mitigation Plan, as detailed in the examples below. This sort of "information" is arbitrary, capricious, and fails to meet even the most minimal "substantial evidence" standard.

114

Examples of this deficiency include:

1. The stated primary goal of the Plan is to reduce the risk of catastrophic wildfire "under Diablo wind conditions"; yet the Description of Fuel Models (Table 1), which is supposed to support the rationale for polygon treatments, is based on conditions when the windspeed is 5 mph, ***not*** Diablo wind conditions. While it is not entirely clear the extent to which the model does not accurately assess the risk associated with the conditions that are being mitigated, it is fair to say that this discrepancy calls into question the accuracy and relevance of the FlamMap model that was run. Per the data cited in the plan, under Diablo wind conditions only the "Redwood Forest" Fuel Model provides a potential flame length less than 8' (EBRPD's criteria for the Plan) … but redwood forests are not being proposed in this Plan. Additionally, this discrepancy highlights the fact that the Plan ignores the research of Dr. Jon Keeley, which demonstrates that, under Diablo wind conditions, every fuel type, regardless of species, will burn. The basic question here is: if the intention of this plan is to minimize the risks associated with Diablo wind conditions, then why was the FlamMap model run with variables inconsistent with these conditions? Additionally, the EIR must address the issue of the dubious fire-risk mitigation benefits that might result from removing only certain species; Keeley (and the history of the area) makes clear that this strategy will simply not work in addressing the risk that the Plan seeks to address.

   Comment: The FlamMap analysis and the EIR are inadequate because they don't address the very conditions that the Plan seeks to remedy. The EIR must be revised to model the fire-risk conditions that are being addressed by this Plan, not conditions that are irrelevant to the realities of this environment. Per CEQA, the EIR must analyze a plan that is intended to achieve the stated objectives, but it is not clear that this Plan, as supported by the FlamMap analysis, actually will achieve the stated project objectives.

114 cont.

2. The FlamMap analysis was based on "Descriptions of Fire Behavior for Fuel Models" (Appendix B) which lists Fuel Model 8 (Oak Forest) with the following statements: "*Only under severe weather conditions involving high temperatures, low humidities and high wind do the [oak] fuels pose fire hazards" and "an occasional "jackpot" or heavy [oak] fuel concentration may cause a flare up."* These are precisely the weather and conditions the Plan/EIR is intended to address, so proposals to replace existing vegetation with oaks, or oak-bay woodland, make no sense.

   Comment: Since it is clear that simply addressing fuel load, or vegetation species, will do little or nothing to mitigate fire risk, the EIR should instead propose treatments that will reduce the risk of wildfire by concentrating on ignition factors, fine fuels and ladder fuels. The FlamMap analysis and the EIR are inadequate because they don't address the problem that the Plan seeks to address; the EIR does not analyze the most appropriate fire-risk mitigation strategy. Per CEQA, the EIR must analyze reasonable alternatives, but this EIR does not

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because of deficiencies in the FlamMap analysis that resulted in the selection of a "preferred" alternative that is not the best alternative for fire-risk mitigation.

115 cont.

3. The FlamMap analysis attempts to describe significant threat of fire, and threat of fire spread, by referencing research data, local fire history and input from knowledgeable personnel. The above points demonstrate that the *Fuel Model* (species) research data utilized in the Plan is inappropriate and misleading. But the FlamMap analysis also attempts to incorporate information about crowning, torching and ember production (spotting). This "information" is not supported by any objective scientific data, and in many cases reflects the lobbying and bias of nativists who are primarily interested in the eradication of non-native species.

   For example, in the Plan's discussion of crowning, torching and spotting, only eucalyptus and pines are mentioned. However, in a hot, dry, Diablo wind-driven fire, all species have the potential for crowning, torching and throwing embers.

   If the Plan were objective, it would have pointed out that the mature eucalyptus has certain characteristics that make it less hazardous than the bay tree. A tall eucalyptus tree has no low limbs and maintains moisture throughout the fire season; a bay tree, on the other hand, has dense, low-lying limbs that often overhang the dry weeds and grass under them at the height of the fire season. The Plan repeatedly assigns ember production to the eucalyptus as if the euc is unique; although it does not provide any explicit support for this claim. Stories of flying euc leaves, bark, and seedpods began circulating shortly after the 1991 Tunnel Fire, but physical tests have demonstrated that airborne euc bits will not carry embers. Survivors of the '91 fire (supported by photographs) witnessed spotting from burning oaks, bays, and chaparral. Removing the mature eucalyptus, especially on ridgelines where they function as windbreaks, and replacing them with low, fast-burning, ignition-prone vegetation (which also throws embers and has flame lengths up to 69') would exacerbate, not decrease, the risk of wildfire.

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   Comment: The EIR must provide objective scientific data supporting claims that only eucalyptus and pine represent threats of torching, crown fire and ember production. The extensive use of nothing more than anecdotal assertions and unsubstantiated opinions as to the unacceptable ember production characteristics of pines and eucalyptus, while ignoring the ember production capabilities of other species (simply because they are native), is unacceptable. The conclusion that only eucalyptus and pine trees must be removed from ridgelines due to their potential for casting embers, while completely ignoring the similar characteristics of other species, does not pass the test for scientific rigor that is required to justify their removal under CEQA. In order to justify the removal of certain species due to their potential for ember casting, the EIR must objectively analyze data that would

support this conclusion, but it does not.

116 cont.

B. "Fire Behavior for Fuel Models" (Appendix B) does not match or correspond to the "Description of Fuel Models" (Table 1), so it is impossible to relate the Description information to the Fuel types. This is critical because the combination of these two charts supposedly provides the scientific support for the FlamMap analysis. Since the FlamMap analysis is derived from a computer simulation, the input to the computer must fundamentally make sense. (Garbage in, garbage out.) For instance, the Description uses 8% for the dead fuel moisture level, an assumption that fails to account for the difference in understory conditions between closed and open canopies, or for the extreme red flag day conditions described in the Plan's wildfire-mitigation goal. **117**

Comment: Correct and correlate the basic data and assumptions in Appendix B so it is possible to see that the proposed treatments meet the Plan/EIR's fire-risk mitigation goal.

C. Under "FlamMap Outputs" the following statement appears: "*It should be noted that not all areas with the potential for high flame lengths can be cost-effectively treated with minimal effects to the environment.*" What is the meaning of this statement? Is it a disclaimer that some (or all) areas of treatment could be subjected to environmental damage that is not completely addressed in the EIR? After all, we already know that nearly all vegetation types have the *potential* for high flame lengths (anything over 8'?) and the goal explicitly describes conditions when that would occur. **118**

Comment: Explain and clarify the italicized statement above in terms of potential environmental impact within the treatment areas.

D. Fuel Model 8, Oak Forest, within Fire Behavior for Fuel Models (Appendix B), describes the oak environment, including "The total fuel load is 5 tons/acre, with one-half of the volume consisting of material one to three inches in diameter . . . " Since the fuel bed height is listed at 2-1/2" deep, that indicates that most of that half of the 1"-3" fuel is *in the tree;* that fuel within the tree represents potential ember production. Therefore, the oak should be prominently mentioned in the discussion of potential spotting, which should result in some changes in inputs to the FlamMap. **119**

Comment: The FlamMap and thus the EIR are inadequate because they do not include oaks in the discussion of torching, crown fire and ember production, and they do not consider these impacts on the selection of treatments (see A3).

E. Fuel Model 8, Oak Forest (Appendix B) does not correspond to the oak-bay woodland repeatedly recommended in the treatments. There is no objective, factual description of the oak-bay woodland vegetation type, because that type is discussed only in terms of the oaks, omitting any evaluation of the highly flammable and highly invasive bays (to say nothing of the California buckeye, big leaf maple, California black oak and madrone that are also included in this vegetation type). Clearly, on a Diablo wind day, the oak-bay woodland will burn with flame lengths that will be multiples of the maximum 8' criteria, flame lengths 50% longer than a mature eucalyptus forest. Therefore, if fire-risk mitigation is the goal, the oak-bay woodland type is inappropriate as a treatment.

Comment: The EIR must provide a fire behavior analysis of the oak-bay woodland vegetation type on a red flag day, including all species in the type, and including fire ladder/crowning, torching and ember production considerations. The EIR does not provide evidence that the creation of many oak-bay woodlands (the major landscape transformation of the "preferred" alternative) will result in achieving the stated fire-risk mitigation objectives. Based on this, such an alternative would have to be considered to be unacceptable. The EIR must objectively analyze alternative approaches in light of their "best fit" in achieving the goal. We submit that this did not happen in this case, as the creation of oak-bay woodlands has not been shown to achieve the desired results. However, the HCN alternative would achieve the desired fire-risk mitigation result-- at lower cost and with fewer environmental impacts. **120**

F. The data supporting the inputs into the FlamMap fail to take into account the favorable impact of canopy on the humidity in the understory and therefore on ignition potential and rate of flame spread. Studies have shown that the tall trees in the hills intercept the moisture in the fogs that sweep up the canyons in the fire season as well as in winter, resulting in the effect of 10" additional annual rainfall, and in raising/maintaining the humidity of the understory. The Plan and the EIR should not only include data reflecting this favorable environmental impact, but also compare those conditions with the unfavorable impact that would result from the types of vege tation that are being proposed to replace the tall trees.

Comment: Investigate and comment on the favorable impact that existing tall trees have on the humidity and moisture content in the understory, relating that impact to ignition and fire spread. **121**

Summary Comment 1: The inputs to the FlamMap analysis are inadequate and deficient. Thus, the outputs, which are not shown in the Plan/EIR, must be assumed also to be invalid. There, in fact, appears to be no relationship or cause/effect correlation between the FlamMap analysis and the treatments specified.

G. The variables used to drive the FlamMap model are of questionable veracity Examples include:

- EBRPD personnel used nonstandard variables as opposed to nationally recognized standard variables.
- The inputs for moisture content were manipulated to favor desired native species over "undesirable" non-native species.
- The high moisture content of eucalyptus trees during the fire season was ignored while higher moisture content numbers were awarded to other species (willow, huckleberry) without any scientific justification.
- Eucalyptus and pines were given higher flammability ratings due to oil content, while the same rules were not applied to bay trees which are also known for their high oil content, especially in their leaves.

121 cont.

Comment: Since the EIR relies heavily on the use of the FlamMap analysis to support the choice of the "preferred" alternative, it is essential that this analysis be done in a fair and consistent manner. The problem here is that there is substantial evidence to suggest that the data inputs used to drive the model were manipulated to achieve a desired outcome. EBRPD must rerun FlamMap using nationally accepted input variables without artificially manipulating the moisture content and flammability potential for certain species.

H. There is no obvious connection between the outputs of the FlamMap model and the resultant choice of the "preferred" alternative. While there is ample evidence that the inputs used to drive the FlamMap model were far from appropriate, even given these inputs, there is no clear linkage between the model outputs and the resultant Plan. While the Plan and EIR both state that the major objective is to achieve flame lengths of less than 8 feet, there is no evidence that this Plan achieves that goal. While there is great detail provided as to the "prescription" for each polygon, there is no clear chain of evidence showing how these detailed polygon plans were developed from the FlamMap analysis. Instead, there seems to be a simple reliance on the notion that almost all foliage within 200 feet of a structure should be removed and that some species have unacceptable ember-throwing characteristics. Neither assertion is an output of the FlamMap model.

122

Comment: The EIR must clearly show the causal relationship between the FlamMap model and the resulting choice of alternative. If the objective is to reduce flame lengths to less than 8 feet, then the model must demonstrate that this objective would be met by implementing the "preferred" alternative.

I. The use of the "crosswalk" methodology to characterize the fire risk of each polygon is

problematic in that a major component of the fire risk results not from the trees in each polygon, but rather from the understory fuels. To analyze the combination of trees and understory and then select a "preferred" alternative that results in removing large numbers of trees is not a logical conclusion that would result from this analysis. The FlamMap analysis should have been run both with and without understory components, so that the effects of each could be clearly understood, which would have allowed the EIR to assess the most cost-effective and environmentally sensitive approach to reducing fire risk in the area. To aggregate trees and understory and then recommend removal of certain trees makes no sense, but this was apparently the logic that was used.

Summary Comment 2: This is probably one of the most significant flaws in the EIR. To aggregate fuels and analyze this aggregate precluded considering the very alternatives that would be better targeted to addressing the problem and would be more effective, less costly, and less environmentally destructive than the "preferred" alternative. Instead, the FlamMap analysis was run in such a way as to obscure the risks associated with the various fuels, somehow resulting in a conclusion to remove certain species of trees (although even that is not clear). CEQA requires that there be a clear chain of evidence to support the selection of the "preferred" alternative, but in this case a chain of evidence does not exist. The FlamMap must be rerun both with and without understory fuels so that the best alternative can be determined.

122 cont.

6. Inadequate Range of Alternatives

This EIR, while listing a number of alternatives, dismisses the majority with almost no analysis of the relative merits of each one. Additionally, the alternative that is ultimately selected is inferior to other possible alternatives, one of which we recommend.

Following is the relevant section from the 2009 CEQA Guidelines:

15126.6 CONSIDERATION AND DISCUSSION OF ALTERNATIVES TO THE PROPOSED PROJECT.

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"Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison."

The EIR lists five alternatives: (1) no action, (2) maximum fuel reduction, (3) no tree removal, (4) wildland-urban interface management only, and (5) no chemical use. However, none of these alternatives is actually analyzed. **This failure to analyze alternatives has been clearly rejected by the courts in the Laurel Heights I decision, among others.** (In the case of the No Tree Removal alternative it is interesting to note that Jerry Kent, a widely known native-plant restoration advocate, offering little more than his opinions, is used as a reference. To suggest that his opinion should be cited as a reference calls into question the objectivity of this EIR.)

Letter
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cont.

The statement in this section, "and reducing and removing non-native invasive plants" makes one wonder what the real objective of this Plan is. Clearly, Measure CC was not about "and reducing and removing non-native invasive plants"; yet this issue has made its way into the Plan and EIR.

123 cont.

Alternative 4 is rejected for among other reasons: "The eucalyptus stands that represent significant threats from torching and crown fires that can cause ember flight under a Diablo wind condition would not be treated." There is absolutely no substantiation of this claim in the EIR. There is no evidence cited that the issue described above is any less severe with any other species of tree; yet this claim is apparently reason enough to remove this alternative from consideration.

124

Alternative 5 argues that the use of Garlon and other herbicides is essential to managing vegetation in the East Bay Hills. It's interesting to note that the evidence to support this contention is the experience of the Marin Municipal Water District. However, a closer reading of MMWD reports than EBRPD apparently gave them shows that MMWD is extremely concerned about the possible ill-effects of large-scale herbicide use over an extended period. **Even more important, according to an October 5, 2009 e-mail received from MMWD, it is still not using herbicides.** It must also be noted that Marin county is an area with substantially different vegetation than the East Bay Hills.

One wonders why EBRPD's fellow member of the Hills Emergency Forum, East Bay Municipal Utility District wasn't cited since it manages lands in the same area and works with EBRPD on a regular basis. Perhaps this is because EBMUD has effectively managed its watershed lands in the East Bay Hills without the use of herbicides? The use of selective sources (which they either misunderstood or misrepresented) calls into question the objectivity of this EIR and makes one wonder if the conclusions were the result of careful and objective analysis or simply an attempt to rationalize a predetermined outcome.

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Per CEQA, it is incumbent on the EIR to seriously consider reasonable alternatives and actually analyze their impacts. In this EIR the five alternatives were not analyzed; instead, they were listed and discarded with essentially zero analysis. This is a clear violation of CEQA (per Laurel Heights I and subsequent case law) and must be corrected.

Additionally, there is at least one other option that achieves or betters the fire-risk mitigation goals (assuming this is really the goal of the project; there is some question about this given the different project goals stated in different parts of these documents), while not causing the visual impacts of the EBRPD's "preferred" alternative, and at a lower cost. The HCN alternative is superior to the one that was selected because it clearly does a better job of achieving the project goals at a lower cost and with fewer negative environmental consequences.

The HCN alternative was constructed by maintaining those portions of the Plan that we believe are reasonable and altering the plans for approximately 45 of the treatment polygons as follows:

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HCN Alternative

We request that the following alternative be evaluated in a recirculated DEIR:

Letter
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cont.

The HCN alternative calls for making adjustments to the following polygons as described below:

LE006
Comment: Why is oak removal prescribed for this site? Why would scrub and grassland be preferable? What is the compelling reason for doing anything at this site? We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

WC011
Comment: Unclear what the objective is for this site. In one case it is stated that the desired outcome is an "emerging and established oak woodland, grasslands where no trees exist. " Then the section goes on to state that the desired outcome is an oak woodland. Are oaks not considered trees? Is it EBRPD's intention that this area be covered with oaks and grass or just grass? What is the compelling reason for doing anything at this site? We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

MK005
Comment: While we understand and support the need for a fire break, there is no apparent justification for removal of only pines. If there is to be a fire break, it must be devoid of all significant vegetation to be effective. To simply remove one species in favor of another, which is what is recommended here, is to engage in native-plant restoration, not fire-risk mitigation. Bottom line, ALL trees must be removed to create an effective fire break, not just one species. Having said this, we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

126 cont.

SR002
Comment: We wonder whether this is truly an intended project or an error. It's difficult to understand why this area would be targeted when there has already been a massive clearcut in the southern portion of SR003, which was almost universally viewed as a mistake that created a maintenance nightmare, and was not continued in the northern portion of SR003. Given the location of this site (not on a ridge-line) and the problems that resulted on the southern portion of SR003 from euc removal, why would any remaining eucs be removed? Is this a mistake? If not, this strategy would seem entirely unsupported by the overall CC guidelines. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

SR005
Comment: Yet another oak-bay woodland? Again, if the objective is to remove trees from the ridgeline, then remove all species, not just one. As stated previously, the stated concern over nesting raptors is at best disingenuous as the net effect of this project is to virtually eliminate all raptor habitat in the hills. Where are they going to go? As for the safety of the transmitter tower, it was designed with a substantial defensible space with buildings specifically engineered to be fire-resistant. The transmitter site does not need this project in order to be fire safe. We suggest that a more rational and effective approach would be to remove understory fuels and thin/limb up all species so as to remove the fire ladder. This would preserve the aesthetic, preserve the habitat, and achieve a greater degree of fire-risk mitigation at a lower cost than what is being proposed.

HP001
Comment: As stated before, to remove only certain species to create a fire break is not acceptable. Either all species should be removed or none. To create yet another oak-bay woodland is not going to reduce wildfire risk; instead, it will only eliminate a species that some dislike in favor of a species they like. This is native-plant restoration, not wildfire-risk mitigation. To the extent that thinning is called for, it must be species-neutral rather than the promotion of one species over another. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

CC001
Comment: As far as we know, the initial treatment at this site was completed several years ago. Is this in fact the case and is this really a maintenance area or is there yet more initial treatment to be done here? Additionally, what is the purpose in removing all young pines on the slope? Creating tree canopy at this site would have a beneficial effect in reducing fire risk, so why would canopy be destroyed? We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

CC003
Comment: We believe that there is an error here. As best we can tell, and as corroborated by John Swanson, with the exception of the ridgeline pines, this work has long since been completed. As for the prescription that the pines on the ridgeline be removed, not only would we find this to be completely unacceptable as they are a key part of the aesthetic of the area and pose essentially zero fire risk, but they are not on EBRPD property. Given their importance to the overall environment, we suggest that a rational course of action is to maintain what has already been put in place at this site; keeping the understory clear. Please confirm that this prescription is in fact incorrect as written. To the extent that any more work is planned for this site we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

126 cont.

CC004
Comment: We believe that there is an error here. As best we can tell, and as corroborated by John Swanson, this work has long since been completed. Please confirm that the statement that the ultimate goal is to remove all eucalyptus from the mid-canyon site is, in fact, not intended. To the extent that any more work is planned for this site we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

CC005
Comment: This prescription seems to contradict itself. While the ultimate goal is stated as being (yet another) oak-bay woodland, the action plan calls for only understory fuels removal. While we fully agree that understory fuels removal makes sense, we would expect that in so doing the eucs at the site would remain. Please confirm that this prescription calls for only removing understory. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

CC008
Comment: This prescription is for Gelston house, work that has already been done. Please correct this document to indicate that this site is ongoing maintenance, not an initial treatment. To the extent that any more work is planned for this site we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

CC012
Comment: It appears that, like most of the Claremont Canyon projects, this project has already been completed. Please confirm that this area is slated for maintenance rather than initial treatment. To the extent that any more work is planned for this site we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

LC001-LC004
Comment: Ridgeline clearing to either create a fire break or minimize the potential for ember disbursement must be species-neutral. To single out one species for eradication is native-plant restoration, not fire-risk mitigation, and, as such, is unacceptable. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

LC005b
Comment: There appears to be a contradiction with this prescription. On the one hand it calls for the creation of yet another oak-bay woodland, but does not call for removal of eucalyptus trees in order to achieve this end. While we would support thinning the eucalyptus at the site, the creation of yet another oak-bay woodland will not reduce wildfire risk, and is simply another native-plant restoration effort. Please modify this site plan to specify euc thinning only. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

126 cont.

LC007a-d, LC008, 9
Comment: The approach suggested for these sites is all about native-plant restoration, not wildfire-risk mitigation. To replace extremely difficult to ignite fuels with extremely easy to ignite fuels will INCREASE fire risk rather than decrease it. Additionally, raptor habitat is a significant concern that will not be addressed by simply avoiding the cutting down of trees with active nests. The fact is that the raptors, as well as other birds, insects and butterflies in this area, rely on eucalyptus trees for habitat and will be forced out of the area if a significant percentage of the eucalyptus trees are removed. A much better approach is to remove understory fuels, limb up to a minimum of 8 feet, and perhaps thin out some of the smaller trees. This approach would maintain habitat, maintain the beauty of the area, and would result if a safer fire environment than creating grasslands/oak-bay woodlands.

AC001, AC006, 7
Comment: Yet another oak-bay woodland? Has anyone considered the potential impact of Sudden Oak Disease as more and more of our parklands are converted from diverse vegetation species to an oak-bay monoculture? If the objective is fire-risk mitigation, then ALL vegetation needs to be thinned rather than one species. Suggest that this prescription be modified to call for maintaining the current mix of

species, but with less density and with a removal of understory fuels, irrespective of species. This would result in real fire-risk mitigation. Again, we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

AC0010
Comment: Apparently oaks are considered an appropriate species for ridgelines while eucs are not? Again, if the issue is trees casting embers from ridgelines, the oaks must go as there is no evidence cited that they are any less of a threat for ember casting than eucalyptus. Alternatively, we suggest that a better approach would be to simply thin all species and remove all understory. This approach would truly enhance fire-risk mitigation as opposed to allowing for one species of highly flammable trees (see 2007 Charing Cross fire) to remain.

RD001
Comment: It is unclear why the eucalyptus trees at this site are recommended for removal rather than thinning/understory clearing. Based on work that has already been done at this site, the percentage of pines being removed is excessive. While the initial claim was that only sick trees were being removed, in fact a large number of healthy trees were removed. Suggest that pine removal be limited to only diseased trees and that under no conditions should more canopy be removed. The removal of canopy at this area is changing the very nature of this site from a shady/moist trail to a hot and dry trail that is unsuitable for use during much of the summer. Additionally, the removal of the canopy has opened up this area to invasion by various opportunistic weed species that are undesirable both from a use perspective and from a fire perspective. The plans for this site need to be changed to take only the smallest number of pines possible and to thin rather than clearcut eucalyptus. Again, we propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

126 cont.

RD0002
Comment: Yet another oak-bay woodland? Again, simply avoiding logging during the nesting season will do nothing to prevent raptor habitat from being destroyed by this project. Also, there is no good reason to remove only eucs on the ridgeline. If a barren ridgeline is what's desired, then all species must go. Anything short of that is native-plant restoration, not fire-risk mitigation. Suggest that if any species are to be left on the ridgeline, then the understory should be removed under ALL of the trees and ALL the trees should be limbed up to at least 8 feet.

RD004
Comment: There appears to be a contradiction between the end objective for this site versus the suggested treatment methodology. While we would agree that the stated treatment methodology makes sense, removing understory and litter, this would not create yet another "oak-bay woodland with scattered pines and grass." The reader is left to wonder whether this site will simply have its understory cleared or whether it is to become yet another oak and bay woodland. . . Additionally, it's unclear why it would be desirable to have an environment such as the one described if the objective is fire-risk mitigation. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

TI003
Comment: Removing pines on the ridgelines would appear to have little effect on fire-risk mitigation, but would only serve to continue to enhance the creation of an oak-bay monoculture. A better approach that would preserve the raptor habitat and visual amenities of the area, while truly reducing fire risk, would be to selectively remove smaller trees, remove all understory components, and limb up to a minimum of 8 feet. An additional step that could be taken to further reduce risk would be to simply create vegetation-free buffer zones on the roads that bisect/circle the majority of this site.

TI005
Comment: To remove the pines at this site would add nothing to fire-risk mitigation while destroying valuable habitat for raptors and other animals. To create yet another oak-bay woodland would further add to the developing monoculture, further increasing the risk of SOD. A better approach for this site would be to thin the pines, removing sick and smaller trees first; then remove all understory, and limb up to a minimum of 8 feet.

TI006
Comment: There is no fire-risk mitigation rationale for creating yet another oak-bay woodland at this site. Again, assuming that native-plant restoration is not the reason for work at this site, the better approach would be to remove all understory, ensure reasonable spacing between trees, limb up to 8 feet, and maintain the current canopy and species diversity.

126 cont.

TI007abc
Comment: Yet another series of polygons where the objective is to replace a eucalyptus forest with the oak-bay monoculture. The suggestion that raptor habitat will be preserved by avoiding the killing of chicks in their nests is disingenuous as the cumulative impact of these projects is to destroy any semblance of raptor habitat on EBRPD parklands. These raptors have nowhere else to go. Again, unless the objective of this project is to achieve native-plant restoration, an effective and appropriate action to address fire-risk concerns is to remove all understory, lessen the density of trees, and limb up to a minimum of 8 feet.

TI009
Comment: It is not clear what is intended for this site. The action plan does not call for removing eucalyptus trees; yet the objective is to convert this site into yet another oak-bay monoculture. It would appear that the work planned for this site would have no effect in reducing fire risk and is nothing more than a large-scale gardening project. We propose that only understory fuels be removed and that all trees be limbed up to a minimum of 8 feet.

TI014, 16-19
Comment: Same comments as those at TI007.

We submit that the HCN alternative is superior to the EIR's "preferred" alternative and should be selected in lieu of the "preferred" alternative as it is a better fit for the project objectives at a lower cost and with far fewer mitigations required.

The HCN alternative achieves better overall fire-risk mitigation than the EIR's "preferred" alternative because it calls for more consistent and widespread removal of understory fuels and ladder fuels, the biggest risk we face in managing fire in this area. It's interesting to note that the FlamMap analysis used for this EIR is also based largely on the risks associated with ground fuels rather than the potential for trees igniting. Given that there is general agreement that ignition is the area of greatest risk (and opportunity), the notion that somehow the removal of certain species of trees is an appropriate response simply doesn't make sense. All the analysis and recent evidence (LA fires, Charing Cross Fire, Broadway Terrace Fire) make it clear that reducing fine fuels on or near the ground coupled with fire ladder removal is the most effective way to minimize fire risk; yet the EIR's "preferred" alternative does not consistently employ this methodology. **126 cont.**

As for cost, according to EBRPD data, the price tag associated with removing ground fuels is substantially lower per treated acre than the cost of removing trees. Additionally, prison crews have been used successfully throughout EBRPD to perform this work, saving the District substantial sums.

Finally, the negative environmental effects associated with the "preferred" alternative are substantially reduced by employing the HCN alternative. The need for herbicides is far lower as a result of enhanced canopy maintenance, the risk to endangered species is lower due to the substantially smaller amount of logging, air pollution is lower due to the decreased need for heavy machinery use, the effects on Global Climate Change are substantially lessened due to avoidance of the carbon release that would result from the implementation of the EIR's "preferred" alternative, and finally, the risk of fire would be lower than with the "preferred" alternative because high-risk fuels would be reduced to a greater extent than would be the case with the "preferred" alternative.

Summary Comment: At a minimum, this EIR must do a comparative analysis of the impacts, mitigations, and costs of the HCN alternative proposed and recommended in these comments versus the EIR's "preferred" alternative before this EIR can be certified. **127**

7. Cumulative Impact

This is probably one of the weakest areas of this EIR. While the EIR does a good job of listing the various other agencies and projects in the immediate area, there is essentially zero analysis offered as to the cumulative impacts that all of these projects will have on the environment and on the people's use and enjoyment of the parks.

DISCUSSION OF CUMULATIVE IMPACTS **128**

As defined in CEQA Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. As detailed below, this EIR fails to assess the potential cumulative impacts of the project and

the many cumulative projects identified in the EIR. 128 cont.

In addition, the cumulative projects list is incomplete. For example, nowhere in the Plan/EIR document is there any mention of the cumulative impact of UC's plan to cut down 70,000 trees combined with the impact of the EBRPD's plan to cut down many more trees (the number is unspecified in the Plan/EIR). The fact that both UC and EBRPD intend to apply Garlon to the stumps of non-native trees for the next 10 years is not mentioned. The fact that, considering what has already been done by UC, EBRPD, and EBMUD, more than 50,000 trees have already been removed, and that, if implemented, the plans for these agencies would result in the removal of well over 100,000 additional pines and eucalyptus trees, is not mentioned, and the environmental impact of that deforestation has not been analyzed, much less mitigated. 129

Following is a brief synopsis of where we see deficiencies in the cumulative impact analysis:

A. Biological Resources. There is no real impact assessment in this section. Instead, the EIR argues that the use of BMPs will somehow mitigate against any undesirable cumulative impacts. There is no explanation given as to the sorts of impacts that might be expected and exactly how the use of these BMPs would mitigate these impacts; there is simply a statement that the impacts would be mitigated. 130

Under CEQA, more is required. For example, the impacts on raptor habitat of removing in excess of 100,000 tall trees have not been analyzed. What happens to endangered and at-risk species when not only the immediate site they inhabit is affected, but all the adjacent areas are completely changed as well? The assertion that animals will simply move from one area to another while their initial habitat is being "treated" doesn't work when the area that they are expected to move to is also being treated. This is, in fact, what will be happening here. The EIR simply doesn't address this situation. . . and needs to. 131

B. Geology, Soils, and Seismicity. There is no analysis provided as to what happens when large-scale tree removal takes place, as would occur if all of the projects identified in the cumulative section of the EIR are implemented. Taking Claremont Canyon as an example, EBRPD states that the effects of their tree removal projects on soil stability are of no consequence, but what is not mentioned is that UC plans to clearcut every pine, eucalyptus, and acacia immediately east of the EBRPD project area. While we know that the stumps will be left, we also know that when their roots die their ability to hold the hillside in place will be lost. What then? We have already seen mudslides as a result of the Mid-Canyon Phase 1 project three years ago, and that was a very small project. One can only imagine what the results might be of removing 100,000+ large trees. But one shouldn't have to imagine this. The EIR needs to analyze this obvious concern but does not. This must be fixed. 132

C. Hydrology and Water Quality. Nowhere in this section is the potential cumulative impact of applying thousands of gallons of Garlon and other herbicides analyzed. While the EIR argues that there is a need to use these chemicals on various EBRPD sites, nowhere is the amount of these chemicals stated. For this analysis to be valid in the context of cumulative impact, this EIR must also consider the amount of herbicides that UC is planning to use over the next 10 years for their sites, also a substantial amount. It is ludicrous to suggest that it is of no consequence to use this much herbicide in hill areas that run off into creeks, ultimately ending in the Bay over a 20-year period. Already in Claremont creek there are no longer any fish or newts, most likely as a result of the rampant use of herbicides by UC 133

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two years ago (with climate changes that have dried the habitat). We would expect this situation to only get worse as the size of the application area grows and the duration of the application time is extended.

In this section as well, the argument is made that there is no need for an analysis. These arguments are invalid and, even if they were valid, the conclusion that no further analysis was required would need to be rationalized based on a clear explanation of why this is the case. This was not done, and the result is that the cumulative effects of the completed and known projects on hydrology and water quality simply haven't been analyzed. These effects must be analyzed for this EIR to be valid. **133 cont.**

D. Air Quality and Global Climate Change. The EIR argues that because overall air quality levels in the area have been improving, it's no problem if this project adds to the pollution levels. This is hardly an analysis of the effects; it is instead a flimsy and logically unsound attempt to rationalize *not* analyzing the effects. The EIR goes on to assert that there are no significant impacts on Global Climate Change because the projects will be dispersed across the calendar year. This argument makes absolutely no sense as Global Climate Change would result from reversal of carbon sequestration, which happens any time of the year. **134**

On the question of Global Climate Change alone, the cumulative effect of this project and the other completed and planned projects in the area will eliminate more than 100,000 tall trees. There are no plans being offered to replace them with trees of equal carbon sequestration capability, so this cannot be assumed to happen. Even if and when replacement vegetation moves in to replace the tall trees, according to the Plan, these will be much smaller trees, shrubs, and grasses, so the net effect will be a substantial reduction in carbon sequestration. **135**

This EIR fails to provide any scientific, comprehensive assessment of the impact of removing tens of thousands of trees. It is difficult to believe that this report could be so completely out of step with efforts to plant trees in the rest of the world.

This EIR fails to analyze these impacts, but must do so to be in compliance with CEQA and with California law (AB32).

E. Noise. Again, the EIR fails to analyze the cumulative impacts of the listed and unlisted projects. The removal of more than 100,000 tall trees will cause nearly constant chainsaw and heavy machinery noise that will be audible to nearby residents and recreational users of the parks. The claim that this noise is short-term and localized simply doesn't suffice as an explanation as to why this EIR does not analyze this impact. Short-term impacts can be potentially significant under CEQA. While it is true that it only takes a few minutes of chainsaw noise to cut down one tree, to cut down 100,000+ will take many minutes of chainsaw noise. This is analogous to the noise analysis that resulted in the courts rendering the Port of Oakland's Oakland Airport Expansion EIR inadequate in the Berkeley Keep Jets over The Bay v. Board of Port Commissioners decision. Further, nowhere in the EIR are impacts to wildlife from noise considered. To suggest that these effects are localized when UC plans to cut down an additional 70,000 trees in the area immediately adjacent to the EBRPD site is not acceptable. **136**

For this EIR to be valid it must analyze the cumulative impact of not only the noise that will result from EBRPD's project, but also the noise from the UC and EBMUD projects.

F. Hazards and Hazardous Materials. The EIR attempts to make the argument that somehow, if EBRPD uses BMPs and follows state law, there is no cumulative impact. This is not an analysis. What is needed here is a quantitative and comprehensive analysis of the potential impacts of the use of large amounts of herbicides over a large geographic area over an extended period. This analysis has simply not been done, but must be included before this EIR can be considered valid.

The EIR does not consider the real possibility that the widespread use of toxic chemicals on non-native trees and weeds will be harmful to water quality, to the entire watershed, to animals who live in the area and downstream of the project, as well as to humans. The Marin Municipal Water District has hired an independent pesticide company to research and perform a detailed analysis and evaluation of herbicides, including worst case scenarios. (We must emphasize once again that neither the MMWD or EBMUD use herbicides on their watershed lands.) The EIR must include a similar study and an analysis of the cumulative impact of using herbicides on parklands. **137**

G. **Visual Resources.** While this is the one area where the EIR suggests that there will be short-term unfavorable impacts, the EIR does not analyze the cumulative impact of the combined effects of EBRPD, UC, and EBMUD projects, which will result in a major transformation of the aesthetic qualities of the East Bay Hills. **As clearly stated by the courts in the Pocket Protectors v. City of Sacramento and the Montecito Water District decisions, public opinion on visual quality is considered "expert opinion."** Many viewers consider a treeless ridgeline to be a significant adverse environmental impact; so should the EIR. Additionally, while the EIR argues that cutting down trees will improve some scenic roadside vistas, the EIR does not consider the negative impact on views of the same site from the flatlands, so even this benefit is questionable. Also, the HCN alternative will achieve all the fire-risk mitigation benefits sought at a lower cost, with fewer adverse environmental impacts, and will not produce even the short-term unfavorable visual impacts that the EIR'S "preferred" alternative will produce. **138**

Nowhere in the Plan/EIR is the question of aesthetics and aesthetic impact on the community discussed. Many of the people who live in the North Hills, for example, choose to live there despite the potential fire (and earthquake) danger, because they want to be close to nature—and they like the way the tall trees look. Otherwise, it makes no sense for them to live close to the wildland-urban interface. Aesthetics are not limited to the visual sense; in nature it includes humidity, the movement of breezes through the foliage of trees, the fragrance from trees and plants, the sounds and presence of birds and glimpses of animals in a long-lived forest.

There is no reason to believe that a forest dominated by eucalyptus and pines would be replaced by anything more interesting and beautiful to view. Some would argue that our large, mature but healthy eucalytpus trees are a cultural as well as visual resource in themselves. They certainly give the East Bay Hills a unique beauty and character quite different from the chaparral, grassland and oak-bay hills of other parts of California. **139**

The Plan/EIR should include a survey of whether people prefer slopes covered with highly flammable chaparral and grasslands, with a few bays and oaks here and there—or the existing groves of tall trees.

Native trees and plants would not replace the non-native unless they were planted, watered, and care-

fully maintained for many years. Even then, it is highly unlikely that, as global warming increases, anything that used to be native here, in a much wetter climate, will grow successfully. What is most likely is that chaparral, tall grass and weeds will thrive in the winter and spring, only to dry out and become most flammable "fine fuels" at the height of our fire season.

The bottom line here is that, in this area as well, the EIR simply avoids doing the required analysis by instead offering up some superficial and weak arguments as to why this analysis is not required. Given the enormity of the landscape transformation that is being proposed for the East Bay Hills, the lack of analysis is not acceptable. For this EIR to be valid under CEQA it must include a comprehensive analysis of the effects on visual resources of *all* the finished and planned projects. **139 cont.**

H. Land Use/Recreation. The EIR has but one paragraph on this subject on p. 4 of the Introduction. Recreation is listed also on p. 323 of Section VI.D under Effects Found Not to be Significant. There is no analysis of the recreational impacts of this Plan on the environment or on people who would use the parks (or not use them as trees are cut and the landscape is changed) other than to state that there are no impacts. We totally disagree that there will be no impacts on recreation for people who either already enjoy biking, hiking, and walking in the East Bay regional parks, or the increased number who would want to use the regional parks for recreation because of cutbacks on state and city parks.

We ask EBRPD to consider the widespread user comments and outrage that broke out based on the change of land use that resulted from last year's project at the Skyline gate of Redwood Park. Among the issues raised were the reduction in shade, the closing of trails, the application of herbicide, and the general change in the character of the area. **140**

To suggest that mountain bikers, hikers, and dog walkers (among the largest group of park users in the East Bay Hills) are ambivalent as to whether the trails are shaded or sunny is simply not true. To suggest that trail closures are of no consequence is simply not the case. To suggest that noise and pollution associated with vegetation management programs involving tree felling are of no consequence to the users of these parks is simply not true. To suggest that the ongoing application of powerful herbicides and surfactants is of no consequence to park users is simply not true.

The effects of this plan on recreation are significant and need to be analyzed. To simply ignore this requirement with no justification is unacceptable under CEQA. For this EIR to be valid it must include a quantitative and comprehensive analysis of the effects of this plan on recreation. It is highly likely that mitigations will be required for this area, but, without doing the analysis, it is impossible to determine what they might be. **141**

While these factors apply to the polygons within the plan area, they are substantially aggravated when one considers the cumulative impact of these programs. With the UC programs that have already been implemented, the land use on Grizzly Peak near Frowning Ridge has been substantially altered. What was once a quiet and serene area is now a barren parking site for cars and trucks littered with garbage. While the degradation of that area was not intended, that is what has happened. While fuels have been reduced, the likelihood of a cigarette butt ignition has been substantially increased. When one adds in what EBMUD and UC have already done, coupled with the 70,000 trees that UC plans to remove in the Oakland/Berkeley hills, the changes to land use are profound, and must be analyzed. **142**

The bottom line here is that it is not adequate under CEQA to simply state that there is no impact on recreation; instead, there needs to be an analysis of the current recreational uses of the parks with a description of the cumulative impacts that the treatments and maintenance will cause combined with the impacts from other projects in the area. The EIR also should consider how those impacts on recreation might be mitigated. **143**

Madeline (Lynn) Hovland 510 549-1670
On behalf of the Hills Conservation Network

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This excellent report includes a minute-by-minute chronology, with maps, of how and where the fire spread, and how it was fought.

Halsey, Richard W., *Fire, Chaparral, and Survival in Southern California*, Sunbelt Books, 2005.
"Chaparral is California's most extensive plant community." / "There is no question chaparral is extremely flammable, especially during dry weather conditions."

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This short report describes our various types of wildlands vegetation and explains how different fire-mitigation methods should be used for each type.

Keator, Glenn, *Plants of the East Bay Parks,* Mount Diablo Interpretive Association, 1994.
This is a plant and tree guide that is well written, easy to read, and objective. Plants and trees are grouped by communities: Grasslands, Shrublands (soft chaparral, hard chaparral), and Wooded Places (Riparian Woodland, Oak and Foothill Woodland, Mixed Evergreen Forest, Redwood Forest). All the information is specific to the East Bay Parks. /"Redwoods are notoriously shallow-rooted so they topple in floods or heavy wind storms. Because of their thirsty,

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shallow roots, redwoods should never be planted near dwellings where roots may penetrate and clog water and sewerage lines."

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Luke, R. H. and McArthur, A. G. *Bushfires in Australia*, Division of Forest Research, Australian Government Publishing Office, 1978.
"In grasslands, spot fires are fairly common up to 100 m or so ahead of the flame front and are mainly carried forward by thistle heads or seed heads such as those of phalaris, barley or wheat."/ "In forests, the upper part of the surface litter is normally drier than the lower part and is more likely to be consumed by fire."/ "Almost all the combustible material in grasslands may be described as fine fuel, but in forests this description is reserved for dead fallen material such as leaves, bark, twigs, and branchlets up to ¼ inches in diameter. . .heavier material cannot readily be ignited unless fine fuels are present."

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"Managing the East Bay Hills Wildland/Urban Interface to Preserve Native Habitat and Reduce the Risk of Catastrophic Fire," An Environmental Green Paper, Sierra Club, California Native Plant Society, Golden Gate Audubon Society, March 27, 2009.

Mann, Charles C., *1491: New Revelations of the Americas Before Columbus*, Alfred A. Knopf, 2005.
Mann describes how Native Americans transformed North and South America. /"If there is a lesson it is that to think like the original inhabitants of these lands we should not set our sights on rebuilding an environment from the past but concentrate on shaping a world to live in for the future."

Margolin, Malcolm, *The Ohlone Way*, Berkeley, Heyday Books, 1978.
This is an excellent account of the customs, food, traditions and beliefs of the Native Americans who lived long ago in the San Francisco-Monterey Bay area. /"Nowadays, especially during the summer months, we consider most of the Bay Area to be a semi-arid country. But from the diaries of the early explorers the picture we get is of a moist, even swampy land. . . Water was virtually everywhere. . . ."

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North Hills Phoenix Association. Anne Seasons, committee chair, Citizens' 2006 Review, Status Report and Recommendations on Emergency Preparedness and Community Restoration, October 17, 2006.

OES, California, The East Bay Hills Fire, East Bay Hills Fire Operations Review Group, February 27, 1992.

Ornduff Robert and others, *Introduction to California Plant Life*, UC Press, 2003.

Quinn, Ronald and Sterling Keeley, *Introduction to California Chaparral*, UC Press, 2006.
"Seen from the car window. . .chaparral looks like a soft greenish blue blanket gently covering the hills. Up close, however, . . .what is revealed is a nearly impenetrable thicket of shrubs with intertwined branches and twigs with hard leaves and stiff, unyielding stems. .. Chaparral is especially extensive in the central and southern parts of the state, but it covers large areas of northern California as well." / . . . manzanita chaparral, ceanothus chaparral, scrub oak chaparral, and chamise chaparral are the most commonly applied names./ . . where there is chaparral there is fire." / "As summer wears on, chaparral shrubs become progressively drier and more flammable. . . The fine dead branches inside mature shrubs become crisp, dry kindling. All it takes is a small source of fire, such as a match or a spark, to set off an explosive blaze."

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Task Force on Emergency Preparedness & Community Restoration, Final Report, February 3, 1992.
"Do not target particular species such as Blue Gum Eucalyptus or Monterey pine for eradication or exemption from tree regulation policies, but require regular maintenance to reduce fire hazard."

Theodoropoulos, David, *Invasion Biology: Critique of a Pseudoscience*, Avvar Books, 2003.
"This lack of adherence to sound scientific practices, and the repeated deliberate distortions and fabrications of evidence, demonstrate that invasion biology is a pseudoscience." /"Eucalyptus were blamed for spreading the. . .1991 Oakland hills fire, yet many homes were. . .shielded from burning debris by the trees, and often eucalyptus were untouched while neighboring houses were incinerated."

Tudge, Colin, *The Tree: A Natural History of What Trees Are. . .* Crown, 2006.
"Global warming, brought about by the greenhouse effect, will make fires worse in several ways. First, general warming, sometimes accompanied by drying, obviously increases the risk. . ."/ "When the trees are gone, there is nothing to absorb. . .carbon dioxide. . ./ "In short, global warming needs to be taken very seriously. . .the sum of evidence, plus common sense and basic

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biological theory, suggests that the more forest we retain, and the more new forest we plant, the better."/ " In general, Callitris [the tree family that includes redwoods] favors upland semiaridity, and grows alongside eucalyptus as "fire climax" species: the kind that thrive when everything else is burned out." / "As we have already seen, many trees are highly fireproof, like redwoods and eucalypts . . . ."

ARTICLES and WEBSITES (All are available online. Where URL is not given, Google the author and key words in the title.)

Avent, Tony, "Cutting Thru the Jungle—Native Plants Myths and Realities," *News and Observer*, March 11, 1995.
"Many native plants are almost extinct in the wild. . .but how could this be, if they are so well adapted? The answer is that many native plants are very poorly adapted, and will grow only in very specialized natural habitats."

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Ball, George, "Border War," *NYTimes*, March 19, 2006.
"The horticultural world is having its own debate over immigration, with some environmentalists warning about the dangers of so-called exotic plants from other countries and continents "invading". . .In their view, exotic plants will swallow your garden. . . until the ecosystem collapses under their rampant suffocating growth. If anything suffocates us, though, it will be the environmentalists' narrowmindedness. Like all utopian visions, their dream beckons us into a perfect and rational natural world where nothing ever changes—a world that never existed and never will."

Bean, Caitlin and others, Global Invasive Species Team, The Nature Conservancy, "Eucalyptus Globulus" from *Bugwood Wiki*.
Some interesting, mostly unbiased, information about eucalyptus by a group that would not be counted among its friends. / "Contrary to popular belief, many animals, both vertebrates and invertebrates, have adapted to life in the eucalyptus groves. Moisture from the air condenses on the leaves and the drippage keeps the groves moist and cool even during the dry season."

Carbon emissions article—http://www.treepeople.org/vfp.dll?OakTree~getPage~&{NPK=182.
Carbon calculator—http://www.greenhouse.crc.org.au/tools/calculators/treecarbon/

Christopher, Tom, "Can Weeds Help Solve the Climate Crisis?" *NY Times Magazine*, June 29, 2008.
"Not only did the weeds grow much larger in hotter, C02 enriched plots. . . the urban, futuristic weeds also produced more pollen. . . and perverted the succession of species within the plots."

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College of Natural Resources, UC Berkeley, Center for Fire Research and Outreach.
This website gives you up-to-the-minute information on fires throughout the world, but especially in California, as well as excellent, objective info on ways to prepare your home, a wildfire mitigation guide, articles by UC Berkeley (and other) experts on fire, links to other websites on fire prevention, and sound and video broadcasts of recent media coverage about fire. This website may be the best (in this HCN Bibliography) for educating yourself with facts about fire mitigation.
http://firecenter.berkeley.edu/

Curiel, Jonathan, "SF Garden Isn't Dead—Just in Transition," Chronicle Watch, *SF Chronicle*, July 22, 2009. **A native-plant garden dries out and goes dead at the end of the summer.**

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Dean, Cornelia, "The Preservation Predicament," *NY Times*, January 29, 2008.
". . .everywhere, ecologists and conservation biologists wonder how landscapes already under preservation will change with the climate."

Del Tredici, Peter, "Neocreationism and the Illusion of Ecological Restoration," *Harvard Design Magazine*, spring-summer, 2004.
"Implicit in the proposals that call for control and/or eradication of invasive species is the assumption that the native vegetation will return to dominance. . . That's the theory. The reality is something else." [Native vs. exotic] is an issue that seems to bring out the worst in people, not unlike the debates over gun control or abortion. . .this so-called restoration process. . .looks and awful lot like gardening, with its ongoing need for planting and weeding. . .Is landscape 'restoration' really just gardening dressed up with jargon to simulate ecology. . .?"

Draper, Robert, "Australia's Dry Run," *National Geographic*, April, 2009.
An article about how deforestation may have caused drought in a formerly lush region of Australia.

Eaton, Joe, Wild Neighbors columns in *Berkley Daily Planet*. See "Strawberry Canyon and UC's Edifice Complex," (4/15-17/2008); "UC and Strawberry Canyon: Snakes in the Plan," (4/22-24/2008); "UC and Strawberry Canyon: The Harvestman Paradox," (5/1-7/2008); "UC and Strawberry Canyon: Last Round for the Whipsnake?" (5/15-21/2008).

ESA21: Environmental Science Activities for the 21st Century, Trees and Carbon.

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Eskenazi, Joe, "An Inconvenient Plant," *SF Weekly*, 4-16-2008.
True story of the history of and struggle to save an endangered native plant, Raven's manzanita, in SF's Presidio.

Fagan, Kevin, "After Fire, Angel Island is a Park of Contrasts,"*SF Chronicle*, October 15, 2008.
"At the edge of the burn belt lie strips of intact tree groves. . . It goes on like this, a torched swath intercut with untouched forest. . . ."

Fagerlund, Richard, "Roundup's Dangers Confirmed in Report," *SF Gate*, July 8, 2009.
A study from the University of Caen in France, published in January, says that scientists discovered that the inert ingredients in Roundup amplified the toxic effect on human cells, even at concentrations much more diluted than used on farms and lawns."/"It is my opinion that Roundup should not be used in any public area. If someone wants to use this stuff on his private property, that is his business, but it should not be used on school grounds, public parks or anywhere else people can unknowingly come in contact with it."

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Farmer, Jared, "Gone Native: California's Love-Hate Relationship with Eucalyptus Trees," from his book-in-progress, *If Trees Could Speak: Peoples and Plants in California*, in *Frontiers*, Huntington-USC Institute on California and the West, Spring/Summer 2007.
"From the monarch's point of view, the introduction of eucalypts was a wonderful boon. Unlike native pines cypresses, and redwoods, eucalypts are flowering plants; better yet, they flower in the winter, when the travel-weary butterflies need nectar. . . .This is the only place outside of Australia where eucalypts—like them or not—remind people of home. Their loss would be our loss."

Fish, Peter, "The Lost Tree," *Sunset* magazine, July 2007.
"I can mark my entire life by eucalyptus trees, from driving fast as a teenager down the ranch roads of the Oxnard Plain, the eucalyptus windbreaks serving as shaggy mileposts, to today, watching from my San Francisco living room as fog slithers through the eucalyptus branches of Golden Gate Park. No wonder California eucalyptus fans get worked up at their demise: it's our lives being chopped down."

Fish, Peter, "Chaparral," *Sunset* magazine, April 1994.
"Chaparral's distinctive odor comes in large part from the resins and oils that help it conserve water. Chamise, for example, has such a high oil content that it's nicknamed greasewood. When exposed to an open flame, chamise emits combustible gases such as hydrogen, methane, and alcohol. . . it's designed to burn."

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This short article in *Creekcare*, an Australian magazine, describes how trees take in water and give it back into the atmosphere. http://www.ramin.com.au/creekcare/trees

Forest Where We Live: Benefits of Urban Trees, http://www.lpb.org/programs/forest/benefits.

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"Chaparral shrublands—not forest—cover much of our landscape and account for the vast majority of what burns. The United States Forest Service, which devotes more than half of its budget to fire-related activities, spends most of that money to protect residences built in these shrublands."

"Frequently Asked Environmental Questions on Energy Crops," Planet Power: Energy and the Environment, http://www.treepower.org/faq/enviro.html and "Energy Crop Fuel Analysis," http://www.treepower.org/fuels/analysis.html.
"Question: Doesn't the oil contained in eucalyptus trees make them highly flammable compared to other trees—exploding when exposed to fire? Answer: For this claim to be true, the BTU content . . .of eucalyptus trees would have to be significantly greater than of other trees. In fuel tests required by the Florida DEP, we have never seen any material difference in BTU contents of any type of tree fuel. . .they all contain ~4500 BTUs per pound."

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Gammon, Crystal, "Weed-Whacking Herbicide Proves Deadly to Human Cells," *Scientific American*, June 23, 2009.
"One specific inert ingredient [in Roundup], polyethoxylated tallowamine, or POEA, was more deadly to human embryos, placental and umbilical cord cells than the herbicide itself—a finding the researchers call 'astonishing.'"

Garcia, Ken, "SF Residents Battling Plant Lovers/Little Known Group Chopping Down Trees," *SF Chronicle*, April 23, 2007.
"'The program is a small special-interest group that has been affecting city policy and misinforming the public by using words like preservation and restoration when they're actually removing acres of trees,' said Carolyn Blair, director of the San Francisco Tree Council. 'If more people knew about some of the work they've carried out, they'd be outraged'. . .That's the problem with true (botanical) believers—only when they're shivering in the wind after they've returned the world back to sand dunes will they realize why someone planted all those trees."

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General Guidelines for Creating Defensible Space, State Board of Forestry and Fire Protection, California Department of Forestry and Fire Protection, 2006.
"Oak woodlands, the combination of oak trees and other hardwood tree species with continuous grass groundcover, are found on more than 10 million acres in California.Wildfire in this setting is very common, with fire behavior dominated by rapid spread through burning grass."

Gould, Stephen Jay, "An Evolutionary Perspective on Strengths, Fallacies, and Confusions in the Concept of Native Plants," *Nature and Ideology*, Dumbarton Oaks, 1997.
". . . we will not achieve clarity on this issue if we advocate a knee-jerk equation of "native" with morally best, and fail to recognize the ethical power of a contrary view, supporting a sensitive cultivation of all plants, whatever their geographic origin, that can enhance nature and bring both delight and utility to humans. Is it more 'democratic' only to respect organisms in their natural places (how, then, could any non-African human respect himself), or shall we persevere in the great experiment of harmonious and mutually reinforcing geographic proximity. . . ."

International Code Council, "International Wildland-Urban Interface Code" 2006.

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http://www.buzzle.com/articles/what-do-koala-bears-eat.html
"Eucalyptus leaves consist of approximately 13% tannins, 2% minerals, 50% water, 18% fiber, 8% fat, 5% carbohydrates and 4% proteins."

Judson, Olivia, "On Fire," *NY Times*, The Wild Side Blog, July 7, 2009.

Keeley, Jon E., "Fire History of the San Francisco East Bay Region and Implications for Landscape Patterns, *International Journal of Wildland Fire*, 2005., 14, 285-296.
Keeley's article describes the historical expansion of shrubland with increased fire hazard in the Bay area. / "Shrublands with their enhanced fuel loads produce more intense fires that are more difficult to suppress and result in somewhat larger fires."

Keeley, Jon E., USGS, from his statement before agencies of the US Senate, 2007.
"It is estimated that no more than 3 percent of the recent 2007 fires . . . occurred in forests. ..the remaining 97 percent occurred in lower elevation shrublands and urban areas, burning native shrublands such as chaparral and sage scrub, non-native grasslands and urban fuels (structures and landscaping . . . "

Koala Bear Facts, http:www.giftlog.com/pictures/koala_fact.htm
"Koala seldom drinks water, obtaining it from the eucaltyptus leaves, which are 50% consisting of water"

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Lagos, Marisa, "100 More Stern Grove Trees Called Hazardous," *SF Chronicle* relating April 14, 2008 story about the redwood branch that fell and killed a woman in Stern Grove.

McPherson, Greg, "Urban Tree Planting and Greenhouse Gas Reductions: Unraveling the Debate," *California Trees*, a publication of California Releaf, Fall, 2007.
This article considers the importance of planting and maintaining trees for climate benefits.

McPherson, Greg and others, "Municipal Forest Benefits and Costs in Five US Cities" (egmcpherson@ucdavis.edu).

McB. Robertson, John, "Birds and Eucalyptus," *The Condor,* July-August 1931.
This old but very interesting article describes how 38 species of native birds made use of eucalyptus trees near the author's home in Buena Park, California. / "The eucalyptus, especially the globulus variety that has become so common throughout the State, has so truly native an appearance that it seems as if its introduction from Australia must have been more in the nature of a homecoming than of an adoption. . . our native birds are on the alert for the advantages offered by any exotic tree introduced by man."

Miller, Matt, "No Spray Zone: Are Pesticides Really Controlling Invasives?" Cool Green Science, the Conservation Blog of the Nature Conservancy.
"Many pesticides have well-documented negative effects on fish and birds and humans. It would seem that we should apply them judiciously and only as a last resort."

Million Trees L.A. Website. **For Facts and figures about trees and global warming, click on Why get involved? http://www.milliontreesla.org.**

MoreMarin Buzz Home, "Child Injured After 60 Foot Pine Tree Falls on a Sandbox," April 3, 2009.

Morris, Mike, "Officer Escapes Serious Injury as Tree Falls on Patrol Car," *Atlanta Journal Constitution*, August 31, 2009. **". . .the oak tree toppled onto the hood of the police cruiser. . ."**

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Nasiatka, Paula, *Southern California Firestorm 2003 Report for the Wildland Fire Lessons Learned Center,* National Adv. Resource Technology Center, Marana, Arizona.
"Ornamental vegetation created an unpredictable and signficant fuel source that blew into attic vents and eaves and spread through neighborhoods by torching, crowning, or throwing embers." Examples of ornamental trees she mentions that threw embers: Italian cypress, olive trees.

Nowak, David J. "The Effects of Urban Trees on Air Quality," USDA Forest Service, Syracuse, NY.

Nunez-Regueira, Lisardo, J.A. Rodriguez Anon & J. Proupin Castineiras, "Caloric Values and Flammability of Forest Species in Galicia, Coastal, and Hillside Zones," *Bioresource Technology* 57: 283-289, Elsevier Science Limited, 1996.
This scientific study (based on lab experiments using a static bomb calorimeter in an oxygen atmosphere at 25 degrees C) tested 9 types of vegetation, commonly found in Spanish forests, for "calorific" values and flammability. The vegetation species are: gorse (an evergreen shrub found all over the world), a type of pine tree, Scotch broom, blue gum eucalyptus, blackberry bush, western fern, sycamore maple, English oak, and chestnut. Of these types, blue gum eucalyptus came in sixth in flammability. That is, five of the others listed above were more flammable than bluegums. The pine tree (a type called Maritime pine) was judged most high-risk because of its oils and resins.

Peretti, Joseph H. "Nativism and Nature: Rethinking Biological Invasion," *Environmental Values 7*, 1998. **"Questioning purist pieties may protect modern environmentalists from reproducing the xenophobic and racist attitudes that have plagued nativist biology in the past."**

Pollan, Michael, "Against Nativism," *NYTimes*, May 15, 1994.
"It's hard to avoid the conclusion that the natural gardening movement is antihumanist, particularly in the way it seeks to erase people and history from the land. . .Turning back the ecological clock to 1492 is a fool's errand, futile and pointless to boot. It seems to me we gardeners would do better to try to work with the mongrel ecology we've inherited—to start out from here."

Roosevelt, Margot. "Climate Change Threatens Two Thirds of California's Unique Plants, Study Say," *L.A. Times*, June 25, 2008.
"Two-thirds of California's unique plants, some 2300 species that grow nowhere else in the world, could be wiped out across much of their geographic ranges by the end of the century because of rising temperatures and changing rainfall patterns. . . California oaks could disappear from Central California in favor of cooler weather in the Klamath Mountains. . .The species that cannot migrate fast enough to higher altitudes or cooler coastal areas could face extinction

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because of greenhouse gas emissions that are heating the planet. . ."

Rundel, Philip, "Why California Burned," Letter to the Editor, *SF Chronicle*, November 7, 2007
"In regard to the recent southern California fires, chaparral—not forests—cover most of our landscape, and constitute 95 percent of what burned."

Russell, Jenna, "A Plan Takes Root: City to Plant More than 100,000 Trees," *Boston Globe*, April 28, 2007.

Santos, B. http://library.csustan.edu/bsantos/eucloc.html
"The State Board of Forestry in its Ninth Biennial Report (1923) commented: 'Not more than fifteen years ago the hills lying along the easterly portions of the cities of Oakland and Berkeley were not as now covered with groves of forest trees, but were practically bare on the western slope. . .During that time before the planting of trees, grass fires were of common occurrence during the summer months."

Sorvig, Kim, "Crying 'Fire!' in a Crowded Landscape," *Landscape Architecture*, March 2004.
This article describes the Cedar fire close to San Diego, and considers advantages and some surprising disadvantages of clearing defensible space.

Stallcup, Rich, "Deadly Eucalyptus," *Observer* 108, Point Reyes Bird Observatory, 1997.

Stone, Stephanie, "Mapping Our Future," *Live* (California Academy of Science Quarterly) Fall, 2009.
Scientists are using climate data and computer modeling to project the future of "iconic" animal and plant species in California. It doesn't look good.

Suddjian, David L., "Birds and Eucalyptus on the Central California Coast: A Love-Hate Relationship," June 3, 2004.
"Over 90 species of birds make regular use of eucalyptus in the Monterey Bay region. . . in addition to a wide variety of rare migrants. . ."

Sullivan, Ron, "Too Mulch of a Good Thing," Garden Variety, *Berkeley Daily Planet*, April 11-14, 2008. **This article explains why it's important to leave some bare ground for ground-nesting bees.**

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"The Trees that Captured California," *Sunset*, August, 1956.
http://www.sunset.com/sunset/i/travel/2007/07-Jul/Sunset_August1956/pdf.
"More than any other trees, the millions of lofty giant eucalyptus give the California landscape its distinctive character. . ."

Williams, Ted, "America's Largest Weed," (Incite) *Audubon,* January 2002.

Williams, T. Information Bulletin of the Riverside County Fire Department, 2008.
"These plants contain high oils and resins and retain low moisture. They are highly flammable and emit toxic gases when burned. . . chamise, California sagebrush, juniper bush, common buckwheat."

Zimmer, Carl, "Friendly Invaders," *NY Times*, September 8, 2008.
"Exotic species receive lots of attention and create lots of worry. Some scientists consider biological invasions among the top two or three forces driving species into extinction. But . . . several other researchers argue that attitudes about exotic species are too simplistic. While some invasions are indeed devastating, they often do not set off extinctions. They can even spur the evolution of new diversity."

Zito, Kelly. "Rains Expected to Heal Angel Island," *SF Chronicle*, October 14, 2008.
"Arguing that the trees posed immense fire danger to the island, the state hired a private logging company to cut down and remove thousands of trees. . . beginning in 1990. . . . about 6 acres of trees remain."

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LETTER B8
Hills Conservation Network
Madeline Hovland
October 30, 2009

B8-1: This comment, which introduces the subsequent comments, is noted. As discussed in more detail in the following comments, the District disagrees with the claims that the Draft EIR is internally inconsistent, fails to incorporate realistic alternatives, and has been subject to substantive flaws. No significant new information, as defined in *CEQA Guidelines* Section 15088.5, has been introduced to the environmental review record as a result of this RTC Document that would require recirculation of the Draft EIR. Most of the comments in this letter refer specifically to the Plan, and not the adequacy of the EIR.

B8-2: Although the Plan is funded by Measure CC funds, this funding does not preclude the consideration of ecological values and native plant restoration in the Plan. In fact, "resource-related projects," which would include ecological enhancement, are listed as one of the three key types of projects which may be funded by Measure CC funds (please refer to Section 5 of Measure CC, included in Appendix E a new EIR Appendix in Chapter IV of this RTC Document). Projects included in the Measure CC ballot language specifically included: "[Managing] vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas … [Managing] exotic plant species and promote fire resistant natives to reduce the risk of wildfires." The incorporation of native plant protections into the Plan is appropriate and is consistent with the District's mission to protect regional park lands. Under CEQA, the project sponsor has discretion to define the project and the objectives of the project. Therefore, the identification of objectives for the Plan, which include fire management and the protection of biological resources (including native plant protection and enhancement) is consistent with CEQA. As discussed in *CEQA Guidelines* Section 15126.6, the range of alternatives discussed in an EIR must "feasibly obtain most of the basic objectives of the project." Therefore, the rejection of certain alternatives that do not achieve the Plan objectives – including the protection of native plants – is appropriate and permitted under CEQA.

B8-3: Please refer to Master Response No. 3.

B8-4: This comment, which outlines the organization of the subsequent comments, is noted. These comments are addressed in the following responses. Please refer to Response B8-1 for a general response to this comment.

B8-5: Although the overarching goal of the Plan is to reduce wildfire risks, a major objective is also to ensure that "the protection, restoration and enhancement of biologically diverse habitats and environmental resources is given full consideration, and specific resource management objectives and actions are incorporated into all fuel reduction treatment plans" (see pages 24 and 25 of the Draft EIR). The District

disagrees with the implicit claim made in this comment, which is that the two objectives are incompatible, resulting in an "inability to properly assess the adequacy of the EIR." As discussed on page 312, the Plan (like the environmentally superior Mitigated alternative), would "provide the least amount of potentially-significant impacts resulting from fuel treatment and vegetation management activities within the Study Area" while reducing fire hazards in the Plan Area.

B8-6: The Plan identifies *areas* of vegetation that would produce a flame length over 8 feet in height or that would generate a large number of embers and firebrands. Although certain species of plants (such as blue gum eucalyptus) are identified as species that contribute to fire hazards, the focus of the analysis in the Plan is on identifying the unique characteristics of plant *communities* that contribute to fire risk. Neither the Plan nor the Draft EIR states that certain plant species are the only species that generate embers and firebrands. Please refer to Appendix C of the Plan for a comparison of the fuel characteristics of plant species. This comment does not pertain to the adequacy of the EIR and requires no further response.

B8-7: Please refer to Master Response No. 3.

B8-8: Please refer to Master Response No. 3.

B8-9: Please refer to Master Response No. 3.

B8-10: The suffocating properties of eucalyptus gum are cited in several sources, including the Audubon Society magazine (see Williams, Ted, 2002. America's Largest Weed. Audubon Magazine. January. Website: http://audubonmagazine.org/incite/incite0201.html): "Native birds do use eucalyptus groves, though the Point Reyes observatory has found that species diversity there drops by at least 70 percent. Eucs flower in winter, attracting insects and insectivorous birds. To deal with the sticky gum, Australian honeyeaters and leaf gleaners have evolved long bills. North American leaf gleaners such as kinglets, vireos, and wood warblers have not; so the gum clogs their faces, bills, and nares, eventually suffocating them or causing them to starve." See also "Deadly Eucalyptus" by the Point Reyes Bird Observatory (http://www.prbo.org/OBSERVER/Observer108/Focus108.2.html).

B8-11: These data are derived from Geoff Geupel, Terrestrial Ecology Director, Point Reyes Bird Observatory Conservation Science (see http://www.nps.gov/pore/parkmgmt/upload/firemanagement_fireeducation_newsletter_eucalyptus_p3.pdf)

B8-12: Please refer to Master Response No. 3. Please refer to Chapter V., Vegetation Management, of the Plan, and the discussion of the ignition potential of the plant communities that occur in the Plan Area, including eucalyptus forest and Appendix C of the Plan, Wildfire Hazard Assessment, for a discussion of the relative flammability and fuel characteristics of various vegetation types.

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B8-13: This statement in the Plan is based on the District staff's collective experience over 75 years as a manager of open space in the East Bay. Additionally, this statement

reflects the experience the District and adjacent wildland managers (including EBMUD, UC Berkeley, City of Oakland, HEF) have had since the 1970s in treating and removing eucalyptus because of its high fire hazard (see Master Response No. 3). CEQA does not require an analysis of the relative costs of alternatives. See also response to comment B5-20.

Chapter V. Alternatives Draft EIR, pages 307 to 312 has been revised and is included in Chapter VI of this Response to Comments Document.

B8-14: Please refer to Response B8-3 and Master Response No. 3.

B8-15: The Plan includes a number of plant management strategies to reduce fire hazards associated with eucalyptus and Monterey pine, including thinning and removing litter. These strategies may be employed when specific fire management projects are implemented. Please refer to pages 309 to 310 of the Draft EIR for a discussion of why the No Tree Removal alternative (which resembles the alternative proposed by the commenter) was rejected from detailed consideration. In particular, this alternative would contribute to increased wildfire hazards compared to other considered alternatives and the proposed Plan. See response to comment B8-13 and Master Response No. 3.

B8-16: The Plan does not singularly blame eucalyptus and pine trees for the 1991 fire. As discussed on page 7 and 8 of the Plan, the 1991 fire can be attributed to numerous factors besides the presence of eucalyptus and pine groves, including: major increases in flammable vegetation over the past 70 years; unmaintained native brush and invasive species; the high speed of Diablo winds; and the inability of fire fighters to stop wind-driven fires.

B8-17: Please refer to Section IV.F, Air Quality and Global Climate Change, of the Draft EIR for a discussion of the carbon emissions associated with implementation of the Plan, including prescribed burning of trees and other vegetation. As stated on page 264 of the Draft EIR, the Plan is expected to have a net positive benefit on global climate change, even taking into account the removal of some vegetation, because it would reduce the frequency and severity of fires which release greenhouse gases into the atmosphere. LSA has revised Chapter VI.C, Cumulative Impacts (pages 315 to 323 of the Draft EIR) for the topic of global climate change which is included in Chapter VI of this Response to Comments Document.

B8-18: The Plan and Draft EIR contain substantial evidence that eucalyptus trees and Monterey pine trees contribute to fire hazards. Please refer to Master Response No. 3. A contrary finding regarding the relative effects of eucalyptus and pine trees on the 2008 Angel Island fire would change neither the conclusions of the Plan or the Draft EIR in regard to the need to manage eucalyptus trees and other exotic tree species in the Plan area (and associated environmental impacts).

B8-19: Please refer to Master Response No. 3 and Plan Appendix C. Neither the Plan nor the Draft EIR includes a statement about the relative “naturalness” of plant communities.

B8-20: Please refer to Response B8-2 and Master Response No. 3. Several sources authored by the Native Plant Society were used in the preparation of the Plan and Draft EIR. The California Native Plant Society is an important source of information about native plants (including threatened species) and restoration ecology, two key elements of the proposed Plan.

B8-21: Please refer to Master Response No. 3.

B8-22: Please refer to Master Response No. 3. Certain plant species, such as eucalyptus, are known to be major contributors to fire hazards. Therefore, a "species neutral" fire management policy would be less effective than one that takes into consideration the unique contributions of specific species to wildland fire hazards.

B8-23: Fuel characteristics such as fuel model, tree height, height to live crown and canopy cover are some of the measurable, objective traits used by Carol Rice of Wildland Resource Management, the fire science technical expert on the consultant team who undertook the FlamMap modeling, the wildfire hazard assessment (see Appendix C of the Plan), and assisted in preparation of the Plan. These traits were categorized based on the mapping done by the District, then field checked both by the consultant team and District staff. The addition of higher live fuel moistures was based on literature of foliar moisture of north coastal scrub, along with oak and bay trees (see Plan references for Rice, Carol L. 1985. Use of BEHAVE on Shrublands at the Urban Interface. Pgs 270-274 In Eighth Conference on Fire and Forest Meterology, Detroit, MI, April 29-May 5, 1985). In addition, riparian areas, as evidenced by the presence of species that require high levels of water (willows, elderberry and hazelnut) were categorized as having higher live fuel moistures. Riparian areas are known to hinder fire spread and intensity due to their higher foliar moisture (see Plan references including Skinner, Manual of California Vegetation, and Appendix C of the Plan).

The addition of higher caloric content to those areas with eucalyptus and pine was based on literature noting the increased presence of oils in those two vegetation types. The caloric content of these oils and volatiles have roughly three times the amount in cellulose, thus a fire in eucalyptus that involves dead leaves is hotter due to the higher caloric content of the fuel (see Plan reference Shafizadeh et. al. 1977). Agee and others (1973, see Plan references) compared the heat values of grass, eucalyptus and scrub oak. Eucalyptus leaf litter has 10,000 btu/lb as compared to 7,100 btu/lb in dry grass. Eucalyptus burns hotter by roughly one-third more. The contrast is less dramatic in oak leaves (8,000 btu/lb) but is still only 80 percent the heat value of eucalyptus, (see Plan references Mutch and Agee, and Mutch, Robert W. 1970. Wildland Fires and Ecosystems – A Hypothesis. Ecology 51(6):1040-1050. Philpot, Charles W. and Robert W. Mutch. 1970. The Seasonal Trends in Moisture Content, Ether Extractives, and Energy of Ponderosa Pine and Douglas-fir Needles. USDA Forest Service. Res. Pap. INT-102. Intermountain Forest and Range Experiment Station. Ogden, UT 21 p.). See also Master Response No. 3.

B8-24: The vegetation management goal for this area would include emerging and established oak woodlands and grasslands where no trees exist.

B8-25: Please refer to Master Response No. 3. The purpose of the Draft EIR is to identify the potential environmental impacts of the project, not to evaluate whether the Plan is "biased" against non-native plant species.

B8-26: Please refer to Master Response No. 3.

B8-27: Please refer to Master Response No. 3.

B8-28: Please refer to Master Response No. 3.

B8-29: Please refer to Master Response No. 3.

B8-30: Please refer to Master Response No. 3.

B8-31: Please refer to Master Response No. 3.

B8-32: Please refer to Master Response No. 3.

B8-33: Please refer to Master Response No. 3 in regard to the purported bias in favor of native plants. The wildfire fuel models used in the Plan incorporate the consideration of the factors listed in the comment. See Chapter V. Vegetation Management Program and Appendix C, of the Plan for additional detail. See response to comment B8-23.

B8-34: The claim in this comment that "canopy has only disadvantages" ignores the nuanced approach to the description of fire hazards in Chapter V of the Plan. As discussed in Chapter V, canopy considerations are just one of many factors that influence the fire hazard of specific vegetation types. Evaluating the canopy is part of the standard methodology for assessing the fuel hazard in a particular area. Ignitability, chemical composition, physical structure, and slope are some of the many other considerations that influence fire hazards.

B8-35: It is unclear where the statement that "eucalyptus trees are as invasive as blackberry and French and Spanish broom" is found in the Plan, or how such a conclusion would relate to the effectiveness of the Plan or the adequacy of the Draft EIR. Therefore, this comment is noted and no additional response is required.

B8-36: Please refer to Master Response No. 3 regarding the need to evaluate the cost effectiveness of various vegetation management strategies.

B8-37: Please refer to Master Response No. 3.

B8-38: The comment is in error, the source of the fire hazard ratings for fuel types in Table V-1 on page 112 and ignition potential in Table V-2 on page 121 of the Plan is Amphion, Inc., 1995. Vegetation Management Consortium. The Rothermel report was used as a source of the fire behavior fuel models that were used. See Appendix C of the Plan for additional information on the use of fire behavior fuel models.

Contrary to the comment, the wildland resource managers and fire professionals who were in 1995 and are in 2010 members of the Hills Emergency Forum (HEF) are experts in the field of fire science, vegetation management, and fire suppression and have a great deal of experience in the fuel types present in the Study Area. The information the HEF provides is neither arbitrary nor capricious. Furthermore, the ratings of hazard and ignition potential were intended to offer additional information regarding the various fuel types identified in the Study Area.

B8-39: This comment confuses ignition potential with overall fire hazard. As noted on page 125 of the Plan, annual grasslands have a very high (1) ignition potential, reflecting the fact that "[a]nnual grasslands are easily ignited after they cure (dry)." The relative fire risks posed by different types of grasslands are based on the physical characteristics of these plant communities, not on whether they are non-native or native. For instance, as described on page 125 of the Plan, coastal prairie and serpentine bunchgrass are "clumpy and discontinuous" and thus pose a lower fire hazard than annual grasslands.

B8-40: This comment uses anecdotal evidence to suggest that "the description of airborne embers being carried ahead of the flame front is unsubstantiated." The description of grassland fire behavior in the Plan is based on numerous observations of grassland fires and represents typical characteristics of a grassland fire. While certain grassland fires may exhibit different characteristics than those described in the Plan, such fires are not necessarily typical. The Plan is intended to provide the public and wildland managers with a general sense of how fires *typically* behave in different plant communities, and is not intended to extensively catalogue the variations in fire behavior within similar communities.

B8-41: Please refer to Response B8-2 and Master Response No. 3.

B8-42: Please refer to Master Response No. 3.

B8-43: Please refer to Master Response No. 3.

B8-44: It is unclear why the commenter believes that "the Plan does not consider the high proportion of dead (fine, highly flammable fuel) wood tangled below the new growth of coyote brush and similar chaparral environments" in light of the statement of page 149 of the Plan that "[c]oyote brush scrub has a Moderate ignition potential rating. . . The preponderance of dead material that accumulates under the green foliage in coyote brush scrub becomes moderately-easily ignited." Similarly, it is unclear why the commenter believes that the Plan does not seek to reduce litter in eucalyptus forests in light of the following fire hazard reduction and resource management goals listed on page 164 of the Plan: 1) "Remove dead materials and decrease duff layer" and 2) "Remove loose bark."

B8-45: Please refer to Master Response No. 3. The "substantial evidence" standard cited by the commenter pertains to evidence to support conclusions in an EIR, yet the statements in this comment pertain to the Plan and not the adequacy of the Draft EIR

or the project's environmental impacts analyzed in the EIR. Please refer to *CEQA Guidelines* Section 15384 for a definition of "substantial evidence" and its applicability to information in an EIR.

B8-46: Please refer to Master Response No. 3. See Appendix C of the Plan concerning fuel models used in the Plan to assess the relative wildfire hazard of the Study Area.

B8-47: Please refer to Master Response No. 3 and Response B8-45.

B8-48: Please refer to Response B8-2 and Master Response No. 3.

B8-49: It is unclear why the commenter believes that the Plan indicates that no fires occurred before eucalyptus trees were introduced. Neither the Plan nor the Draft EIR make this claim or imply it. As noted on page 5 of the Plan, [t]he native vegetation of the East Bay Hills evolved with the presence of occasional wildfires, both from natural causes and when set by native peoples."

B8-50: Please refer to Master Response No. 3. Ignitability is simply one of many factors that contribute to the relative fire hazard of a plant species. Please refer to pages 175 and 176 of the Plan for a description of the various factors that make Monterey pine forests a hazard. Mature Monterey pine trees are those reaching the end of their normal life span of 80 to 90 years, at which time they are particularly susceptible to pitch canker and other diseases.

B8-51: This comment, which confuses the fire hazard data in the Plan and the adequacy of the Draft EIR, is noted. The Draft EIR evaluates the potential environmental effects of the Plan and is not intended to verify every data point in the Plan. Nevertheless, the preparers of the Draft EIR believe that the data in the Plan are reasonable and accurate, and are based on numerous expert sources and prepared by technical specialists and professionals.

B8-52: Please refer to Response B8-34 regarding the influence of canopy in considering fire hazards and Master Response No. 3 regarding the treatment of native and non-native plants in the Plan.

B8-53: Please refer to Master Response No. 3.

B8-54: Please refer to Response B8-22 and Master Response No. 3.

B8-55: The definition of "flammable vegetation" lists the most critical characteristics that contribute to flammability. Please refer to Chapter V of the Plan for a more detailed discussion of these characteristics and others.

B8-56: The definition of Integrated Pest Management" (IPM) does not imply that IPM is better (from an ecological standpoint) than non-chemical methods of controlling pests. However, the Plan preparers believe and the District has asserted in its policies that IPM is more ecologically sound than conventional methods. Implementing the

Plan's own guidance for chemical use (see pages 285 and 286 of the Draft EIR) would ensure that IPM activities do not result in significant adverse environmental effects. Please refer to Master Response No. 3 for a definition of "native" as used in the Plan and Draft EIR.

B8-57: The document referenced is an EBRPD flyer, entitled "Bluegum Eucalyptus, A Wildfire Threat." Please refer to Master Response No. 3. As stated in Response B8-45 the "substantial evidence" standard relates to CEQA documents, not to the Plan or District flyers.

B8-58: Please refer to Master Response No. 3.

B8-59: Please refer to Master Response No. 3.

B8-60: These data are a few of many inputs into the FlamMap Program, and reflect the fact that in dense eucalyptus forests, the ladder fuels can occur at only 6 feet above the ground surface. See Appendix C of the Plan.

B8-61: Please refer to Response B8-2 and Master Response No. 3.

B8-62: Please refer to Master Response No. 3.

B8-63: Comment letters that did not specifically state that they pertained to the NOP and/or were not addressed to the correct recipient (Brian Wiese, EBRPD), as stated in the NOP, were not included in Appendix A. See also response to letter B9 because the preparers of the Draft EIR could not determine whether such letters were written in response to the NOP. The NOP was circulated for comment as part of the scoping from April 16, 2008 to May 22, 2008. Letters sent on January 4, 2008, January 9, 2008 and June 27, 2008 were not submitted during the NOP scoping period and are therefore not included in Appendix A to the EIR. Comments received at the public scoping meeting on May 7, 2008, were paraphrased and are included with responses in Section D of this document.

B8-64: Please refer to Master Response No. 3. The purpose of an EIR is to evaluate the anticipated environmental effects of a proposed project. Thus the Project Description in the Draft EIR is based on the proposed Plan and reflects the same general organization of information. Eucalyptus and Monterey pine woodlands are specifically evaluated as plant communities in the Plan because they are considered high fire hazard communities compared to other plant communities.

B8-65: Please refer to Response B8-2.

B8-66: It is unclear where in the Draft EIR is the claim that "native plants are more sustainable than plants that have become naturalized" or what the commenter defines as "sustainable." The preparers of the Plan and Draft EIR do not believe that the preservation of many eucalyptus and Monterey pine plantations in the Plan area in their current condition is a sustainable approach in terms of fire management and the

enhancement of biodiversity. Please also refer to Response B8-2 regarding Measure CC.

B8-67: Please refer to Master Response No. 3. The purpose of the Draft EIR is not to "embody principles" in previous reports but to evaluate the potential environmental impacts of the proposed Plan. The data in the Plan and Draft EIR are based on review of the best available science on fire management and may not incorporate data from every previous report prepared on the subject. The VMC Plan is discussed on pages 97 and 98 of the Draft EIR.

B8-68: Five public meetings, including a scoping session and public comment period on the Draft Plan and Draft EIR have been held, and public comments from all parties have been encouraged at these forums. Please refer to pages 15 and 16 of the Plan for a discussion of extensive public involvement component of the project. In addition, written comments on the Draft EIR were actively requested during both the scoping period and three-month long Draft EIR review period. Comments from the meetings, including those of the Hills Conservation Network, were also posted on the Park District's website. All received comments, including those that disagree with elements of the Plan, were considered in preparation and refinement of the Plan and Draft EIR. Please also refer to Master Response No. 3 regarding the comments about native plant restoration.

B8-69: The comments regarding the commenter's statement of beliefs and opinions regarding the topic of wind driven and fuel-driven fires is noted.

B8-70: Please refer to Master Response No. 3. Restoration of native plant communities is one of the objectives of the Plan.

B8-71: Please refer to Master Response No. 3.

B8-72: Please refer to Response B8-2. As discussed in Section IV.B, Biological Resources, of the Draft EIR significant impacts to wildlife would be reduced as a result of compliance with the guidelines and best management practices in Chapter V., Vegetation Management Program, of the Plan (although short-term impacts could occur to nesting raptors and songbirds, and other protected species). However, the "sacrifice" of wildlife populations to promote native plant restoration is not expected as a result of the project because wildlife commonly move from disturbed areas to undisturbed areas. In addition, the Plan prescribes pre-burn wildlife surveys, and other BMPs to protect wildlife (please see EIR, pages 163-173, and Mitigation Measures BIO-2 and BIO-4). The ecological restoration components of the project would be beneficial to wildlife populations over the long term.

B8-73: Contrary to this comment, there is evidence that native songbirds can be negatively impacted by sticky nectar from *Eucalyptus* flowers. Rich Stallcup with Point Reyes Bird Observatory, Conservation Science has observed dead birds under flowering *Eucalyptus* apparently fouled by nectar from the flowers (Stallcup 1996. *Deadly Eucalyptus.* Point Reyes Bird Observer). Mr. Stallcup's and other field

ornithologist's observations clearly suggest that there is a basis for concern about impacts from *Eucalyptus* flowers on native songbirds. We agree that the issue needs more study to determine the extent of this impact on native songbirds, but to suggest that there is no basis for this concern is incorrect.

B8-74: Please refer to Master Response No. 3, including the discussion of the rejection of alternatives that include preservation of additional eucalyptus and pine trees. The Draft EIR evaluates the potential environmental impacts of the Plan and is not intended to promote specific objectives (besides overall environmental protection) or evaluate the efficacy of the Plan in reducing wildfire risks (except to the extent that these risks would result in significant environmental impacts).

B8-75: "Best Management Practices" (BMPs) as described in the Plan, typically refer to fuel and resource management strategies that are based on the effective plans and policies practices and cumulative field experience of the District, adjacent wildland managers, including the Hills Emergency Forum and other recognized resource management agencies (for example, see the list of cumulative plans considered on pages 315 and 316 of the Draft EIR)., BMPs are considered the most effective ways to reduce fire risk and protect environmental resources. Chapter IV, Fuel Treatment Methods, of the Plan describes BMPs for a variety of fuel treatment methods. For instance, BMPs for hand labor methods are described on pages 83 to 85 of the Plan. BMPs for mechanical treatment methods are described on pages 87 to 91 of the Plan. The purpose of the Draft EIR is not to evaluate whether BMPs are the most effective ways to reduce fire risk and protect resources, but to identify and avoid or minimize the potential environmental impacts that could result from Plan implementation. BMPs included in the Plan are written specifically with that intent. See also response B8-13.

B8-76: Regarding the relative hazards of wildfire in grasslands and eucalyptus forest, please refer to Master Response No. 3 and Response B8-75.

B8-77: Please refer to Master Response No. 3.

B8-78: Potential impacts associated with herbicide use are discussed on pages 285 to 286 of the Draft EIR in Section IV.H, Hazards and Hazardous Materials. Potential impacts related to herbicide use and water quality is discussed on pages 203 to 204 of Section IV.D, Hydrology and Water Quality. As discussed in this section, the Plan contains stringent requirements for herbicide application that are more restrictive than the directions provided by herbicide manufacturers. As stated in the Draft EIR, BMPs included in the Plan to protect water quality when chemicals are being used include the following:

Best Management Practices for Chemical Treatment - Water Quality

- EBRPD and its contractors will ensure that any pesticide or other chemical applications are performed only by licensed or certified pest control operators registered to perform such services in the County where the treatment is to take place, and only under a prescription prepared by a licensed pesticide advisor. The pest control operator must record and provide

written accounts of the total amount of pesticides and other chemicals applied each month, as well as type(s) of pesticides or chemicals used and total areas treated with each pesticide or other chemical. These data must be reported to the County Agricultural Commissioner as well as to EBRPD's IPM Program. Operators must maintain accurate and calibrated application equipment to ensure correct amounts of pesticides and other chemicals are applied.

- Any chemical treatment actions must be performed according to EBRPD integrated pest management (IPM) policies and practices; pest control operators selected by EBRPD or its contractors should consult and use the advice and recommendations of EBRPD integrated pest management specialists and adhere to EBRPD pest management guidelines. For example, species-specific (instead of broad-spectrum) herbicides should be used wherever possible to avoid injury to non-target plants.
- EBRPD IPM specialists will oversee chemical application practices to ensure compliance with State and federal regulations and EBRPD IPM policies. Pesticide application prescriptions will include suitable distances from wetlands and water bodies, in compliance with the California Department of Food and Agriculture Regulations and State-approved product labeling; the IPM Specialist will review application data to ensure the minimum amount of suitable chemicals are used during treatment actions to achieve the desired results.

A "worst case" analysis of herbicide spillage into streams is not warranted based on the District's past use of herbicides, the existing IPM Plan, and the guidelines included in the Plan for use of herbicides. See also, EIR, p. 310, No Chemical Use Alternative, under Alternatives that were Considered but Rejected.

B8-79: The assumption by the commenter that the project sponsor has not "compared the environmental impacts of chemical vs. non-chemical methods" is incorrect. This comparison is evident in Chapter IV, Fuel Treatment Methods, of the Plan, which discusses the pros and cons of chemical treatment versus other treatment methods (e.g., hand labor, mechanical treatment, prescribed burning, and grazing). There is no requirement in CEQA that a project sponsor conduct independent studies, such as "studies on the impacts of controlling invasives using non-chemical methods," if good research already exists. Numerous studies have been conducted on the topic of controlling invasives in plant and animal communities that are similar to those in the Plan area (refer to Plan Appendix G: Prescriptions for the Control of Invasive Plan Species and Noxious Weeds that contains a list of such studies, see also Plan Appendix H: Marin Municipal Water District Herbicide Study Information that identifies studies that MMWD is currently undertaking regarding the control of noxious weeds). These studies provide a wealth of information that has been used to identify treatment approaches in the Plan and to evaluate potential environmental impacts in the Draft EIR. EBMUD has prepared a Watershed Master Plan (1996) for the management of its lands that reflects the objectives of EBMUD as a drinking water producer that may be quite different from those of the East Bay Regional Parks

District. The statement that EBMUD does not use any chemicals to control invasive plants is also incorrect.[15] Furthermore, the commenter does not provide any evidence in regards to its assertion that EBMUD has had a "successful experience" in controlling eucalyptus and other invasive plants. The Plan authors considered EBMUDs BMPs when preparing the Plan.

B8-80: Please refer to Responses B8-75 and B8-79.

B8-81: As noted, Measure CC (which is hereby added to Appendix B of the Plan) calls for the use of public funds to "…enhance public safety (police and wildfire protection) and provide critical environmental maintenance in Zone 1…)." The Measure CC ballot language included a spending plan, published on the ballot (East Bay Park District Resolution no. 2004-7-171) committing proceeds of the parcel tax to projects as follows:

Park Access, Infrastructure and Safety Improvements	57%
Resource-Related Projects	33%
Reserve for Unknown Events and Opportunities	10%

Wildfire safety/fuels management are classed among the Resource-Related Projects. The typical project description, also published as part of the ballot measure, and repeated for each east bay hills park, reads as follows:

> Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.

Other project sections refer specifically to the management of eucalyptus trees:

> Thin trees to remove excessive fuels within 250 acres of eucalyptus groves…

And others specify other habitat enhancement projects:

> Restore 100 acres of grasslands and sensitive plant species habitat…

The Wildfire Hazard Reduction and Resource Management Plan EIR is based on the joint goals of: 1. Reducing wildfire hazard; 2. Maintaining and enhancing ecological values for plant and wildlife habitat *consistent with fire reduction goals;* and 3. Using public funding for this purpose in a way which is both environmentally and financially sustainable. Thus, the Plan is entirely consistent with the intent and language of Measure CC.

[15] Wiese, Brian. EBRPD Chief of Stewardship and Planning. 2010. Personal communication with Scott Hill, EBMUD Watershed Manager. March.

B8-82: Please refer to Response B8-2, B8-81, and Master Response No. 3. The goals and objectives listed on pages 24 to 26 of the Draft EIR are the same as those listed on pages 20 to 22 of the Plan.

B8-83: The EIR authors disagree that there are "deficiencies" in the biological resources section and cumulative analysis section of the Draft EIR concerning impacts to raptors and nesting birds. It should be noted that with the exception of nesting and perching habitat, eucalyptus forests support a very low diversity of species and little in the way of foraging habitat for raptors. The commenter does not provide any supporting evidence for the statement that the removal of some trees (or the "bias towards removing tall trees") associated with fuel reduction activities "will cause a very significant loss of raptor habitat." Assuming that all of the eucalyptus were removed within the 3,000 acres of recommended treatment areas (potentially, 1,370 acres of eucalyptus, or 548,000 to 1,233,000 trees—and note that this is not the Plan's recommendation), there would still be approximately 500 acres of woodlands remaining within the recommended treatment areas, and some 16,000 acres of eucalyptus,, Monterey pine, and redwood forest, oak-bay and riparian woodland outside of recommended treatment areas but within the Study Area, in addition to other public and private lands in the East Bay that would provide raptor habitat. (It should be noted that *grassland* and *scrub* habitats provide superior foraging habitat for raptors. Therefore, the proposed project and cumulative vegetation management projects undertaken to reduce the threat of wildfire would not result in significant loss of raptor habitat, Contrary to this comment, Mitigation Measure BIO-2 (to perform nest surveys and avoid active nests until the young have fledged), is not a mitigation for "habitat" loss. It is a mitigation for the potential of the project to disturb nesting raptors and songbirds (including special-status and protected species. Please refer to pages 162 to 173 of the Draft EIR for a discussion of potential impacts associated with habitat loss. This discussion is organized by plant community (e.g., grasslands, maritime chaparral). Impacts to raptors (including impacts associated with habitat loss) are discussed on pages 173 to 174 of the Draft EIR.

B8-84: The impact discussion that this comment cites is in regard to conflicts with federal, state, or local policies, ordinances or regulations protecting biological resources and special-status species. The mitigation measure requiring that EBRPD request USFWS to extend the existing Biological Opinion (BO) for the California red-legged frog (CRLF) to cover the project or to issue a new BO is adequate to ensure the project does not conflict with the federal ESA. Impacts to CRLF or its habitat are addressed in the Fire Plan by measures requiring avoidance and are thus less than significant.

B8-85: Please see response B8-84. The EIR contains BMPs and mitigation measures to avoid or mitigate impacts to CRLF. The EIR merely points out that it will be necessary to obtain a "take permit" where potential impacts may be encountered. It is the opinion of the EIR authors that the requirement to obtain an incidental take permit as part of a BO is adequate to reduce the impact of conflicts with federal regulations to less than significant levels.

B8-86: As discussed on page 170 of the Draft EIR, the proposed Plan could increase the amount of oak-bay woodland in the Plan area. This increase in the spatial coverage of the plant community would not increase the susceptibility of this community to Sudden Oak Disease. In addition, the Plan does not seek to create a "monoculture" environment, but would replace (in some cases) communities with lower biodiversity (such as eucalyptus plantations) with communities with higher biodiversity. The preparers of the Draft EIR also disagree with the blanket statement that the eucalyptus and pine forests in the Plan area are "healthy." As discussed on pages 161 and 175, many eucalyptus and pine communities in the Plan area have been damaged by cutting and years of freeze/thaw cycles, pine canker and other diseases.

B8-87: The effects of the removal of non-native trees on habitat are discussed throughout Section IV.B, Biological Resources, of the Draft EIR including on page 161 (specific vegetation types), page 162 (wildlife movement), and page 173 (nesting birds).

B8-88: The analysis of biological resources in the Draft EIR is based on the up-to-date research conducted by project biologists. The 2001 biological opinion issued by the U.S. Fish and Wildlife Service and included in the Draft EIR as Appendix B is useful as supporting background information for analysis contained in the Draft EIR on the proposed project.

B8-89: The commenter questions the fire mitigation benefits of promoting native oak-bay woodland vegetation types. The commenter also contends that if oak-bay woodlands are encouraged in the Study Area there is an increased risk of tree loss to a single pathogen, and the EIR must address this risk. As stated on page 171, the EIR does identify and evaluate the potential effects on oak-bay woodlands of Sudden Oak Death, "Plan-related fuel reduction treatments activities in oak-bay woodland habitat could spread a pathogen fungus *Phytophthora ramorum* or sudden oak death (SOD) from treated areas to areas not yet infected. SOD can impact oaks and other desirable native trees and shrubs. Alameda County, Contra Costa County, and other Bay Area Counties are under quarantine restrictions for SOD." The Plan provides guidelines to ensure that the fuel reduction activities identified in the Plan do not spread SOD, and reduce impacts related to the spread of SOD to a less-than-significant level. While SOD is certainly a threat to oaks and many other types of native vegetation, the guidelines in the Plan will help to reduce the loss of oak trees related to SOD and by extension other potential pathogens such that there would not be a catastrophic loss of oak or bay trees related directly to the Plan.

B8-90: The commenter is in error, in Section IV. C, Geology, Soils and Seismicity impacts related to the fuel reduction activities. Impact and Mitigation Measure GEO-1 on pages 189 to 192 evaluate the potential for slope instability associated with vegetation removal, including tree removal, reduce this potential to a less-than-significant level. The definition of naturalized plant shall be added to Appendix A of the Plan. Page 5 of Appendix A of the Plan shall be revised as follows:

Naturalized: A naturalized plant is one that has been introduced and is not native to an area, but is capable of growing and reproducing in the wild without human assistance.

B8-91: Regarding project impacts and mitigation related to Plan guidelines, and mitigation measures identified in Section C of the Draft EIR, see Draft EIR pages 189 to 192. See also response B8-90. The EIR authors do not agree with the commenter's unsubstantiated assertion that native vegetation is "no longer adapted to the area," and will not be able to establish roots with which to hold soil. Native vegetation has been introduced successfully in many areas by EBRPD, and according to EBRPD staff and the local chapter of the California Native Plant Society, native vegetation currently grows successfully in the Study Area.[16]

B8-92: The commenter summarizes one of the points made by the Draft EIR regarding the slope stability that "under most circumstances, most of the increase in landslide activity after a tree removal operation can be attributed to a decrease in slope cohesion resulting from root decay." The commenter states that no mitigation, other than revegetation, is provided for this potential impact in the Draft EIR. The commenter further states that mudslides could occur anywhere, not just in areas previously mapped as prone to landslides, and that the Draft EIR mitigation for this potential impact is not adequate.

The Draft EIR (starting on page 190) describes many factors that contribute to slope instability, including slope steepness, soil type, geology, vegetation, and subsurface water content. The dominant driving factor in landslide initiation is gravity. Therefore, slope steepness is the primary factor that determines whether a landslide (including mudslides) can occur. In general, the other factors represent lesser driving and resistive forces. For this reason, it is appropriate to pre-screen potential treatment areas by slope steepness, as the primary characteristic of concern. Mitigation Measure GEO-1 provides an overall approach to evaluating and mitigating potential slope instability hazards and specifies that unless the potential treatment area is relatively flat, outside of areas of known mapped landslides, displays no visible evidence of landslide activity, and there are no habitable structures within 100 feet of the toe of the slope, that the EBRPD needs to conduct additional evaluation of the slope stability situation. The additional evaluation must include case-by-case review by an engineering geologist or geotechnical engineer if the prescribed treatment includes use of heavy equipment and ground disturbance on relatively steep slopes or areas with evidence of previous landslide activity. This represents a practical and effective approach to mitigation.

Page 192 of the Draft EIR is revised as follows:

[16] Hills Emergency Forum. 2005. Vegetation Management Almanac for the East Bay Hills.

Mitigation Measure GEO-1: Prior to implementation of any proposed vegetation removal activity, the recommended treatment area shall be screened for potential landslide activation risk using the following procedure:

1) EBRPD staff shall refer to:

   - The most currently available landslide mapping from the United States Geologic Survey or the California Geological Survey for the Study Area (for example, the USGS, 1997, Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California. OFR 97-745c);
   - GIS slope steepness mapping for the Study Area.

2) If all of the following criteria are satisfied then no further action to address potential landslide activation would be required:

   - The area to be treated within the recommended treatment area is located in an area listed as "stable", "few landslides", or equivalent;
   - The average slope steepness of the recommended treatment area is less than 10 degrees (about 18 percent);
   - There is no visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the recommended treatment area, as documented by a field reconnaissance; and
   - There are no habitable structures within 100 feet of the toe of the slope downgradient of the recommended treatment area.

3) EBRPD staff shall determine whether to retain a qualified professional (e.g., engineering geologist or geotechnical engineer) to conduct a geotechnical reconnaissance (on a case-by-case basis) to evaluate the potential impacts of fuel reduction activities or vegetation type conversion on future landslide potential if:
   - Habitable structure(s) are located within 100 feet of the toe of the slope downhill of the treatment area, and
   - The prescribed treatment would include the use of heavy equipment or machinery and significant ground disturbing activities (i.e., this requirement would not apply to methods such as hand treatment, weed-eating, or chemical treatment), and one or more of the following conditions is identified:
     - The treatment area is listed as "unstable", "many landslides" on applicable slope stability mapping, or
     - The average slope steepness of the treatment area is greater than 10 degrees (about 18 percent); or

- There is visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the treatment area, as documented by a field reconnaissance,

All recommendations of the qualified professional (which may include avoidance of the proposed activity) shall be documented in writing, provided to EBRPD, and implemented to the degree necessary to reduce or avoid the potential for landslides and slope instability associated with fuel reduction activities as determined by EBRPD staff. (LTS)

B8-93: Mitigation Measure GEO-1, which is described on pages 191 to 192 of the Draft EIR, would reduce slope instability hazards associated with fuel reduction activities to a less-than-significant level regardless of the types of vegetation that would be planted in or would colonize disturbed areas.

B8-94: Please refer to Master Response No. 3 regarding the need to evaluate the cost effectiveness of various vegetation treatment methods.

B8-95: The commenter states that the Draft EIR should consider the transpiration rate of trees that could be removed under the plan and the potential adverse effects of tree removal on groundwater levels and slope instability.

It is acknowledged that vegetation removal can have an effect on the subsurface moisture content and, in turn, could increase the possibility of landslides. However, as described in response to comment B8-92, landslides are made possible by gravity and slope steepness is the primary factor that increases the driving force of gravity. Appropriately, Mitigation Measure GEO-1 uses slope steepness as a screening tool to determine whether further evaluation of a particular slope is warranted. If the treatment area includes use of heavy equipment, ground disturbance, and relatively steep slopes, then the mitigation measure requires case-by-case review by an engineering geologist or geotechnical engineer. This area-specific review by the engineering geologist or geotechnical engineer would, based on the judgment of the engineering geologist or geotechnical engineer, include an evaluation of the effects of changes in subsurface moisture content (standard slope stability analysis includes quantification of all driving and resistive forces).

B8-96: The commenter states that the Draft EIR should analyze the potential changes in subsurface water levels and soil conditions that would result from vegetation removal, but does not suggest that the analysis in the EIR is faulty or inadequate. The commenter further states that this water level condition should be considered the existing condition or the appropriate "baseline" for analysis and that no consideration should be given to the potential slope instability conditions in a post-wildfire setting. The baseline conditions that were evaluated and considered in the EIR are the existing conditions at the time of the NOP. On page 191, the Draft EIR provides information concerning the effects of a wildfire on slope stability, but does not suggest that this be a baseline for analysis. See also Master Response No. 1.

B8-97: The commenter does not identify where the EIR "argues that the District will restore sites where erosion would occur." The Plan and EIR authors do not know of such an "argument" in the Plan or EIR. The Plan does contains detailed BMPs to reduce erosion (please refer to pages 201 to 204 of the Draft EIR that identifies and lists all of the Plan BMPs and guidelines to reduce erosion). These BMPs contain performance standards (such as requiring a minimum ground cover of vegetation) that allow the preparers of the Draft EIR and the District to ascertain the effectiveness of the BMPs in reducing erosion-related impacts.

B8-98: Please refer to Response B8-93. Mitigation Measure GEO-1 provides detailed, performance-based measures to reduce slope stability impacts to a less-than-significant level. See response B8-92.

B8-99: Section IV.D, Hydrology and Water Quality in the Draft EIR contains an analysis of the Plan's potential impacts related to hydrology and water quality. Please refer to Master Response No. 1 for a response to the portion of the comment that expresses concern that the guidelines and recommendations for future treatment activities identified in Table III-2 Recommended Treatment Areas (RTA) – Sensitive Resources and Preliminary Considerations and Guidelines related to hydrology and water quality have not been adequately addressed or mitigated.

The commenter also indicates that it is inappropriate to compare the erosion hazards that would occur under project implementation (i.e., after fuel management had occurred) to those that would occur in a burned area (i.e., in an area where fuels were not managed and as a result experienced an uncontrolled burn). The baseline condition evaluated and considered in the EIR is the existing condition at the time of the NOP. The EIR also provides a comparison of environmental effects associated with Plan implementation to effects associated with the No Project alternative (which could reasonably result in an uncontrolled wildfire) as required by CEQA. See response to comment B8-96.

It should be noted that wildfire accelerates erosion rates to the degree that post-fire erosion is considered a major factor in overall sediment production.[17] If the Plan (or something similar) were not implemented to prevent and/or minimize the potential for wildfires, overall erosion rates could increase due to accelerated post-fire erosion and sedimentation.

B8-100: This comment, which pertains to the merits of the project, and not the adequacy of the Draft EIR, is noted. Hand labor is one of the fuel treatment methods that is incorporated into the Plan.

B8-101: Detailed enumeration of the exact trees and invasive weeds to be removed; the relationship of tree stumps and weeds to creeks; the exact amount of herbicide to be used on each stump is not required to identify the water quality impacts of the proposed Plan which are fully analyzed in Section IV.D, Hydrology and Water

[17] Forrest, C.L., Harding, M.V., 1996. Erosion and Sediment Control: Preventing Additional Disasters after the Southern California Fires, in US Environmental Protection Agency Proceedings, Watershed 96.

Quality, pages 193 to 206. The Draft EIR does identify the types of herbicides that will be used (i.e., those approved by the State of California and the EBRPD Board, see page 283), for the application, quantity and frequency of herbicide use, District staff will follow the strict requirements associated with each chemical (see pages 279 to 283 of the Draft EIR). As described in the Draft EIR (page 286), the methodology that would be used when applying herbicides would be protective of water quality. Please refer to responses B5-2, B5-5, B5-14 and B8-99.

B8-102: Please refer to response B8-78. Because the Plan is highly protective in its use of herbicides, significant adverse impacts to animals, including amphibians, is not expected (see page 175 of the Draft EIR). The Plan also includes the following BMP in regards to California red-legged frog.

> The California red-legged frog is known to occur in the Study Area, therefore, ground applications of certain herbicides in designated critical habitat (limited in the Study Area to a one square mile section that includes a portion of Robert Sibley Volcanic Regional Preserve) and in areas where the California red-legged frog has been identified (Tilden Regional Park) will only be applied in compliance with the 2006 U.S. District Court Order.[18] This order generally prohibits the use of 66 specified pesticides within varying distances of aquatic habitat, and restricts pesticide use, but not any other forms of habitat alteration that may otherwise occur. An exception to the injunction states that it does not apply to pesticide use if all of the following conditions are met:
>
> - The pesticide is applied for control of state-designated invasive species and noxious weeds under a program administered by a public agency;
> - The pesticide is not applied within 15 feet of aquatic breeding habitat, non-breeding aquatic critical habitat areas, or within 15 feet of aquatic features within non-critical habitat sections subject to the injunction;
> - Application is limited to localized spot treatments using hand-held devices;
> - Precipitation is not occurring or forecast to occur within 24 hours;
> - Application is conducted by a certified applicator or under the direct supervision of a certified applicator; and
> - Only the amine formulations of 2,4-D or triclopyr are used.

Herbicides would be used to in conjunction with non-chemical treatments, to prevent re-sprouts and minimize the need for re-treatment. They would be used judiciously, by certified applicators, and in strict compliance with label instructions, and while implementing appropriate protective measures. Please refer to Master Response No.

[18] U.S. District Court, Northern District of California. 2006. Case No. 02-1580-JSW, *Center for Biological Diversity v. Johnson, et. al.* (http://www.epa.gov/espp/litstatus/stipulated-injunction.pdf)

3 regarding the comment about the replacement of non-native vegetation with native plants. Please see Significance Criteria, page 284, and less-than-significant hazardous materials impacts, page 285. Chemical use anticipated in the Plan is expected to occur in quantities that would not result in significant environmental effects, including the development of widespread herbicide resistance.

B8-103: Chemical use anticipated in the Plan is expected to occur in quantities that would not result in significant environmental effects, including the development of widespread herbicide resistance. The comment about Garlon being a fire hazard is incorrect. While Garlon was at one time formulated using kerosene as a carrier, it has not been for several years.

B8-104: The Marin Municipal Water District (MMWD) information was provided in Appendix H of the Plan to illustrate another agency's approach to controlling invasive and exotic species. These materials, which also provide a useful summary of the efficacy of non-chemical treatment alternatives, are not intended "as some kind of assurance that, without herbicides, a fuel management program cannot be successful." Subsequent to the publishing of the Draft Plan in July 2009, the District and consultant team have contacted and discussed this issue with MMWD staff. It is true that the Marin Municipal Water District (MMWD) Board of Directors suspended the use of herbicides on their lands in August 2005. Since that time, MMWD staff estimate that prior to 2005, broom had essentially been eradicated from the defined fuelbreak system, and after the use of herbicides was suspended pending further evaluation, approximately 750 acres that are designated as fuelbreak are infested.[19] MMWD estimates that 1,000 acres of once high quality habitat, representing 5 percent of the watershed, is seriously infested with invasive plants, primarily broom (see www.marinwater.org and Plan Appendix H for additional detail). The other alternative methods to herbicides tested by MMWD include: mechanical removal, hand removal, controlled burning, grazing, high intensity heat/flame, biological control, and water or foam (soap-based). Since 2005 MMWD has been preparing a risk assessment of herbicides to control invasive plants and updating their Vegetation Management Plan. As of March 2010, MMWD's draft reports and toxicology analyses have shown no significant risk associated with the use of the chemicals studied on human health, drinking water supply, animals or non-target plants, and a greatly increased average annual cost for eradicating 100 acres per year of the 750 acres of broom without the use of herbicides ($2,810,625 per year) as compared to with the use of herbicides ($823,250).[20] MMWD watershed managers have determined that the use of chemicals is a cost-effective and safe method to reduce wildfire hazards on MMWD open space lands and control exotic weed invasions. See also response B8-79.

[19] Marin Municipal Water District. 2009. Vegetation Management Plan Update, Interim Background Report No. 7, Vegetation Management Plan Alternatives Report. February 13.

[20] Klein, Janet, MMWD Vegetation Program Manager. 2010. Personal communication to LSA Associates Inc. March 17, 2010.

The first paragraph on page 92 the Plan is revised as follows:

> Recent studies conducted by the Marin Municipal Water District (MMWD) confirm this approach; the results of their recent studies on the use of non-chemical control methods for the control of invasive non-native plants indicated that a no-herbicide use ~~non-chemical~~ alternatives ~~are~~ (i.e., the No Project Alternative – Maintain Status Quo) "does not meet most of the proposed draft goals and objectives of the VMP."[21] In their February 2009 report, MMWD identified the following issues associated with the no-herbicide use alternative: the existing budget does not provide sufficient funds to maintain the effectiveness of the fuel break system if no-herbicides are used; the very high cost of labor and necessary equipment; the small amount of infested area that can be treated in any given year which extends the amount of time for plan implementation; the potential impacts of soil compaction, soil erosion, non-target vegetation loss, and injury to workers using machinery and propane flamers; a significant increase in invasive species-infested acres and resulting loss of high quality habitat; and the need to allocate the entire budget for this alternative such that there would be no funding for biological resource protection and restoration plans.[22] ~~ineffective for large-scale vegetation management projects.~~ (See the MMWD website at: www.marinewater.org and Appendix H for additional information on these studies).

B8-105: In response to this comment, the discussion of the No Chemical Use alternative on pages 310 and 311 of the Draft EIR has been revised as shown in Chapter IV of this Response to Comments Document. This alternative was rejected from detailed consideration in the Draft EIR because it is expected that the alternative would result in increased wildfire hazards compared to other alternatives. Adequate information exists about the chemicals proposed for use as part of the Plan to evaluate their potential environmental impacts in the Plan area. An independent study is not required to identify these impacts.

The District's Integrated Pest Management Policy outlines and describes the process of review of a pesticide prior to consideration by this District's Board of Directors. This review process does include a toxicological review of relevant available documents (EPA, Cal-EPA, Chemical Science) by a Board certified toxicologist and associated with the California Department of Health Services, Hazard Evaluation System and Information System (HESIS) unit. Given the site specific usage, applicator required training and use of personal protective equipment both Roundup

[21] Marin Municipal Water District. 2009. Vegetation Management Plan Update, Interim Background Report No. 7, Vegetation Management Plan Alternatives Report. February 13. page 16.

The MMWD Board of Directors suspended the use of herbicides on their lands in August 2005. Since that time, the watershed staff has been "losing the battle against these non-native plants that exacerbate wildfire risk." MMWD estimates that 1,000 acres representing 5 percent of their watershed is seriously infested with invasive plants, primarily broom (www.marinwater.org). The other alternative methods tested by MMWD include: mechanical removal, hand removal, controlled burning, grazing, high intensity heat/flame, biological control, and water or foam (soap-based).

[22] Marin Municipal Water District. 2009. Vegetation Management Plan Update, Interim Background Report No. 7, Vegetation Management Plan Alternatives Report. February 13.

(Glyphosate) and Garlon 4 Ultra (Trichopyr) were reviewed and approved for use in the District's ongoing fuel management program.

B8-106: The commenter summarizes conclusions from a draft Marin Municipal Water District (MMWD)-sponsored risk assessment, released in August 2008. The commenter quotes a statement in the MMWD assessment that all herbicides are toxic at some level of exposure. The Draft EIR authors agree with this conclusion. Please refer to response to comment B5-14, which outlines the measures in place to ensure that herbicide exposures are limited to a less-than-significant level.

The commenter also quotes statements in the MMWD assessment regarding Triclopyr (Garlon), one of the chemicals currently used by the EBRPD. One statement regards the potential for dermal exposure to chemical handlers during application or contact with treated vegetation. Another statement regards the potential for Triclopyr to run off into water bodies. These potential impacts are addressed by training requirements and other pesticide use protocols and best management practices outlined in the Hazards and Hazardous Materials section of the Draft EIR (page 286), and summarized in the response to comment B5-14. One of these requirements is a restriction on chemical treatments near creeks and other water bodies (see Plan page 94), which echoes one of the recommendations in the MMWD assessment quoted by the commenter. The impact identified in the comment, potential for erosion and degradation of water quality related to chemical treatment, is identified and addressed to a less-than-significant level through numerous guidelines and BMPS contained in the Plan (see EIR pages 201 to 204).

B8-107: The commenter requests additional analysis of the impacts of herbicides that have been used and may be used in the future in EBRPD Treatment Areas. The commenter states that improper applications of Triclopyr (Garlon) and Glysophate (Roundup) have taken place on EBRPD properties and that past herbicide usage may have affected the health of animals and water quality within Treatment Areas. Please refer to the response to comment B5-14 regarding the laws, regulations, and policies in place to mitigate potential impacts to the environment from chemicals used in wildfire hazard reduction operations. The Plan and EIR include additional measures requiring EBRPD and its contractors to ensure that chemical applications are performed by licensed pest control operators in accordance with regulatory requirements and EBRPD guidance. The commenter requests that additional analysis and research be done of water in chemically treated areas, and that chemicals should be used as sparingly as possible. As stated in responses B8-99, B8-101, B8-102, B8-105, and B8-106, the Draft EIR identifies and analyzes the Plan measures and BMPs that would reduce potential impacts from chemical treatment methods associated with the Plan to surface waters and other environmental receptors to a less-than-significant level.

B8-108: Neither the CEQA statute nor Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency. On December 30, 2009, the California Natural Resources Agency adopted CEQA Guidelines Amendments related to climate change. These

amendments become effective on March 18, 2010 and state that the "lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project…and/or (2) Rely on a qualitative analysis or performance based standards" [emphasis added]. The EIR relies on a qualitative analysis demonstrating consistency with the State goals and plans, including fuel reduction, to minimize the frequency and magnitude of catastrophic fires and associated GHG emissions. Chapter VI. CEQA-Required Assessment Conclusions, included in Chapter IV of this document, includes an expanded discussion of global climate change impacts, including estimates of carbon sequestration.

Carbon sequestration in the Western North American forests is thought to be due primarily to decades of fire suppression. Complex interactions between natural and human activities present a challenge for projecting future fire regimes, forest management needs, GHG emissions, and carbon sequestration. Fuel conditions may change within years or a few months of major disturbances, such as forest thinning. Future fires enhanced by the accumulation of fuels and climate change could eliminate much of the carbon gains due to suppression.

B8-109: Please refer to Section IV.F, Air Quality and Global Climate Change, of the Draft EIR for a discussion of the carbon emissions associated with implementation of the Plan, including prescribed burning of trees and other vegetation. As stated on page 264 of the Draft EIR, the Plan is expected to have a net positive benefit on global climate change, even taking into account the removal of some vegetation, because it would reduce the frequency and severity of fires which release greenhouse gases into the atmosphere. LSA has revised Chapter VI.C, Cumulative Impacts (pages 315 to 323 of the Draft EIR, included in Chapter VI of this Response to Comments Document) for a cumulative analysis of global climate change.

Exact details of the size, dimension, and number of trees that will be removed are not available at this time. Additionally, the specific timing of the tree and vegetation removal is not known, as the Plan is a long-term management tool; vegetation regrowth and replacement would also occur over the lifetime of the plan in a manner that would be difficult to predict. Regardless of vegetation type, each treatment area will be assessed by a team of qualified personnel before finalizing prescriptions for specific treatment areas identified in the Fuels Treatment Plan. The treatment cycle continues with the monitoring phase and repetition of the process until the vegetation management goals have been met. Specific calculations of the loss in carbon sequestration and related GHG emission calculations require a number of assumptions, and there is not yet an established quantified GHG emissions threshold. Therefore, specific calculations of the loss in carbon sequestration and related GHG emission calculations would be speculative and not necessary to perform a qualitative analysis of global climate change impacts per the CEQA Guideline Amendments. Nonetheless, the analysis of global climate change included in Chapter VI. CEQA-Required Assessment Conclusions and included in Chapter IV of this document, includes an expanded discussion of global climate change impacts, including estimates of carbon sequestration associated with the removal of vegetation. The reader should note that most prescriptions call for thinning, not complete removal of

trees (specifically eucalyptus), and would prioritize removal of sprouts and younger smaller trees.

B8-110: The comment is noted. We agree that CEQA does require comparison to existing conditions. The reference to reducing "frequency and severity of wildfires" over current conditions that occur today, as well as those that may occur in the future is from the Global Climate Change analysis section in the EIR (page 264), it is not an identification of the baseline condition for this analysis. The comment also makes an assumption that the impact is significant, and therefore, the EIR must include mitigation measures. If the impact is found to be less than significant, no mitigation measures would be required. In regards to the appropriate baseline to use for analysis, see responses B8-17 and B8-96.

B8-111: According to Section IV.F of the EIR, "these vegetation management and fuel reduction activities will be dispersed across the calendar year according to the required conditions of the targeted vegetation, surrounding habitat requirements, and BAAQMD requirements, and as such would not substantially contribute to a net increase in any criteria pollutant in the region." We agree that trees and vegetation can have beneficial air quality effects on the environment. Please refer to responses to comments B8-96, B8-108, and B8-110.

B8-112: The comment states that the EIR must show compliance with AB 32. The comment incorrectly indicates that AB 32 requires a reduction by 2010 to 2000 levels. AB 32 requires the State, not individual plans or projects, to show a reduction to 1990 greenhouse gas levels by 2020. The December 2008 Scoping Plan developed by the Air Resources Board and required by AB 32 recognizes that this is a statewide target and not all sectors will be impacted equally. The BAAQMD has delayed further consideration of the revised CEQA guidelines pending resolution of a number of comments and issues; given the ongoing discussion related to those draft guidelines, it would not be appropriate to use them as a basis for the climate change analysis, which was conducted in early 2009. The EIR addresses global climate change per the CEQA Guidelines as referenced in response to comment B8-108.

B8-113: The commenter states that the EIR does not address the question of how well formerly 'native' plants and native grasses will survive in the future. The commenter also states that the EIR must analyze the suitability of the desired vegetation outcome to the expected climate of the future. The degree to which climate change will affect forest and plant growth, including species type, depends on a variety of factors. Recent projections suggest that continued global warming could adversely affect the health and productivity of California's forests and intensify pressures on the state's natural ecosystems and biological diversity. Although the individual effects (e.g., temperature increase) of climate change on specific vegetation are becoming better understood, trying to quantify interactions among these environmental factors is difficult. With adequate research and advance preparation, some of the consequences of global climate change can be reduced. The reader should note that native plants in the East Bay Hills have demonstrated their heartiness and adaptability on many sites managed by EBRPD over time by successfully recolonizing and thriving on sites when invasive and introduced plant species are removed or managed.

B8-114: Contrary to this comment, the Plan goals, objectives, guidelines and recommendations for the RTAs evaluated in the EIR are supported by accurate, appropriate and complete data, as described below. The fire behavior prediction model incorporates conservative assumptions regarding the weather and other environmental conditions.

The inputs for the analysis and conclusions appear in Plan Appendix C, Appendix A, FlamMap Input files and assumptions, and C, Weather Inputs for Flammap Simulations. Regarding weather, Appendix A states, "Weather data was collected for a 10-year period; the actual observations for October 23-28, 2003 were used for the simulation. The weather observed on these days is among the driest and the windiest in the previous 10 years. The direction of the wind was consistent with a long-term Diablo Wind event."

The Plan and EIR authors disagree with the comment that the EIR is "inadequate." On the contrary, the EIR does contain substantial evidence across over 300 pages of text, tables and figures that support the analysis and conclusions identified in the EIR. See also responses to comments B5-2, B5-8, and Master Response No. 1. The table this comment refers to (Table 1 of Appendix B of the Plan Appendix C: Wildfire Hazard Assessment and Treatment Areas) indicates the expected fire behavior under conditions of a mid-flame windspeed of 5 miles per hour, but this is not the set of conditions nor the fire behavior outputs used for determining the RTAs

B8-115: As stated previously, the Plan does not propose to replace all existing vegetation in the Recommended Treatment Areas with oaks, or oak-bay woodlands. Additionally, the Plan does not "address" weather conditions; it considers weather and climate as a factor in the FlamMap fuel modeling that was prepared to support the Plan recommendations. The commenter should note that the Plan is the project evaluated in the Draft EIR, and the EBRPD Board will make findings and select the preferred "alternative" from those presented in the EIR. See Master Response No. 3 in regards fuel loads and eucalyptus trees.

The commenter implies that the purpose of the EIR is to address the problem of wildfires moving from park lands into neighborhoods under Diablo Wind conditions, which is not the case. The primary purpose of the EIR is to evaluate the proposed project, identify potentially significant impacts to the environment, and recommend feasible mitigation measures or alternatives to avoid or reduce significant impacts. The National Wildfire Coordinating Group defines "risk" as the chance of fire starting as determined by the presence and activity of causative agents. Risk reduction focuses on ignition prevention through education, enforcement and fuels management. The EBRPD Fire Department, Diablo FireSafe Council, Cities of Berkeley and Oakland, and landowners in the East Bay Hills have an active ignition prevention program that includes the enforcement of fire codes, red flag notifications along with increased Fire Department patrol to increase awareness and detection. The Plan and EIR authors disagree with the commenter that the FlamMap analysis and EIR are "inadequate."

In addition, fuel treatments to reduce ignition factors are included in the Draft Plan. For example, two of the eleven guidelines are devoted to roadside treatments for risk reduction (see pages 25 to 26 of the Plan). Plan Guideline 1.10 recommends the adoption of a regional standard Section 17 of the Uniform Fire Code Division II Environmental Hazards Control of Hazardous Fire to require that all flammable vegetation or other growth be cleared within 10 feet on each side of roadways. Guideline 1.11 seeks to identify and support additional roadside clearance programs, including thinning shrubs and removing ladder fuels under eucalyptus and oak/bay stands. Additionally, as stated on page 39 of the Plan, the professional judgment of EBRPD staff concerning known ignition points and strategic locations for defensible space was one of the inputs used to determine the location of recommended treatment areas and the type of treatment that was recommended.

Ignition reduction measures concentrate actions on fine fuels, and those fuels near human activities, particularly along roadsides, near structures, and barbecues. These treatments include roadside mowing, grazing and mechanical treatments. The treatment of ladder fuels is discussed in treatment methods in all of the vegetation types (see Chapter V. Vegetation Management Program of the Plan). The existing programs and proposed actions combine to reduce the risk of wildfire through managing fine fuels and ladder fuels.

Contrary to the comment and as stated in the EIR on page 307, the CEQA Guidelines require an analysis of a range of reasonable alternatives to the proposed project, or the location of the proposed project, which could feasibly attain most of the project's basic objectives and avoid or substantially lessen any of the significant effects of the proposed project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. In Chapter V. Alternatives, a number of alternatives, including the No Tree Removal and the No Chemical Use alternatives similar to those suggested by the commenter, were evaluated but rejected from further evaluation because they did not either attain the basic project objectives or did not *substantially lessen* the significant effects of the project. Two feasible alternatives to the project were identified and evaluated in Chapter V, the No Project and the Mitigated alternative to permit a reasoned choice by the District decision-makers. In response to the commenter's suggested alternative, a new alternative to the project, the Modified No Tree Removal and No Chemical Use alternative was identified and evaluated, see response to comment B8-13. See also responses to comments B1-11, B4-2, B5-20, B8-2 and Master Response No. 3.

B8-116: Contrary to this statement, the Plan and EIR do provide objective scientific data to support the recommendations and analyses contained therein (see especially Plan Appendix C and EIR Section IV.B, Biological Resources). See Master Response No. 3.

B8-117: The table this comment refers to is Table 1 of Appendix B, Descriptions of Fire Behavior For Fuel Models contained within Plan Appendix C. Contrary to this comment that the combination of the two charts "provides scientific support for the FlamMap analysis," the fire behavior inputs used for determining the RTAs are

described in Plan Appendix C, in particular, see Appendix A, FlamMap Input files and assumptions, Appendix C, Weather inputs for FlamMap Simulations, and Appendix E, Recommended Treatment Area Justification, all in Plan Appendix C. Table 1 was not used to determine RTAs. The commenter is correct in noting that the names associated with the Fuel Model numbers are not consistent between Appendix B and Table 1. The naming of the fuel model numbers in Table 1 are those appearing in manuals used nation-wide, whereas the names of the fuel model numbers in Appendix B of Plan Appendix C were customized to convey the conditions found in the Study Area. The inputs to the fire behavior prediction model are the same regardless of the names associated with the numbers. See also responses to comments B8-114, B8-115, and B8-116 and Master Response No. 3.

B8-118: The EIR evaluates the guidelines and recommendations (see discussion of "area of impact" on pages 33-34 of the Draft EIR) identified in the Plan; identifies potentially significant impacts to the environment, and recommends feasible mitigation measures or alternatives to avoid or reduce significant impacts. The Plan notes the need for prioritization of which RTAs are treated first. The statement identified in the comment occurs on page 5 of Plan Appendix C. This statement appears in the section dealing with ways to prioritize treatment areas. The paragraph in which this statement occurs starts with the text. "Flame lengths that are greater than eight feet are especially important when nearer to high values at risk…In contrast, areas further away from values at risk and away from strategic control locations may experience higher flame lengths with lesser impact because the vegetation itself is adapted to fire of similar intensity, and less potential for damage to values at risk exists. It should be noted that not all areas with the potential for high flame lengths can be cost-effectively treated with minimal effects to the environment." The italicized quote explains a need for prioritization, and that RTAs with eight-foot flame lengths near high values at risk would have a higher priority, i.e., it may not be cost-effective for the District to treat areas further away from high values at risk, while still maintaining a high standard of environmental preservation.

B8-119: The Plan and EIR authors disagree with the statement that the FlamMap modeling and "thus the EIR" are inadequate because they do not includes oaks, per responses to comments B8-114 through B8-117. The fuel bed depth is defined by the National Wildfire Coordinating Group as *the average height of surface fuels contained in the combustion zone of a spreading fire front*. When measuring fuel bed depth, it is the distance from the bottom of the litter layer to the highest intersected dead particle.[23]

Surface fuels are loose litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.[24] While it may appear to be contradictory, having one-half of the volume consist of litter one to three

[23] Brown, James K., 1974. Handbook for Inventorying Downed Woody Material. General Technical Report INT-16. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 24 p.

[24] http://www.forestsandrangelands.gov/resources/glossary/s.shtml

inches in diameter in a depth of 2.5 inches is quite possible. The photo below displays how a stick in the one to three inch category is within a fuel bed depth of 2.5 inches. Ladder fuels are addressed throughout the Plan, regardless of species. Refer to response to comment B8-15.

Photo: Gauging Fuel Bed Depth. A "go/no-go" gauge is commonly used in determining the roundwood diameter size classes when inventorying dead-downed woody surface fuels using the line intersect method.

B8-120: A fire behavior analysis for all of the vegetation types, including oak-bay woodland, within the Study Area was prepared for the Plan and is included in Plan Appendix C, see also Plan Chapter V. Vegetation Management Program. The purpose of the Draft EIR is not to prepare such an analysis. Contrary to the comment, there is no "preferred alternative" identified in Chapter V. Alternatives of the Draft EIR, and there is no alternative that identifies its main objective as being a "major landscape transformation" to many oak-bay woodlands. The EIR identified and evaluated feasible alternatives that reduced identified significant impacts and generally met the objectives of the project. See also responses to comments B1-11, B4-2, B5-20, B8-2 and Master Response No. 3. Page 185 of the Draft Plan summarizes the species associated with the oak-bay woodland vegetation type defined in the Plan. In Plan Appendix C, Appendix D: Crosswalk from Vegetation to Fuel Characteristics identifies the vegetation types that were characterized as Fuel Model 8. Vegetation types that included California live oak, bay, madrone, buckeye and big leaf maple are some of those characterized as Fuel Model 8.

The fuel characteristics were determined from GIS vegetation mapping done in 2006 by District personnel (see Plan page 41). The District identified and mapped over 300 vegetation types, as stated in the Plan, "vegetation types were determined according to available GIS data provided by EBRPD as well as the professional judgment of the EBRPD staff and consultant team personnel, based on field verification." The mapping system identified in Appendix C, describes the vegetation type starting with the cover type, then lists in order of abundance the vegetation in the overstory as well as understory.

For each vegetation type the Plan identifies treatment objectives and performance standards. The fuel reduction standards are stated in terms of post-treatment fuel characteristics which would produce acceptable fire behavior, and are established for every vegetation type, not just oak-bay woodlands or eucalyptus. See Chapter V. Section C, Vegetation Management Program, pages 124-199.

The naming of Fuel Model 8 as "Closed Canopy Oak Woodland" should not be construed as requiring every treatment area to become a closed canopy oak woodland, but to have the fuel characteristics of that fuel model, which are roughly: 1.5 tons of fuels smaller than ¼ inch in diameter per acre; 1 ton of fuels sized ¼ inch to one inch in diameter per acre, and 2.5 tons of fuels one to three inches in diameter per acre, with little live woody vegetation in the understory. Page 162 of the Plan notes that the Mature Eucalyptus forest was modeled as Fuel Model 8, among other fuel models, depending on the condition of the understory, stand density and structure. See Master Response No. 3.

B8-121: The Plan and EIR authors disagree with the summary comments that the inputs to the FlamMap analysis, are inadequate and the EIR is deficient and invalid. See responses to comments B8-114 through B8-120, as well as Master Responses No. 1, No. 2 and No. 3. The commenter correctly points out that studies have shown an effect of 10 additional inches of rainfall due to the collection of fog drip in tall trees such as Monterey pine. Page 162 of the Plan notes, "mature eucalyptus will ignite year-round when weather is dry; however fog-drip limits ignition on foggy summer and winter mornings." A study in Point Reyes noted the additional water fog drip provided to the plants.[25]

The moisture of dead eucalyptus fuels on the forest floor varies with the weather. During foggy times - along with as much as a few days following – the fog drip can increase fuel moisture and thus reduce ignition potential and rates of spread. However, the conditions for which the analysis is targeted are not during foggy times, but during hot, dry weather that is not affected by fog drip.

[25] Neil L. Ingraham and Robert A. Matthews. 1999. The Importance of Fog-drip Water To Vegetation: Point Reyes Peninsula, California Journal of Hydrology, Volume 164, Issues 1-4, January 1995, Pages 269-285. The study area, the Point Reyes Peninsula, burned October 3, 1995 in the Vision Fire, encompassing 12,354 acres and destroying 45 homes.

Fog drip would affect small-diameter material due to the short duration of the fog event and the pattern of moisture absorption. Not taking wind into account, the dead materials dry more or less quickly according to the diameter of the particle. Dead materials smaller than ¼ inch come to a general equilibrium in one-hour; materials sized ¼ to one inch in diameter in 10-hours, and materials from one to three inches in 100 hours, see also Table III-1.[26] However, according to Franklin, the fog episodes for the East Bay were among the highest of record in 1991, the year of the Oakland Hills and Berkeley fire.[27] In less than eight hours of elevated temperatures and low relative humidity, the impacts of five years of drought became evident as catastrophic wildfire spread through the Oakland hillsides. The inputs regarding the topography, fuels and weather are detailed in Plan Appendix C.

The addition of higher live fuel moistures was based on literature of foliar moisture of north coastal scrub, along with oak and bay trees.[28] In addition, riparian areas, as evidenced by the presence of species that require high levels of water (willows, elderberry and hazelnut) were categorized as having higher live fuel moistures. Riparian areas are known to hinder fire spread and intensity due to their higher foliar moisture.[29] The addition of higher caloric content to those areas with eucalyptus and pine was based on literature noting the increased presence of oils in those two vegetation types. The caloric content of these oils and volatiles have roughly three times the amount in cellulose, thus a fire in eucalyptus that involves dead leaves is hotter due to the higher caloric content of the fuel. Agee and others compared the heat values of grass, eucalyptus and scrub oak. Eucalyptus leaf litter has 10,000 btu/lb compared to 7,100 btu/lb in dry grass. Eucalyptus burns hotter by roughly one-third more. The contrast is less dramatic in oak leaves (8,000 btu/lb) but is still only 80 percent the heat value of eucalyptus.[30] See Master Response No. 3.

[26] Rothermel, Richard C. How to Predict the Spread and Intensity of Forest and Range fires. General Technical Report. INT-143. Ogden, UT. USDA Forest Services, Intermountain Forest and Range Experiment Station). Note that Diablo wind conditions will dry materials much quicker. http://ocw.usu.edu/Forest__Range__and_Wildlife_Sciences/Wildland_Fire_Management_and_Planning/Unit_5__Fuel_Moisture_3.html and Neil Sugihara, Jan W. Van Wagtendonk, Kevin E. Shaffer, Joann Fires-Kaufman and Adrea Thode. 2006. Fire In California's Ecosystems. University of California Press. Page 44.

[27] Scott Franklin Consulting. 2002. Appendix H. Fire/Vegetation Management Plan and Catstrophic Wildfire Risk Analysis Sedgewick Reserve. Sedgwick Reserve Infrastructure Planning For the UCSB Sedgwick Reserve. Supplemental Information –Appendices. http://sedgwick.ucnrs.org/supplementalinfoframeset.html).

[28] (Rice, Carol L. 1985. Use of BEHAVE on Shrublands at the Urban Interface. Pgs 270-274 In Eighth Conference on Fire and Forest Meteorology, Detroit, MI, April 29-May 5, 1985, and Rice, Carol 1987. Live Fuel Moisture, Fuel Bed Characteristics, and Fire Behavior of Vegetation in the Berkeley/Oakland Hills. M.S. Thesis in Wildland Resource Science, University of California, Berkeley.

[29] Agee, James K.; Wright, Clinton S.; Williamson, Nathan; Huff, Mark H. 2002. Foliar Moisture Content of Pacific Northwest Vegetation and Its relation to Wildland Fire Behavior. Forest Ecology and Management. 167: 57-66, Carl N. Skinner. 2002. Fire History of Riparian Reserves of the Klamath Mountains, In Fire in California Ecosystems: Integrating Ecology, Prevention, and Management, Association for Fire Ecology Miscellaneous Publication No. 1: 164-169) http://www.fs.fed.us/psw/publications/skinner/psw_2002_skinner001.pdf

[30] Mutch, Robert W. 1970. Wildland fires and ecosystems – a hypothesis. Ecology 51(6):1040-1050, and Philpot, Charles W. and Robert W. Mutch. 1970. The seasonal trends in moisture content, ether extractives, and energy of ponderosa pine and Douglas-fir needles. USDA For.Serv. Res. Pap. INT-102. Intermountain Forest and Range Expt Station. Ogden, UT 21 p.)

B8-122: See response to comment B8-121. The commenter's statement that the "conclusion to remove certain species of trees" is part of the proposed Plan and is based on extensive research conducted on fire hazards posed by eucalyptus and Monterey pine trees. This conclusion is supported by substantial evidence found throughout the Draft EIR. Refer especially the response to comment B8-116 and to Master Response No. 3 for additional detail. FlamMap was used to identify the areas within 200 feet of structures that could produce a predicted flame length of 8 feet or greater. FlamMap was also used to determine the areas in which there was a high risk of ember production, as determined by the prediction of torching. The justification of each RTA is displayed in Appendix E of Plan Appendix C. The maps of the RTA (Figures III-3 through III-14) are the spatial display of the areas in Appendix E.

The treatments detailed in Chapter V. Vegetation Management Program were selected to create fuel conditions that meet the Plan's objectives stated on pages 21-22 of the Plan. In many cases the objective is reached by fuel treatments with an aim of producing flame lengths less than eight feet within 200 feet of structures, minimizing the potential for ember production, and resisting ignition along roads and near structures.

The commenter is correct that the understory is an important determinant of the fuel characteristics of an RTA. The vegetation mapping system is described on Page 41 of the Plan. Each RTA was visited twice, and sometimes more, by the consulting team and Fire Department individually and separately to field-check the conditions stated in the Plan, including the presence and condition of understory vegetation. Refer also to Plan Appendix C, Appendix D in which the 300 plus vegetation types are categorized in terms of their fuel characteristics. In some cases the understory determined the surface fuel model. See for example, the fuel characteristics associated with the Vegetation Type: California Bay-Manzanita-Blackberry, where the surface fuel model assigned is Fuel Model 4, (named Chaparral). In summary, the District and Plan authors do not believe that the FlamMap analysis needs to be redone. See Master Response No. 3.

B8-123: The alternatives listed in the first part of this comment (e.g., No Action alternative, Maximum Fuel Reduction Activities alternative, No Tree Removal alternative) were considered in the Draft EIR but were rejected from detailed analysis for the reasons discussed on pages 308 to 311 of the Draft EIR. For instance, the No Tree removal alternative was rejected from detailed analysis because it would contribute to increased wildfire hazards and would promote the spread of diseases. The rejection of these alternatives is consistent with Section 15126.6 of the *CEQA Guidelines*: "The EIR should briefly describe the rationale for selecting the alternatives that were considered by the Lead Agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the Lead Agency's determination. . . Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives,

(ii) infeasibility, or (iii) inability to avoid significant environmental impacts." Jerry Kent is cited because he is the former Assistant General Manager of EBRPD, worked at the District for 41 years and is an expert in the management of open space, including management of wildfire hazards. Mr. Kent staffed the 1982 East Bay Hills Blue Ribbon Fire Hazard Reduction Planning Study, was the District's representative while developing the East Bay Hills Vegetation Management Consortium Fire Hazard Mitigation Program and Plan following the 1991 Tunnel Fire, and was a principal staff member with the Hills Emergency Forum between 1992 and 2003.

B8-124: Please refer to Master Response No. 3. Eucalyptus is widely considered one of the most hazardous plants in the context of wildfire hazards.

B8-125: Please refer to the discussion of chemical treatment in Chapter IV, Fuel Treatment Methods, of the Plan. See also response B8-104 that provides additional information on the MMWD studies. As noted in Footnote 2, in August 2005 the MMWD Board of Directors suspended the use of herbicides on their lands, and since then watershed staff estimate that invasive weeds have infested 750 acres of designated fuelbreak and approximately 1,000 acres of watershed habitat.[31] It should be noted that MMWD's ongoing research concerning the use of herbicides may reflect the fact that MMWD is a drinking water provider and under some pressure from its users. Its moratorium on herbicide use is intended to be temporary and contingent on the results of the research being conducted on herbicide vs. non-herbicide alternatives for managing their watershed and providing wildfire hazard reduction and subsequent Board review of the policy. Please refer to Response B8-123 and regarding the rejection of alternatives deemed infeasible or which fail to meet basic project objectives. It is further noted that the commenter's assertion that EBMUD manages its land without the use of herbicides is incorrect. [32]

B8-126: In response to the commenter's suggested alternative, a new alternative to the project, the Modified No Tree Removal and No Chemical Use alternative was identified and evaluated, see response to comment B8-13. See also responses to comments B1-11, B4-2, B5-20, B8-2, B8-115, B8-120 and Master Response No. 3.

The commenter repeatedly asserts that the Plan is proposing "fire breaks" and therefore "it must be devoid of all significant vegetation" regardless of species. If the District were proposing fire breaks, the commenter would be correct. However, the Plan calls for <u>fuel breaks,</u> which by definition and design are substantially different, and rely on widely-spaced overstory vegetation and light ground fuel loadings for their effectiveness. Where and if the Plan identifies "fire breaks or firebreaks," that term will be changed to "fuel breaks" which is currently included in the Plan Glossary in Appendix A.

[31] Marin Municipal Water District. 2009. Vegetation Management Plan Update, Interim Background Report No. 7, Vegetation Management Plan Alternatives Report. February 13.

[32] Wiese, Brian. EBRPD Chief of Stewardship and Planning. 2010. Personal communication with Scott Hill, EBMUD Watershed Manager. March.

Page 3 of Appendix A of the Plan is revised as follows:

> **Fire Break or Firebreak:** An elongated barrier or area that may be strategically-located which is devoid of vegetation and other flammable material and is intended to stop a wildfire. Common fire breaks can include an interstate highway, a river, or an 8-blade wide ridgetop dozer line to mineral soil.

B8-127: The HCN alternative, which closely resembles the No Tree Removal alternative, was rejected from detailed consideration for the reasons detailed on pages 309 and 310 of the Draft EIR. *CEQA Guidelines* Section 15126.6 states that: "An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation." The HCN alternative, which would repeat management strategies that have repeatedly failed[33] at preventing past wildfires or supporting ecological health (such as the preservation of eucalyptus groves) would foster neither informed decision-making nor informed public participation.

B8-128: This comment, which states that the analysis of cumulative impacts in the Draft EIR is inadequate, introduces the following comments, which seek to support this statement. As a general response, the cumulative analysis found in Chapter VI, CEQA-Required Assessment Conclusions, of the Draft EIR is adequate and consistent with *CEQA Guidelines* Section 15130. As stated in Section 15130: "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion. . . should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

B8-129: Fire hazard reduction activities (including tree removal) at UC Berkeley are specifically listed as being among the projects that are considered in the cumulative analysis in the Draft EIR. Please refer to the description of the 2020 Hill Area Fire Fuel Management Program and the 2006 Long Range Development Plan on page 316 of the Draft EIR.

B8-130: Please refer to Responses B8-75 and B8-98 to B8-99 regarding the analysis of BMPs in the Draft EIR.

B8-131: Potential impacts to raptors due to tree removal and other forms of habitat modification are discussed on pages 173 and 174 of the Draft EIR. Please also refer to the discussion of wildlife movement on page 162. At any given time, only a small percentage of the 19,000-acre Plan area would be subject to disturbance. Therefore, there is expected to be substantial habitat available for displaced wildlife during

[33] Kent, Jerry, Previous EBRPD Assistant Manager. 2010. Unpublished report concerning EBRPD eucalyptus removal projects from 1972 to 2004, Revised Draft, March 2, 2010.

University of California, Berkeley. Office of Emergency Preparedness. 2007. Fire Mitigation Program – Annual Report 2007, Large Projects.

implementation of the Plan over time. The reader should note that a major strategy of the Plan is to encourage succession of more fire-safe plant communities as well as habitat maintenance. See response to comment B8-83.

B8-132: The analysis of geology, soils, and seismicity in revised Section IV.C of the EIR (which is included in Chapter IV of this Response to Comments Document) addresses cumulative impacts that could result from implementation of the Plan and other wildfire risk reduction programs. Impacts related to geotechnical issues tend to be relatively site specific and mitigated on a case-by-case basis. Mitigation Measure GEO-1, which is described on pages 191 to 192 of the Draft EIR, would reduce slope instability hazards associated with fuel reduction activities to a less-than-significant level. Because the project's impacts related to geology, soils, and seismicity are localized and site-specific they would not combine with instabilities associated with the cumulative projects. Thus, the project's contribution to the cumulative impacts of slope instability would be less than significant. Management activities at UC Berkeley incorporate slope protection and erosion control measures similar to those outlined in Mitigation Measure GEO-1 per the mitigation monitoring and reporting plans and reports prepared annually by UC Berkeley for their fuel mitigation projects, and to protect water quality, EBMUD also undertakes slope instability and erosion controls when undertaking fuel management projects. Please also refer to Response B8-93.

B8-133: Please refer to Response B5-14 and B8-78. Cumulative impacts related to water quality and hazards and hazardous materials are evaluated and analyzed in Chapter VI of the Draft EIR, see pages 315 to 320. The District has attempted to limit the use of chemicals on its parklands for the past 40 years and follows all federal, State, and local guidelines, including having and conducting an IPM program. As analyzed in Section IV.H, Hazards and Hazardous Materials, pages 279 to 283 and 284 to 286, and Section IV.D, Hydrology and Water Quality, pages 203 to 204, the Plan contains guidelines and BMPs such that implementation of the Plan would not make a significant contribution to adverse water quality impacts or impacts to wildlife contained therein. The analysis contained in the EIR is "valid" in that mitigation measures (in the form of policies, guidelines and BMPs contained in the Plan and restated in the EIR) are identified to reduce potential impacts associated with the proposed project to a less than significant level. Estimating the amount of chemicals the District may use over the next 20 years to implement the Plan was not necessary in order to identify feasible and adequate mitigation measures to reduce potential adverse environmental impacts related to the District's use of chemicals to implement the Plan.

B8-134: This comment states that the EIR's cumulative air quality analysis is inadequate. As discussed on page 262 of the Draft EIR, the project's cumulative contribution to air pollution would be less than significant because the Plan's "vegetation management and fuel reduction activities will be dispersed across the calendar year according to the required conditions of the targeted vegetation, surrounding habitat requirements, and BAAQMD requirements." See also revised Section IV.C of the EIR included in Chapter IV of this Response to Comments Document.

B8-135: This comment misstates the reasons for the finding that the Plan would result in a less-than-significant global climate change impact. As discussed on page 264 of the Draft EIR, the Plan would not make a significant contribution to the cumulative impact of global climate change because the "activities identified in the Plan are intended to reduce the frequency and severity of wildfires, and as a result, CO_2 emissions will be reduced and more carbon will ultimately remain in wildland biomass in the cumulative condition," not because "the projects would be dispersed across the calendar year." As required by CEQA, the global climate change analysis considers both the short- and long-term impacts of the Plan on global climate change, and weighs carbon emissions associated with tree removal against long-term gains due to the reduction of wildfires. See also the revised global climate change analysis contained in Chapter VI. CEQA-Required Assessment Conclusions in Chapter IV of this document.

B8-136: Compliance with the District's rules limiting the hours for use of mechanical equipment and implementation of Mitigation Measure NOI-1 (see pages 274 and 275 of the Draft EIR) would reduce the contribution of the Plan to cumulative noise levels to a less-than-significant level by reducing noise effects to daytime/working hours when people are less sensitive to noise. As further explained in revised Section IV.C of the EIR included in Chapter IV of this Response to Comments Document, the Plan will not considerably contribute to cumulative noise impacts.

B8-137: The commenter requests analysis of the cumulative effect of the use of herbicides over a large geographical area for an extended period on water quality and the environment. Please refer to the response to comment B5-14 for a summary of regulatory and EBRPD measures to limit herbicide effects on the environment to a less-than-significant level. As detailed in the response to comment B5-14, the Plan would add additional safeguards on chemical use, including restrictions on chemical use within 50 feet of creeks or other water bodies. No cumulative impacts on water quality or the environment from chemical use for wildfire hazard reduction operations undertaken as part of the Plan were identified in the Draft EIR analysis.

B8-138: Please refer to page 322 of the Draft EIR for a discussion of the less-than-significant contribution the Plan would make to cumulative and adverse effects to visual resources. As discussed on page 322, the removal of trees would not be considered to have a significant adverse cumulative effect because "the likelihood of any one vegetation management activity occurring over a sufficiently large area to substantially adversely affect a scenic vista is minimal." Another critical point is that natural landscapes are dynamic, and the evolving visual nature of such landscapes (which would occur as part of the Plan) represents a positive contribution to visual character. Such change is limited by some of the vegetation communities that currently cover portions of the Plan area, including eucalyptus and pine plantations.

B8-139: Please refer to Response B8-138 regarding the ability of the landscape to accommodate change, which can itself be a positive contribution to the visual

environment. A relative public preference for a certain type of vegetation that would be removed as part of the Plan would not be considered a significant impact on the visual environment. The cumulative analysis in the Draft EIR is based on an analysis of the combined visual effects of all the management activities contemplated in the Plan, with particular emphasis on how scenic views and landscape character would change. The Plan would have beneficial effects related to thinning overgrown stands, opening vistas and providing more diversity in vegetation types. The transformation of certain vegetation types (e.g., eucalyptus plantations) to native plant communities would foster landscape change and biodiversity, and represent a positive contribution to the visual environment.

B8-140: The impacts of the Plan on existing land uses, including recreation, are evaluated in the Draft EIR in Section IV.A Land Use (see pages 111 to 112). The effects on recreation are also evaluated in the Initial Study on page 28 (included as Appendix B to the Draft EIR). The types of impacts referenced in the comment (e.g., release of herbicides, noise) are temporary and localized impacts. As such, they would not have a cumulative effect throughout the Plan area and over time, and thus would not substantially hinder the recreational use of the Plan area. The key objective of the Plan is to reduce the wildfire hazards that would cause the most disruptive and long-term impact to recreational use of the Plan area. Additionally, the District has been undertaking vegetation management activities for the past 75 years and has identified standard practices to protect visitors to the parks, including signage and temporary park or trail closures. Park users will have access to other District parks when vegetative management activities interfere with park use.

B8-141: Please refer to Response B8-140.

B8-142: Please refer to the discussion of cumulative land use impacts on page 318 of the Draft EIR. As discussed there, the proposed Plan would not fundamentally change land uses in the Plan area. Changes in plant communities would not be considered a significant land use impact because the underlying land use (open space) would remain the same.

B8-143: Please refer to Responses B8-140 and B8-142.

B8-144: These references, many of which have been reviewed by the Plan and Draft EIR preparers, are noted.

Letter
B9

From: Madeline Hovland
Date: September 7, 2009 4:55:39 PM PDT
To: cmiller@amphiondesign.com
Cc: bwiese@ebparks.org, Hills Conservation Network <inquiries@hillsconservationnetwork.org>
Subject: Questions re: Draft Summary Table-Vegetation Treatment Program

On June 27, 2008, we sent you an e-mail with an attachment that detailed our concerns with the Draft Summary Table-Vegetation Treatment Program contained in a report, dated December 12, 2007, which had been prepared by LSA.

On June 30, 2008, you acknowledged our letter and said you had forwarded it to your consultant team. We received no other response to that letter (which appears below), and it was not included in Appendix A to the EIR. **1**

As we reviewed the PLAN/EIR, we noticed that the species-specific treatments in Appendix C of the Plan and some of the inputs that seem to underlie the FlamMap rely on the assumptions in the Draft Summary Table. As you will see in our letter below, we raised questions about these assumptions and we asked that our questions be fully addressed prior to the development of the EIR. **2**

It is unfortunate that EBRPD and its consultants do not respond to comments and questions that they solicit in public meetings. This lack of response wastes everyone's time, to say nothing of taxpayers' money.

Madeline Hovland

Our e-mail of June 27, 2008 appears below:

To Whom It May Concern:,

With reference to the December 12, 2007 "Wildfire Hazard Reduction and Resource Management Plan Vegetation Treatment Program " "Draft Summary Table-Vegetation Treatment Program" document, we believe this document is incorrect and needs to be modified. We request that it be corrected to address the following deficiencies:

1. The classifications are inadequate and incorrect.
a. The fire potential for the various trees categorized needs to be broken down by (1) the risk associated with the tree itself, and (2) the risk associated with its litter. This is critical, because the prescription resulting from the multi-variable analysis could be substantially different once this distinction is made. We ask that all the categories under the "Woodlands and Forest" category be broken down in this way. **3**

b. In some cases different species are combined even though these species have very different fire risk characteristics. A major example of this is the "oak-bay" woodland. The fire risk characteristics associated with oaks are significantly different from those associated with bay trees. It is critical that the two species be considered separately as the resulting prescription might vary dramatically. For example, it might make sense to remove bay trees while keeping the oaks, or vice versa. Another consideration for this is the potential for sudden-oak disease, a pathogen affecting oaks that is apparently spread by bay trees.

Additionally, scrub oaks and other kinds of shrub varieties of oak should be classified under Scrub Vegetation. They are considered to be a highly flammable (when dry) type of chaparral. Your chart appears to classify all oaks as tree oaks (such as the coast live oak), and you group them with "oak-bay woodland," to which you give a Low Fuel Hazard Rating.

2. In addition to the general comments specified above, there are other issues with this document as delineated below:

a. Under the "Woodlands and Forest" section:

i. Mature eucalyptus forest is classified as having a high fuel hazard rating and a high ignition index. Similarly, young eucalyptus forest is classified as "high/2".

Please provide the scientific documentation underlying these classifications. On the prior page under the grasses section, grass is considered to have the same ignition index as eucalyptus trees. This appears to be a highly questionable assertion. Please cite the sources for this conclusion.

ii. As indicated above, the eucalyptus hazard rating needs to be separated into two distinct categories: the threat associated with the tree litter and the threat associated with the tree itself. The reason for this is that it is not necessary to remove these trees in order to remove the litter hazard. Grove thinning and management of litter have been used successfully by both EBRPD and UCB in recent years as a cost-effective and relatively non-invasive method for minimizing fire risk while maintaining the aesthetic quality of the area.

3 cont.

iii. While eucalyptus litter is combustible, please provide data that compares both the ignition risk and the fuel load of this material to the corresponding risks in the other environments cited. These would include grasslands, shrubs, chaparral, and the litter of the other tree species in the area. Based on our research, grasslands, including native grasses, would appear to pose a greater ignition risk and have a higher fuel load than eucalyptus litter; yet grasslands are categorized as being less likely to ignite and having a lower fuel hazard rating than eucalyptus litter. Similarly, chaparral is listed as having a lower ignition index than eucalyptus trees. While this might be the case for the eucalyptus litter, it clearly is not the case for the trees themselves.

iv. As for the trees, it is well known that eucalyptus trunks are a hardwood tree with trunks that are highly fire resistant. The Claremont hotel maintains a well-managed grove of trees with minimal ground debris and minimal foliage located well above any fire ladder. In other words, it would be exceedingly difficult to ignite these trees. It may well be the case that the ignition potential for these trees is significantly lower than that of the oaks and bays in the Claremont canyon area due to the high water content of their trunks and the lack of foliage near the ground. Please cite data that proves that eucalyptus trunks pose a greater fire risk than oak, bay, pine, or even redwood trunks.

v. Most importantly, the existence or non-existence of a fire ladder, and the proximity of the fire ladder to the combustible leaf portion of each tree is of significant importance. What scientific data were used to reach the conclusion that eucalyptus trees are more likely to ignite than oaks or bays?

vi. As for the fuel hazard rating, again, where is the scientific evidence that identifies eucalyptus debris as a greater fuel hazard than grasses? Fuel hazard assessment for debris and trees must be evaluated separately.

vii. For both the mature and young Monterey pine forests, an identical need for separating the risks associated with the trees and with their debris exists. As was the case for the eucalyptus forest, both the fuel hazard rating and the ignition index needs to be considered for each subcategory and needs to be justified for relative danger as compared to the other species being evaluated.

3 cont.

viii. Finally, the combining of oaks and bays into one category of trees is problematic, as these two species have significantly different characteristics. We question how an oak environment could have an ignition index lower than a mature eucalyptus forest given the significant fuel ladder existing with an oak environment as compared to the almost non-existent fuel ladder in a eucalyptus grove. In evaluating the two recent wildland fires in this area, the Broadway Terrace fire of June '07 and the Charing Cross fire of June '08, it is apparent that the eucalyptus trees in the '07 fire fared significantly better than the oaks in the '08 fire. While not one eucalyptus tree ignited, a great number of oaks burned. This is likely the direct result of the relative water content of the two species and the height of the fire ladder relative to the foliage or combustible portion of each tree type.

In summary, we ask that the questions raised in this letter be fully addressed *prior* to the development of the final EIR as any prescription resulting from flawed inputs into the model will be, by design, flawed.

4

Sincerely,

Madeline Hovland on behalf of the Hills Conservation Network

LETTER B9
Hills Conservation Network
Madeline Hovland
September 7, 2009

B9-1: The consultant team received the e-mail/letter dated June 27, 2008, included in this letter as comment B9-3. It was not, however, written in response to the Draft EIR Notice of Preparation (published on April 16, 2008 with the end of the comment period being May 22, 2008), and it did not contain information pertaining to information to be considered when preparing the EIR on the Plan. As stated in this comment, the subject of the letter was "concerns with the Draft Summary Table-Vegetation Treatment Program" dated December 12, 2007 that was provided for comment at a public workshop on the Plan. Since the letter was not in response to the NOP, it was not included in Appendix A: to this Draft EIR.

B9-2: FlamMap was used to prepare the wildfire hazard evaluation, a component of the Plan itself. The Draft EIR evaluates the potential effects of the proposed project as a whole, in this case the Public Review Draft Wildfire Hazard Reduction and Resource Management Plan, published in July 2009. The District and consultant team are reasonably certain that the "assumptions" in the Draft Summary Table referred to in comment B9-1 above did not affect the ultimate "species-specific treatments in Appendix C of the Plan." Unfortunately the commenter gives no citation regarding the actual location in the Plan of the "assumptions" or the "species-specific treatments" and therefore, the District and consultant team cannot be absolutely certain. The District and consultant team provided a summary on the District's website of each of the five workshops/scoping meeting held on the Draft Plan and Draft EIR.

B9-3: Comment is noted regarding concerns with the December 12, 2007 table identified as "Wildfire Hazard Reduction and Resource Management Plan Vegetation Treatment Program Draft Summary Table-Vegetation Treatment Program." This table was an interim document prepared during the planning period and was not included in the Draft Plan published in July 2009. It is not necessary to respond to comments on this interim Plan document in this Response to Comments document, as they do not pertain to the adequacy of the Draft EIR (which was not published until a year and a half after preparation of the December 2007 table in question). See also all responses to comments contained in letter B8 from Ms. Hovland that addresses related issues.

B9-4: This comment provides a summary statement. The fire modeling was one input into the preparation of the Plan. The EIR evaluates the Plan in its entirety, including the recommendations made in Table III-2. The Plan and EIR consultants disagree with the comment that there were flawed inputs used for the FlamMap model.

Letter
B10

EBRPD Wildfire Hazard Reduction and Resource Management Plan and EIR

R Gordon Piper [rgpiper@sbcglobal.net]

Sent: Tuesday, September 08, 2009 2:16 PM

To: Wildfire EIR

I am writing as the Chair of the North Hills Landscape Committee in Oakland, a local affiliate of the California ReLeaf grassroots tree planting network and a community based landscape committee. We have been working on school and public gardens, creek restoration, tree planting, and vegetation management efforts for fire safety for several decades. I served as the Convener of the Mayor's Beautification Task Force. I lead vegetation management projects on public open space properties in Oakland to reduce fire risks, and I have worked actively on native plant restoration efforts at the City of Oakland's North Oakland Sports Field for several years. I also served for two terms on the City of Oakland's Wildfire Prevention District Advisory Board. 1

I am writing to comment on the East Bay Regional Park District Wildfire Hazard Reduction and Resource Management Plan and EIR, Measuree CC goals, and the Park District policies with respect to planting, controlling invasives, and encouraging natives.

I inquired at the August meeting presentation of Chief Swanson regarding the Management Plan regarding whether the Regional Park District intended to plant anything as part of your effort to encourage natives, which is supposed to be one of the Measure CC goals. I was advised by Chief Swanson that the Park District's Board has a policy of not planting anything, and that currently there is no plan to plant anything as part of the proposed Wildfire Hazard Reduction and Resource Management Plan. 2

I want to share from my experience in working with the City of Oakland and Caltrans on vegetation management effort on open space properties in Oakland, that I am concerned about the approach of strictly focusing on vegetation removal without any planting as a way of addressing either wildfire risks or for encouraging natives. I have found in my work with the City of Oakland and Caltrans that often when they remove vegetation that there is frequently very little control of the winter regrowth of grasses, weeds, and invasives, and that the invasives are proliferating on City and State open space properties. 3

I find in my work on native plant restoration that it is important to sometimes have something worth maintaining to get the public agency employees to do any work on controlling the weeds, grasses and invasives. I also feel that there is a risk in relation to the plans to remove the trees without any plans for planting any natives that the Park District risks some very junky and invasive vegetation being the beneficiaries of your "no planting" policy that might in the future result in substantial fire risks. 4

I encourage the Park District Board and staff to revise the "no planting" policy and practice and to make the planting of appropriate and more fire-resistant native plants by competent professionals part of your Wildfire Hazard Reduction and Resource Management Plan. I believe you deprive future generations of a richer and more fire-resistant urban forest by the "no planting" policy, and there will be a lack of diversity in your plant population that will be an unfortunate result. If you intend to promote natives, then you should plant some natives. The Plan lacks this important element, and your policy needs revision by the Board and a new policy to be developed by your capable staff of professionals and consultants. 5

Gordon Piper, Chair, North Hills Landscape Committee, 33 Hiller Drive, Oakland
(510) 910-2969

I have ser

LETTER B10
North Hills Landscape Committee
Gordon Piper, Chair
September 8, 2009

B10-1: This comment provides an introduction to the commenter and the comments that follow.

B10-2: There appears to be a misunderstanding with what Assistant Chief Swanson did say, as the Park District's Board does not have "a policy of not planting anything" in the regional parks under their jurisdiction. "Planting" of vegetation is not typically used by wildland managers to reduce fuel loads. However, after implementing techniques and methods to remove hazardous fuels, the District may seed local native perennial grasses after disturbance treatments to minimize erosion and provide competition for invasive weeds. Where it is obvious which type of natural plant community once existed at the site prior to removing eucalyptus trees, pines, weeds etc…, then the use of other native scrub plants may be seeded to encourage vegetation stability (i.e., monkey flower, perennial lupine, elderberry, Baccharis, etc.

B10-3: Comment is noted regarding the experience of the commenter on Oakland and Caltrans vegetation management efforts. See response to comment B10-2.

B10-4: Comment is noted on regarding the experience of the commenter on native plant restoration projects. See response to comment B10-2.

B10-5: In response to this comment, the Plan is revised on page 28 to add a new guideline 2.9, as follows:

> Guideline 2.9: Where deemed necessary by District staff for site restoration after fuel reduction activities, seeding and planting of native species is allowed consistent with Park policies and individual park land use and resource management plans.

Letter
B11

Regional Parks Association

P.O. Box 5536
Berkeley CA 94705
Phone 925-376-6925

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October 26, 2009

Brian Wiese, Chief, Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

re:East Bay Hills Wildfire Hazard Reduction And Resource Management Plan and EIR

The Regional Parks Association appreciates the time and effort that East Bay Regional Park district staff and consultants have put into the Wildfire Hazard Reduction and Resource Management Plan and EIR document. We applaud the effort that has been made though we have serious concerns about certain aspects of the plan. **1**

1. As currently written, the Resource Management Plan calls for fire prevention activities that conflict with natural resource preservation policies set forth in the EBRPD Master Plan. As a result, The Wildfire Hazard Reduction and Resource Management Plan proposes to use fire prevention techniques without adequate consideration for natural resource factors. CEQA documents for each polygon in the plan should address the particulars of each of those areas in order to assure that fire prevention does not co-opt environmental protection. **2**
2. We are completely opposed to and rather appalled by the proposal to build a new road on very steep terrain covered with native north coastal scrub in the middle of Claremont Canyon Regional Preserve. Such a road would require annual maintenance and would result in the intrusion of non-native and highly invasive vegetation such as French broom, etc. As currently written, the plan does not explain why such a road is needed. The plan also fails to describe the various adverse environmental impacts associated with building and maintaining such a road. **3**
3. Goat grazing is proposed as a management tool in many of the plan's polygons, though the adverse impacts associated with such grazing are not documented. In our experience, goat grazing tends to encourage the spread of non-native vegetation. Such **4**

Letter
B11
cont.

grazing should therefore be restricted to those areas where other options are inadequate or are not available and where native vegetation has already been replaced by annual grasses, eucalyptus, pine and other non-native vegetation. Such non-native vegetation is more susceptible to wildfire (and more dangerous during a wind-driven wildfire) than the native vegetation that has evolved over the millennia and gradually adapted to the natural range of variability that characterizes this region in terms of soil types, weather, climate, etc.

4 cont.

4. We urge employment of a resource manager with experience in local native flora to provide balance in project planning, implementation, and monitoring, particularly if large areas are to be converted to native vegetation.

5

We appreciate the chance to comment and the extension of time that EB Parks allowed for this important document.

Amelia Wilson, President
Regional Parks Association

LETTER B11
Regional Parks Association
Amelia Wilson, President
October 26, 2009

B11-1: This comment provides an introduction to the comments that follow.

B11-2: The District and EIR authors disagree with the comment that the Plan conflicts with policies in the EBRPD Master Plan. Consistency with the Park District's Master Plan policies is specifically addressed at pages 98-99 of the EIR. Potential effects on environmental resources are addressed across 300 pages of text, figures and tables in the Draft EIR. See Master Response No. 1 regarding project level CEQA review of RTA recommendations.

B11-3: Regarding the proposed strategic fire route in Claremont Canyon, see responses to comments B3-6, B3-14, B4-20 and B7-3. The commenter should also note the proposed strategic fire route is an unpaved trail and not a "road."

B11-4: Regarding concerns with the use of goat grazing and the comment that the adverse impacts associated with such grazing were not documented, see responses to comments B1-10, B3-5, B3-10, B6-2, B7-8, and B7-9.

B11-5: Comment is noted. The consultant team and District staff who worked on the Draft Plan included biologists and botanists who have professional expertise in hillside and shoreline wildland vegetation and exotic and invasive plant management. See also responses to comments B1-6 and B3-12.

C. INDIVIDUALS

Letter
C1

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10/30/09

Brian Wiese, Chief, Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381 Email: WildfireEIR@ebparks.org

EAST BAY REGIONAL PARK DISTRICT Draft WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN ENVIRONMENTAL IMPACT REPORT, July 2009

Pubic comments by William J. McClung, Berkeley Fire Commissioner, 1994-1996; Principal of Shelterbelt Builders, an open land management and restoration company, 1997-2009; Board member, Claremont Canyon Conservancy, 2001-2009; Co-chair Vegetation Management Committee, North Hills Phoenix Association, 2009.

[I have followed and participated in the discussions of vegetation management to reduce the risk of wildfires in the East Bay Hills since the FIRE HAZARD MITIGATION PROGRAM & FUEL MANAGEMENT PLAN FOR THE EAST BAY HILLS (1995 Plan) was issued by the Vegetation Management Consortium.]

General Comments and 2009 Plan and EIR

This is an historic and consequential document in two ways. First, it outlines and proposes vegetation management on Park District lands far beyond what has been accomplished in the years since the 1991 fire – some 3,000 acres of treatment areas are proposed and described. Second, a level of commitment to treatments that preserve ecological and aesthetic landscape values is expressed as never before in Park District documents. These are major accomplishments. 1

The history of dreadful wildfires in the East Bay Hills, and of the discussion of what to do to reduce the wildfire hazard, goes back many decades. Many thoughtful and informed citizens and scientists have written about and debated the issues. The 2009 Plan is a worthy attempt to resolve the conflicts between wildfire safety and environmental concerns, which have delayed adequate management of the wildland-urban interface over the last decade.

The need for a resolution of such conflicts is stated in the title and first paragraph of a March 2009 Environmental Green Paper *Managing the East Bay Hills Wildland/Urban Interface to Preserve Native Habitat and Reduce the Risk of Catastrophic Fire* issued by the Sierra Club, California Native Plant Society, and the Audubon Society, which intends to:

> "…document our view about how best to meet the twin goals of managing the urban wildland interface to enhance and preserve habitat for native plants and wildlife species while reducing the threat of catastrophic fire at the interface."

Page 1 of the 2009 Plan also indicates such a twin-goal intention by stating in its first paragraph:

> "This…(Plan) provides sound, long-term strategies for protecting public health and safety by reducing fuel loads and managing vegetation within the EBRPD's Study Area parks while ensuring the protection and enhancement of ecological values and resources within EBRPD's jurisdiction."

This greater emphasis on the ecological consequences of reducing wildfire-supporting vegetation is a main difference between the 1995 Plan and the 2009 Plan.

The Achievability of These Twin Goals

In more than a decade of observation, in the company of many experts, and professional field management of vegetation with precisely these twin goals in mind – especially in Tilden Park and Claremont Canyon – I have become convinced that wildfire fuels can be reduced and separated without destroying native habitats or aesthetic values, and often to improve them.

Some treatment areas are so damaged by past management or invasive weeds that ecological "restoration" in the context of fuel reduction is difficult, or a long-term challenge, but all sites I am aware of have some ecological values, and these can be preserved and enhanced by specific treatment techniques:

1 cont.

Plant and habitats identification by the people who work on the land.

The mandate to reduce weeds and encourage the native flora within the constraints of adequate wildfire-fuel reduction.

Use of appropriate technologies: tools robust enough to accomplish the substantial fuel management that is needed on most sites and not overly so. The ugliness and damage resulting from much fuel-reduction work results from soil disturbance and indiscriminate use of heavy equipment, overly intense grazing, or herbicides.

A mandate not to "clear" or "remove" all vegetation in a treatment area. The Plan and EIR are powerfully astute in the guideline for grasslands on p. 164 of the EIR: "Mowing heights for grasslands should not be lower than 4 inches to prevent "scalping" of native perennial bunchgrasses and desirable forbs. Mowing heights may need to be adjusted on a site-specific basis but generally should range from 4 to 6 inches above ground level to favor native plants while removing non-native annual seedheads." Further comment on this "guideline" below.

A goal of creating a mosaic of different vegetation types, heights, and ages within a treatment area. Again, the Plan and EIR are astute on the detailed guidelines for North Coastal Scrub Fuel Reduction (EIR 167-170) that describe the many

opportunities to preserve native habitats within the overall goal of reducing brush cover by 50 to 70 percent in treatment areas.

We need to think of wildfire fuel management as land stewardship, and recognize that it is hard work that requires knowledge, skill, dedication, and on-site judgment.

And while I recognize that cost considerations must be taken into account, I challenge the suggestion that this important work, often at the frequently visited wildland-urban interface of the Park District, should be done on a "least fiscal" cost basis (pp 27 Plan, 2.2). The c. 3,000 acres of recommended treatment areas in this Plan constitute an area 150% larger than all of Tilden Park, and great public safety, environmental, access, and aesthetic values are at stake as the Park District implements its Plan. The RTAs are in effect a major regional park scattered over some 130 locations, each of which is important. We wouldn't argue that our finest parks be managed on a least-cost basis, would we? 1 cont.

Again, I want to commend the authors of this Plan and EIR for the seriousness with which they have addressed a large-scale set of problems deserving a robust and balanced response.

Further Comments, Questions, and Notes on Sections of the Plan and EIR

Chapter I. INTRODUCTION

Excellent statement of the historic problem and the scope of EBRPD's responsibilities:

> "This Plan identifies approximately 3,000 acres of park lands to be treated for various levels of hazardous fuel conditions and maintained in a low-hazard condition using Measure CC and other sources of funding."

Questions: 2

> Page 4: "A main premise of the Plan is that ecologically stable habitats are ultimately more economically sustainable." **What does "ecologically stable habitats" mean?** I don't think it is in the nature of these landscapes to be ecologically stable. Lacking disturbance, they pass through successional stages from grassland to shrubland and sometimes to forest, changing habitats. The low-fuel management strategies essentially create and maintain grassland-scale areas. Keeping these areas at a relatively wildfire-safe level may in some sense be ecologically stable, but even here there appears always to be a dynamic between our native flora and invasive exotic plants, affecting changes in habitats.

> Page 6: "As the park vegetation ages and less land is grazed or burned by prescribed fire, District staff has noted that it is increasingly difficult to cost-effectively manage the vegetation to reduce wildfire hazards." Page 7: "In spite of concerted efforts at wildland vegetation management on public lands, fuel 3

loads remain high and the most cost-effective ways of dealing with severe Diablo wind-related wildfires remains elusive." **What does "most cost-effective" mean in this context?** Some of the cheapest methods of fuel reduction are the most ecologically damaging.

3 cont.

Page 8: "...over 95 percent of wildfires in the East Bay are controlled at a small size and cause little significant damage." **Do the authors equate wildland fires with wildfires?** "Wildfire" is not defined in the Plan Glossary, but it seems useful to restrict the use of the term to fires that cannot be controlled and not use it to describe wildland fires.

4

Notes: Page 9: Claremont Canyon is a Local Responsibility Area (LRA) whereas much of the Study Area is within the State Responsibility Areas (SRAs).

5

Page 14: From the 1997 EBRPD Master Plan, on policies related to management activities undertaken to reduce the threat of wildfire:

"....The District will construct and maintain fuel breaks, as necessary, to manage hazardous fuels and contain wildfires.

"The District will conserve, enhance, and restore biological resources to promote naturally functioning ecosystems....Restoration activities may involve the removal of invasive plants and animals or the reintroduction of native or naturalized species adapted to or representative of a given site.

"The District will maintain and manage....where possible, to protect biodiversity and to achieve a high representation of native plants and animals."

6

Here again. The twin goals are stated in a Park District document, written 12 years ago. The balancing of these goals has been under serious discussion for at least that long and, I hope, will reach strategies to accomplish such a balance with this Plan and Report.

Chapter II. PLAN GOALS, OBJECTIVES AND GUIDELINES

Page 19: Restates goals with emphasis on actions that balance "three factors: wildfire risk reduction, resource management, and cost effectiveness over the lifetime of their implementation." With objectives that are attainable. Reference to March 2009 Enviromental Green Paper from Sierra Club, CNPS, and Audubon Society.

Page 20-21: Goals are now restated as four primary goals:

7

Reduce fire hazards on District-owned lands in the East Bay's wildland-urban interface (WUI) to an acceptable level.

Maintain and enhance ecological values for plant and wildlife habitat consistent with fire reduction goals.

Preserve aesthetic landscape values for park users and neighboring communities.

Provide a vegetation management plan that is cost-effective and both financially and environmentally sustainable to EBRPD on an on-going basis.

Page 23 **Wildfire Hazard Reduction** including 1.1 "Aim to reduce and maintain fuel loads to a level that would produce no greater than 8 foot flame length within 200 feet of structures during a fire incident and 1.5 …new treatment areas should focus on Wildland/urban interface areas at risk of spreading wildfire to adjacent urban properties, defined as "District land within 200 feet of a private structure under Diablo Wind conditions…"

7 cont.

These are rational and fire-science based guidelines!

Page 26 **Resource Management** including 2.2 "Undertake vegetation management and fuel reduction activities to maintain and enhance diverse habitats and attempt to achieve a high representation of native flora. When planning and undertaking treatment activities, recognize the physiological and ecological needs and requirements of the native vegetation, and consider a full range of options which allow for the most environmental benefits with the least fiscal and environmental costs." Again, **Why would we treat or require such important environmental goals to be planned on a least fiscal cost basis?** In the past decade, I have often heard ecologically damaging treatments justified on the ground that it was the "cheapest" way to do a particular fuel reduction.

8

Chapter III. WILDFIRE HAZARD ASSESSMENT AND PRELIMINARY RECOMMENDATIONS

Intended to assist the District in selecting and prioritizing the ultimate treatment actions that will be included in the annual Fuels Treatment Plans. 17 Study Area parks with about 125 Recommended Treatment Areas (RTAs) ranging from less than 1 to over 100 acres.

I have read tables for the RTAs I know well from volunteer or professional work in two parks:

Tilden Park – T1008-T1013 (Seven RTAs, about 215 acres)

Claremont Canyon – CC001-CC012 (Twelve RTAs, about 165 acres)

9

Note: These tables are almost impossible to read on the CD or online versions of the report. I expect very few people actually will read them even though they are in some ways the "heart of the plan" (Brian Wiese).

These 19 RTAs are indicated as 11 "Initial Treatment" and 8 "Maintenance." This reinforces an impression formed over the last decade that in the Park District, while it does a great deal of vegetation management to mitigate wildfire risk, **less than half of**

the identified critical areas have received regular treatment. This has been especially evident in Claremont Canyon.

The tables attempt to summarize descriptions and guidelines for about 100 acres or 10 RTAs per page. They are inevitably thin and do not provide an adequate account of the complexity of the individual sites nor the full range of treatment considerations. The Sierra Club/CNPS/ March 09 *Environmental Green Paper* states:

> All plans to reduce vegetation on the wildland side must be site specific, taking into account a range of critical variables that result in an individual profile for each site. We do not endorse generic fuel prescriptions because they do not take into account the unique threats and values of each site.

9 cont.

These tables do not adequately meet this site-specific criterion, nor do I believe consultants or policy makers can do so unless they become closely engaged with stewardship of each RTA. Management of these and all RTAs is by necessity field-based specific, and if it is to be done to the standards described in this Plan, it must involve on-the-ground and in-the-vegetation attention to hundreds of "critical variables" on every acre subjected to treatments.

Some Tilden Park RTAs Reviewed

T1012. 90.8 acres, including 20 acres of the **Tilden Fuel Break** between Golf Course Road and Bay Tree Lane/Shasta, 5 acres of the **Tina Baumgartner Restoration Site,** and the area around the **Native Here Nursery** – all of which I and Shelterbelt Builders have worked on variously for fuel-break maintenance, weed control, and encouragement of native plants. Several of these projects were professionally monitored for several years by Noah Booker, Mark Heath, and Charlice Danielsen – all prominent CNPS leaders – and several generalizations may be made from these available studies:

> Within these sites, vegetation is highly variable, but the identified vegetation generally is fewer than 100 native plant species and fewer than 20 exotic weeds of greatest concern.

10

> Hand crews can learn to identify most of these plants, especially the larger ones, and selectively manage to favor and preserve the native cover and discourage some of the weeds by timely cutting. The criterion (pp 164 EIR) "Mowing heights for grasslands should not be lower than 4 inches to prevent "scalping" of native perennial bunchgrasses and desirable forbs" provides a significant preservation zone for smaller native plants and habitats.

> The progress toward weed control and "restoration" of these managed areas is gradual: a summary of blind transcript data for March (2002-2004) of the TILDEN PARK FUELBREAK WEED MANAGEMENT PROJECT showed an increase of native species from 19 to 41 percent cover and a decline of targeted weeds from 68 to 30 percent cover at the ten transects over three years.

In the years following the 2000-2002 Tina Baumgartner Restoration Project and the 2003-2005 Tilden Fuelbreak WMA project, both sites were managed (and in some areas not managed) by cutting regimes that I believe provided minimal attention to the goal of preserving native habitats within the context of wildfire-fuel reductions. Consequently, the relative cover of problematic weeds and beneficial native plants in these areas has gradually deteriorated, with highly competitive weeds regaining dominance.

10 cont.

The monitoring of vegetation management on these 25 acres of T012 over three years shows that something on the order a 5 percent per year improvement of native habitats can be achieved by fuel-reduction work intended to do so. And, although not monitored, the shift back toward invasive plant dominance may also occur on a similar 5-percent/year scale in the absence of such intention.

T1011. 22.2 acres from the Park Hills Community down to the intersection near the Brazil Building and the Botanic Garden. This is an area of major fuel loads (including the neighborhood developed native plant garden on Park District land near Park Hills Road and Shasta Road, where great specimens of pallid manzanita are present) and major values at risk. **This is an area where the long-maintained Tilden Fuel Break is essentially non-existent.** It is also an area of extraordinary vegetation, especially on the community garden (which appears currently little managed), on the botanically rich north-facing slopes, and under the major trees in this RTA. I believe this is an important area for future maintenance, and that fuel-reduction strategies here need be highly selective.

11

T1010. 27.9 acres above Lake Anza and over to the Merry-Go-Round Complex. This is another area Shelterbelt worked on for the Park District in 2004 on **Fire Department Exotic Plant and Fuel Reduction Projects.** It is notable how varied the vegetation is in this important RTA – ranging from weedy annual grasslands (where past soil disturbance and goat grazing were factors) through perennial grasslands and shrublands, to majestic forests, both native and exotic. It is also notable that all the fuel reduction work required by the Fire Department in 2004 in this area could be accomplished **without removing any cut vegetation from the area.** Rather, cut vegetation was simply reduced and separated to break up fuel continuities. This is also true of the 2003-2005 Tilden Fuelbreak WMA project where 20 acres of fuel break were maintained to Park District standards without any removal and with, to a degree, a secondary benefit of improving native habitats by the disposition of the cut and dead vegetation.

12

P. 167 of the EIR addresses this important issue of biomass retention on managed sites:

The following standards for debris to remain in place should be used:

Chipping/mulch depth should be between approximately 2 and 5 inches.

Standing stems should be no higher than 18 inches for those species that are cut (shrubs that readily resprout and have many stems at the base of plants).

The following standards for areas where shrubs are shortened should be used:

Plants should be cut to maximum height of 18 inches; growth to 4 feet (total plant height) before re-treatment occurs.

Debris can remain as unchipped mulch.

12 cont.

It would be hard to overstate the importance of such guidelines for preserving habitats, protecting soil, and the "cost-effectiveness" of proposed treatments.

Some Claremont Canyon RTAs Reviewed

My assessments of these RTAs are based on a decade of professional work on public and private properties in Claremont Canyon and many years of studying the Canyon with members Berkeley Fire Commission in 1994-96, the EIR Advisory Group formed by Jerry Kent, Tom Bates, and Leo Levenson in 1999, and the Claremont Canyon Conservancy, often in the company of fire experts -- including Carl Wilson, Rex Dietrich, Jerry Kent, Dennis Rein, Carol Rice, John Swanson, James Edwards, Camille Rodgers, Vince Crudele, Jon Keeley, and others – and with at least as many experts on the flora and fauna found in the Canyon, including Charlice Danielsen, Lech Naumovich, Barbara Ertter, David Quady, Laura Baker, Stephen Edwards, Kay Loughman, Noah Booker, Chris Thayer, Joe McBride, Jerry Powell, David Amme, Richard Nichols and others. These are some of our most knowledgeable people about the wildfire hazards of these areas and the ecological values in Claremont Canyon.

Three major themes have run through most of these study tours and discussions:

13

(1) Claremont Canyon is a serious wildfire hazard to the communities at the approximately 2.5 miles of Park District-Oakland/Berkeley WUI to the south and west of the Claremont Canyon Preserve. Most of this interface has not been managed in recent years and is characterized by dense mature shrub and/or understory vegetation.

(2) The Preserve contains significant ecological values and, when viewed from a distance, a soft monotone beauty due to the dominant coyote brush scrub in most areas.

(3) What is missing ecologically is grassland flora and fauna, which were probably dominant historically in times of greater "management" by fire or grazing. There is a large literature on the loss of perennial grasslands and a fine expertise in the Park District and the EIR team (David Amme, Ed Leong, Richard Nichols) on the value of this vegetation type. Here are some relevant statements:

P. 125-26 EIR: Coastal Prairie. This community is a remnant of the original native perennial grasslands that covered the hills and valleys throughout the

central coast, Bay Area, and the north coast of California.... Coastal prairie has been largely displaced by non-native annual grasslands and by north coastal scrub....Additional areas of former coastal prairie have been displaced by coyote brush scrub because of lack of disturbance from fire and livestock grazing in such areas as Tilden Regional Park....Many wildlife species forage in grasslands (including coastal prairie), but may use adjacent habitats such as woodland, scrub, or water bodies for nesting, breeding, shelter, or other aspects of their natural history. (Amme, Stromberg, Edwards, McBride, et al)

From Guide to California Grasslands on website of the California Native Grasslands Association: California's native grasslands are incredibly diverse and biologically important ecosystems. Yet grasslands remain one of the most under-protected of California's vegetation types, and native grasslands have undergone the greatest percentage loss of any habitat type in the state -- including much publicized losses in wetland and riparian systems.

Mark R. Stromberg, Resident Reserve Director, Hastings Natural History Reserve, and lead editor of *California Grasslands*: *Ecology and Management* (University of California Press 2007): Grasslands are the most threatened ecosystem in North America, and certainly in California, they have the highest species density (# species/sq. m.), a good measure of species diversity....The Berkeley hills certainly have shown me a number of amazing sites with big Nassella plants. I think some of the best sites have been grown over by shrubs. The lack of fire, now probably relatively permanent barring the disastrous fires that would take out so many houses, means that we probably won't see the big grasslands that were there long ago. (Private Communication, February 2006)

13 cont.

Virtually all fuel-reduction projects in the Plan for Claremont Canyon call for a reduction of shrub-scale vegetation (the 3 to 12 foot range of surface shrubs or weeds or understory vegetation) in favor of a managed grassland-scale vegetation (in the 4 inch to 3 foot range, but generally with less than 30 percent shrub cover). **Without exception, this necessary change in the configuration or geometry of wildfire fuels provides an extraordinary opportunity to restore some of the largely missing perennial grassland habitats.** The good news is that there are in most areas, even those where weeds and shrubs have become dominant, many grassland species present under or near the shrub cover. And it is worth noting (because some have claimed otherwise), that it has long been the policy of the Park District to do so in the Claremont Canyon Preserve:

1985 LUDP/EIR ON THREE PRESERVES:
B. Vegetation — page 55 Grasslands Objectives

a. to maintain the extent of open grasslands in...Claremont Canyon Preserve to ensure accessibility to preserve users.

b. to preserve perennial grasslands and encourage increases in the abundance and distribution of perennial grass species.

Policies

a. In Claremont Canyon Preserve, the District will maintain grassland as the primary vegetation type on the south-facing slope above the University's Dwight-Derby facility and will expand the grassland along Panoramic Ridge and the upper south facing slopes above Claremont Creek...

The three primary methods of grassland maintenance will be livestock grazing, mechanical-manual clearing, and the use of prescribed fire...

13 cont.

Rationale — page 57

The policy to maintain portions of Sibley and Claremont Canyon Preserves in grassland is recommended to expand the coverage of perennial grasses where they occur now, to maintain or expand the extent of annual grassland, to maintain and/or increase the accessibility of the preserves to preserve users, to minimize the conversion of grassland to coyote-brush dominated brushlands, and to reduce fuels.

The Recommended Treatment Areas in Claremont Canyon

In my view, all of the Plan's 12 RTAs and the proposed SFR in Claremont Canyon have high value in terms of potential fire scenarios, and can be managed for important habitat preservation and access values.

CC001. 19 acres above Stonewall, through the large eucalyptus stand above the Clark Kerr Campus, and over to the Strategic Fire Route leading up to Panoramic Hill and CC003. The 1999 Fire above Stonewall demonstrated how important SFRs can be (the fire was contained to the west at the edge of the eucalyptus stand and in the scrub from above by fire fighters who used the SFR to access and control the fire from both directions. It would have been impossible to do so without such access. For the future, I believe it is critically important to manage the large stand of dry north coastal scrub east of the eucalyptus stand so that fire coming down canyon can be controlled before it enters the eucalyptus area.

14

CC002. 6.2 acres on Panoramic slope. Goat grazed every year, this slope is dismal ecologically, but its strategic fire position, and the popularity of the goats among some residents, probably make continuing with the goats prudent. The fuel-reduction on this slope rises toward 100 percent each year, with a correspondingly minimal retention of habitat values.

CC003 (13.8 acres) running along the Strategic Fire Route along the ridge south of Panoramic Hill. This is a popular hiking area, has spectacular views of the Canyon and Bay Area, is currently heavily infested with thistles, poison hemlock, and French broom, and is absolutely critical to the wildfire defense of the Panoramic Hill community. Past

management practices of grading, cutting with heavy equipment, and goat grazing have resulted in the heavy weed cover and a lot of ugliness in an area that could be managed to be an exemplary fuel-reduced perennial grassland -- managed to favor the native grasses and forbs struggling to survive in the invasive weeds and old shrubs in much of this area. Good access to this RTA for work and fire fighting, its potential use for evacuations from Panoramic Hill, and its strategic links to CC001, CC002, CC011, and the Proposed Strategic Fire Route in mid-Canyon all make the expansion (as shown on Figure III-7) and maintenance of this RTA extremely important to the goal of being able to contain fires in the large middle area of the Preserve that has type converted from grassland to north coastal scrub (xeric) and coyote bush/broom scrub in the last sixty years. This RTA is as important to Panoramic Hill and the many hikers who use the SFR as the Tilden Fuel Break is to the residents of North Berkeley.

14 cont.

CC004. 2.6 acres upslope from Claremont Avenue – continuation of eucalyptus management projects of recent years. Subsequent annual maintenance to minimize weeds is important here.

CC005. .6 acres of eucalyptus high above houses on Claremont Avenue. Difficult access, but the Proposed Strategic Fire Route, where it turns at CC003 might be a good place from which work crews could manage this area.

CC006. 3.3 acres above Claremont Avenue and across from Garber Park. This area has some serious broom invasions and understory fuels, but (as the Plan indicates) it is already substantially Oak-Bay Woodland. It would be highly desirable for a fire on the north side of Claremont Canyon not to pass through CC006 and into the crown of the Garber Park forest.

There is an important missing link between CC006 and CC001 above the houses along Claremont Avenue. Why is this?

15

CC007. 1.7 acres near top of Stonewall-Panoramic Fire Trail. Heavy broom and weed invasion, damaged by past grading and other practices. Shelterbelt worked on every inch of this RTA in Fall 2004 on a broom-only reduction project for the Park District Fire Department. No herbicides were used. There was some attempt by the Fire Department to do studies of different broom techniques used on the project, but I believe there was not follow-up. I would argue that this relatively small RTA can be managed effectively by two annual cuttings, timed to minimize broom and thistle seed production, and with selective application of herbicides to deplete the broom populations.

16

CC008. 4 acres around Gelston Property – c. 200 feet from house. Makes sense to manage for fire safety. Very weedy in places, but also rich in native habitats.

CC009. 65.6 acres of Gwin Canyon. Hugely important to manage this canyon at the WUI edge from Marlborough Terrace down to Claremont Avenue. It has burned in 1946, 1970, and 1991. The regrowth since 1991 is dense with wildfire fuels. Many Claremont Canyon Conservancy visits to this side Canyon with experts on our local flora and fauna

have helped us understand that this is a rich area for wildlife, native flora and fauna. But the walks down the Park District's fine trails in Gwin Canyon have also demonstrated that when this vegetation is cut regularly (as along the trails) there is in most places a rich native grassland vegetation along with weeds, which need to be managed. **This historic fire zone and lengthy WUI needs major treatment before it is too late (again).**

CC010. 6.2 acres along Claremont Avenue from CC004 to Gelston. **This is a critical part of several mid-Canyon treatment areas that would create the possibility of containing fires coming down Canyon.** It connects significantly with CC009 (Gwin) and CC011 and private land at Gypsy Court.

CC011. 40.2 acres of mid and upper preserve now almost completely dominated by north coastal scrub (xeric) on steep slopes. Most of CC011 runs parallel to CC003 and would represent a substantial expansion of the fuel-reduction zone that would help protect Panoramic Hill from wildfires coming up slope in the old brush. The Plan expresses a goal of not more than 30 percent shrub cover (similar to goals for the Tilden Fuelbreak) and the rest "grass, with minor component of invasive non-native weeds." This, I believe, is achievable, by selective cutting of shrubs, and in much of this area there is a diminished native grassland flora present under the shrubs. The Plan expresses: **Concern for the spread of broom into RTA from CC003**. The management of broom in CC003 and CC011 could be the same project, and would be facilitated by the proposed SFR. The reduction of shrubs to 30 percent cover might be considered a restoration of the grasslands described as coastal prairie in the EIR and elsewhere.

16 cont.

CC012. 2.4 acres along driveway KPFA tour area. Excellent to manage this for weed invasions, as KPFA volunteers are now doing on an adjacent part of the ridge fuel break.

The Proposed Strategic Fire Route in Claremont Canyon. A service road through or near RTAs CC004, CC008, CC009, CC010, CC003, and CC011 extending for about 3,000 feet from Claremont Avenue to the Ridge SFR, an elevation rise of some 400 feet. I have studied the apparent design of this SFR with several Conservancy Board members and am impressed by the way it conforms to the contours of the canyon and how it can facilitate future maintenance work, mid-Canyon fire-containment under some circumstances, and possible evacuations from Panoramic Hill if a wildfire starts below Panoramic Hill. It is also apparent that this route would be a comfortable and beautiful cross-Canyon trail, which the Conservancy and Park District have long advocated.

17

Without access routes, most vegetation management, fire fighting, and public enjoyment do not happen. Some residents are likely to object to this proposed SFR on aesthetic grounds, and it will need to be maintained to minimize weed invasions, but to me it seems to have multiple benefits and strategic importance.

IV. FUEL TREATMENT METHODS

18

How can wildfire hazard reduction be accomplished? Five methods in the "tool box" are

discussed "to reduce or otherwise modify the type and quantity of available fuel that wildfires need to grow and spread":

Page 77: "Strategies for modifying fuels include changing the arrangement of fuels to disrupt fuel continuity, decreasing the total volume of available fuels, reducing the amount of volatile materials in the fuel load, and decreasing the available surface area across which fire can spread."

1. Hand Labor.

Page 81: "Hand labor methods for fuel treatment are used in every aspect of the fuels management program. Hand labor methods involve pruning, cutting or removal of trees, shrubs, and grasses by hand or using hand-held equipment; other hand labor methods involve bark pulling, removing dead wood and litter, mulching, and establishing new fire-resistant or low-risk plants. This process allows for selective removal of targeted species and has little impact beyond the removal of these targeted plants, leaving native species or other desirable vegetation in place, and is often used in conjunction with other fuel modification techniques.

Page 82-83: "Hand labor generates debris when pulling, pruning, and cutting vegetation; this debris is not always removed from the site when it is needed for erosion control and the resultant fuel loading is acceptable. Requirements for cutting materials into smaller sizes or piling for burns does add additional time (and therefore costs) to hand labor fuel reduction efforts. Hand labor techniques typically have minimal environmental effects although large volumes of foot traffic, specifically in areas of steep slopes, can result in surface soil erosion or compaction and, as such, care should be taken to mitigate these effects. Chippers are often used in conjunction with hand labor to process cut materials into mulch for onsite disposal.

18 cont.

- Weed removal and mowing of native grasses is required on an annual basis, but timing is critical to maximizing effectiveness: if weeds are cut too early they will continue to grow, but if they are removed too late, seeds may already have been produced and distributed.

- Shrub removal depends on the specific type being targeted, but the time between treatments varies from annually to once every three to five years.

- Limbing lower branches to remove ladder fuels is the most long-lived treatment with a potential interval lasting as long as 10 years. The typical optimum treatment cycle is every 5 years.

- Hand labor techniques allow for targeting of specific plant species for pruning or removal.

- These techniques can be used in most physical conditions; conditions that would eliminate other treatment methods are often still treatable via hand labor techniques.

- These techniques allow for the involvement of community groups in fuel reduction and clearance activities.

- These techniques cannot be used effectively for all plants and plant types.

- Follow-up treatment or debris removal may be required.

- Hand labor techniques can constitute follow-up treatment for aesthetic purposes (e.g., from mechanical treatment or goat grazing).

- These techniques can be combined with other treatments (e.g., hand falling, then mechanical skidding and loading)."

COMMENTS: These excellent descriptors of "hand labor" suggest why I believe this, among the five fuel treatment methods, needs to be more highly valued if we are to achieve the twin goals of wildfire risk reduction and the production and enhancement of ecological values in this work.

18 cont.

"Hand labor" is something of a misnomer although both words are true to what is being described. The phrase implies humans working with their hands. But this is much more than that: the excellent description of hand labor on page 81 quoted above lists a range of judgmental and discriminating activities, often accomplished with the use of powerful tools (usually hand held).

The under-valuation of this treatment method is suggested by the picture of a "Hand Labor crew" on page 82 and the statement on page 83 "These techniques allow for the involvement of community groups in fuel reduction and clearance activities." The picture appears to be a group of young people in street clothes, perhaps after having a good one-time effort to pull broom in one of our Parks; the community-groups-can-be involved statement on page 83 underscores this impression that this is hand labor, and it doesn't take very much knowledge or training or skill with tools to do it. While I am completely in favor of involving young people and volunteers in this work, and I believe such groups can be make real spot contributions to this Plan, it would be naïve to think their level of training or capacity to achieve the goals stated would more than minimally address the challenges of managing some 3,000 acres of Park District land for these purposes.

I do not know of a better phrase than "hand labor" to describe such work, but I believe it is physically and intellectually demanding work, and that it calls for a combination of stewardship skills: knowledge of plants and native habitats, judgment about fuel loads and configurations, aesthetics, public and worker access and safety – and an ability to

balance these values while doing actual work on critical landscapes, often difficult ones, where hundreds of discriminating judgments must be made in a day's work.

18 cont.

2. Mechanical Treatment

Page 85: "Mechanical treatment involves cutting grasses and removing weeds, shrubs, and trees up to 24 inches in diameter through the use of a tractor or other machinery, including such operations as grading, mowing, mulching, chipping, mastication, and crushing. Other supporting activities include hand felling larger trees, establishing landings, creating skidding trails, and various yarding techniques…. Generally, using heavy machinery for mechanical treatment is faster than hand labor and relatively inexpensive. There is, however, limited control over which plants are cut during mowing operations; but machines can be guided around isolated areas of concern. Additionally, collateral impacts to small vegetation can also occur when machinery operates on top of these plants. Heavy machinery can also create excessive disturbances to surface soils when the ground is soft, leaving ruts and bared soil."

Page 86: "Mechanical treatments require supervision and specialized training to ensure the desired results and minimize negative impacts. Several other agencies own specialized equipment and have staff trained in its operation. Chippers, mowers, brush cutters, grinders, fellerbunchers, tub grinders, hauling trucks, and yarders with a grappling hook are all types of equipment that can be specified for mechanical treatment techniques, as needed."

Page 89-90: "EBRPD will give preference in contracting for mechanical treatments to trained, experienced personnel. As previously noted, personnel should be sufficiently trained prior to initiating any treatment action such that personnel are familiar with and able to identify invasive or otherwise targeted species for treatment, and protected or otherwise identified species to be avoided during treatment."

19

Page 86-91: Many descriptions of the problems, limitations, and negative impacts of mechanical treatments.

COMMENTS: I believe we need to use these larger mechanical tools as a part of the Plan to reduce wildfire fuels on some 3,000 acres of land, but the distinction between "hand labor" and "mechanical treatment" is somewhat misleading: both use mechanical tools and both involve humans making judgments on what to do within each treatment area.

I am skeptical of the statement on p. 85 that "Generally, using heavy machinery for mechanical treatment is faster than hand labor and relatively inexpensive." This may be true where large areas can be treated with relatively uniform and indiscriminant techniques, but mostly this is not the case. Complex topography, inaccessibility for heavy equipment, and the goal of preserving and enhancing native habitats all limit the heavy equipment option. Moreover, I suspect it may be "relatively inexpensive" because the greater cost of heavy equipment, operation, and maintenance are hidden in other

budgets, and because some of the most difficult and sensitive work is left to "hand labor" to do, or not done at all.

19 cont.

3 Chemical Treatments

Page 92 "Using herbicides to control invasive plant species that exacerbate wildfire risk can be an efficient and cost-effective method that the District uses under the auspices of EBRPD's IPM policies and practices and in combination with other treatment measures (e.g., mowing, burning and hand removal). Recent studies conducted by the Marin Municipal Water District (MMWD) confirm this approach."

20

A great deal of expert opinion now supports this view, and page 93:

"This treatment can be a very selective technique when applied by hand."

Selective and limited use of herbicides is thus a tool in the Hand Labor toolbox, and requires discrimination and judgment to avoid negative ecological impacts.

4. Prescribed Burning

21

This is a rarely used technique in the wildland-urban interface. We should be brave enough to have more of it.

5. Grazing

Page 105: "This treatment method involves using grazing animals to consume, break off, or trample vegetation in order to reduce the amount or density of fuels and is most effective in grasslands (cattle or sheep) or shrublands (goats). While cattle and sheep do not effectively create fuel reduction zones, they can be used to maintain these features by shortening grasses and shrubs and removing vegetation debris, and can be used to do the same to the understory of tree stands; goats, by contrast, can and routinely are used to create fuel reduction zones. This method is particularly effective where the plants are palatable to the animals selected. As a fuel reduction technique, grazing does not need to be conducted each year if the intent is to control shrubs or maintain understory fuels; if the intent is to reduce grassland fuels in highly ignitable locations, grazing should be used annually. Historically, cattle have grazed the East Bay Hills, although goats are now often used for fuel management.

22

"Grazing can be a relatively inexpensive treatment method…."

COMMENTS: Cattle or sheep grazing is rare in the East Bay WUI, however intense grazing by hundreds of goats is a regularly used treatment by the Park District and other agencies.

Goat herd grazing is indiscriminant, causes major soil disturbance, spreads weeds, ruins native habitats, and is ugly once the popular goats are moved to another location.

Although the difficulties of managing herds and problems associated with them are well described on pages 106-108 of the Plan, it is almost impossible, I believe, to overcome these major negative impacts.

22 cont.

ENVIRONMENTAL IMPACT REPORT

Page 113: **B. BIOLOGICAL RESOURCES.** "The parks in the Study Area are home to a wide range of biological habitats and species. This EIR section (1) describes the setting section for biological resources within the Study Area, (2) evaluates the potential impacts to biological resources related to implementation of the Wildfire Hazard Reduction and Resource Management Plan (the proposed project), and recommends appropriate mitigation measures where necessary.

"The reader should note that this section focuses on biological resources and conditions that are particularly relevant to the issue of wildfire hazard reduction."

Page 159: **Other Statutes, Codes, and Policies.**

The District's 2001 Wildland Management Policies and Guidelines states that the primary goal of the program is **"to conserve and enhance important resource values such as soil, vegetation, wildlife, and water to ensure that natural parkland ecosystems are maintained in a healthy and productive condition."** To achieve this goal, the following program elements are prescribed:

23

"Vegetation Management. Wildland vegetation management will conserve and enhance natural communities, promote the restoration of indigenous vegetation, preserve and protect populations of rare, threatened, endangered, and sensitive plant species and their habitats, reduce fire hazard conditions, and, consistent with the above objectives, limit the encroachment of selected shrub species, such as coyote brush, poison oak, and broom. Management alternatives used to achieve these goals will include grazing, prescribed burning, mechanical treatment, integrated pest management, and/or habitat protection and restoration. "

"Grazing Management. Scientific management practices will be used to determine appropriate forage utilization levels and achieve desired conditions on individual grazing units. Monitoring will be conducted to insure conformity to lease provisions, to verify compliance with established standards for grazing on park land, and to evaluate whether management goals are being met. Grazing animals will be excluded from areas otherwise suitable for grazing when exclusion is dictated by the need to protect other resource and recreational values. Site-specific unit management plans will be developed for all park wildlands. These plans will identify management issues, define objectives, prescribe actions to resolve conflicts with other resource and recreational uses, and provide recommendations for achieving more effective management of the units. Site-specific plans will be evaluated in accordance with the District's land use planning process and applicable State laws."

2. Impacts and Mitigation Measures

p. 162 **Grasslands.** "Plan-related fuel reduction treatments (e.g., hand labor, mowing, grazing, chemical, mechanical) in recommended treatment areas and along strategic fire routes could potentially impact up to 298.5 acres of California annual grassland (including small unmapped areas of coastal prairie), 174.8 acres of coastal prairie, and 0.1 acres of serpentine bunchgrass grassland.

p. 163-164: "**Both early and late season mowing and grazing can be beneficial for native perennial grasses.** Early (March-April) mowing and grazing can be timed to defoliate immature (unripe) seed heads of non-native annual grasses, reducing competition with native perennial grasses (see Tables IV-2 and -3). Fuel reduction activities should take advantage of different seeding and curing rates between annual and perennial grasses. However, occasional late mowing or grazing in the early summer after native seeds have set can help minimize adverse impacts and maximize benefits in areas supporting native grasses. Defoliation later in the season allows the native perennial grasses to grow and store root reserves, and to set and disperse seed. The timing of treatments will need to be determined on a case by case basis as part of the pre-treatment considerations."

p. 164: **Maritime Chaparral. "**Approximately 7.7 acres of maritime chaparral in the recommended treatment areas…"

23 cont.

p. 166: "**North Coastal Scrub (Mesic and Xeric).** Plan-related fuel reduction treatments (hand labor, goat grazing, chemical, mechanical) in recommended treatment areas and along strategic fire routes could potentially impact up to 34.6 acres of mesic north coastal scrub habitat and 278.0 acres of xeric north coastal scrub habitat."

p. 167 "Create north coastal scrub islands two times as wide as the height of tallest shrub through mosaic thinning or patch retention thinning. Clumps should be natural in appearance and include specimens of variable age classes. ...Within 100 feet of structures, grass between shrub islands should be mowed or grazed when cured.

"Retain approximately 30 to 50 percent of brush areas in brush crown cover.

"Prioritizing plant species for removal will change according to local conditions, such as the relative abundance of each species. (For example, where coffeeberry is not abundant, it may be prioritized highly for retention.) Species which are generally a high priority for removal are: coyote bush; poison oak; and Himalayan blackberry. Attempts should be made to maintain a diversity of species."

p. 170: "**Coyote Brush Scrub.** Approximately 309.7 acres of coyote brush scrub in the recommended treatment areas and along strategic fire routes.... To reduce impacts to coyote brush scrub, associated resources and whipsnake to a less-than-significant level,

implement the guidelines, best management practices, and considerations … described above for north coastal scrub.

Oak-Bay Woodland. Approximately 399.7 acres of oak-bay woodland habitat in the recommended treatment areas and along strategic fire routes…

p. 171: "Treatment of oak-bay woodlands should be limited to understory thinning of scrub vegetation (see especially considerations for north coastal scrub), thinning dense stands of young native trees and saplings, removing invasive non-native vegetation, and replanting these areas with native vegetation. Bay trees have been discovered as a vector/host for Sudden Oak Death. Young bays that touch oaks should be selected for removal."

p. 174: "**Proposed Strategic Fire Route.** Construction and maintenance of the proposed new strategic fire route in Claremont Canyon (per Figure III-5 and Plan Guidelines 1.9) could require the permanent removal of up to 0.2 acres of California annual grassland, 1.6 acres of xeric coastal scrub, 0.2 acres of coyote brush scrub, and 0.6 acres of oak-bay woodland… Impacts associated with construction and maintenance of a new strategic fire route would be considered potentially significant because these communities (California annual grassland, xeric coastal scrub, coyote brush scrub, and oak-bay woodland) may support potential occurrences of special-status plant species, provide habitat for special-status animals and potentially provide wildlife movement corridors and nursery sites. The Vegetation Management Program (VMP) was designed to minimize impacts on these habitats to less-than-significant levels and reduce the potential for invasion of treated areas by exotic plant species as discussed previously in this section for California annual grasslands, north coastal scrub, coyote brush scrub, and oak-bay woodland."

23 cont.

COMMENTS: The vegetation management considerations described above are, I believe, largely impossible to control with herd goat grazing, and have limited need for heavy equipment or chemicals to achieve. Prescribed fire may be used in some areas, but appears to have very limited applicability.

That leaves Hand Labor as the most likely effective treatment mode and this summary suggests the scale of the work envisioned:

298.5 acres of California annual grassland
174.8 acres of coastal prairie
0.1 acres of serpentine bunchgrass grassland
34.6 acres of mesic north coastal scrub habitat
278.0 acres of xeric north coastal scrub habitat
309.7 acres of coyote brush scrub
399.7 acres of oak-bay woodland habitat
2.6 acres of proposed Claremont Canyon Strategic Fire Route
1498 acres

The challenges in all of these vegetation types where fuel-reductions are needed are basically (a) to control and reduce weeds and (b) to reduce and limit the succession of grassland-scale vegetation to shrubland-scale vegetation. Both of these activities are

important and difficult on the scale described in the Plan. There are no easy ways to accomplish this work, or to maintain it. All tools should be used, but the key is a discriminating human using those tools within the goals and guidelines impressively stated throughout this intelligent and comprehensive Plan and EIR.

23 cont.

Visual Resources. EIR pp 289-305

Page 305: **Potentially Significant Visual Resources Impact.** "... temporary visual impacts related to vegetation removal or thinning may be considered significant, and therefore, implementation of the Plan may result in the following significant impact related to visual resources. **Impact VIS-1: Implementation of activities under the proposed Plan (such as vegetation clearing or thinning or prescribed burning) could result in temporary substantial adverse visual effects on the scenic character of the Study Area and its surroundings."**

It is wise in the Plan and EIR to acknowledge this, as I believe much of the resistance to wildfire-fuel reduction projects derives from negative aesthetic reactions to work that is sometimes unavoidably ugly. The work is brutal to living organisms and sometimes destructive of natural forms on a large scale. Public tolerance of such visual sacrifices needs to be requested, but it may be suggested that preservation of beautiful landscapes should also be a goal of the Park District's Plan.

A wonderful example that this can be so, is EBMUD's extensively managed (hand labor, mechanical, pile burns) Isis Ridge above Claremont Canyon, where a natural shrub cover has been reduced to a mosaic of shrubs, trees, and grassland, preserving a beautiful and public-accessible part of the ridge top fuel break above Claremont Canyon:

24

I appreciate the opportunity to comment on the Plan and even more the Park District's determination to maintain its critical fire zones to the standards described in the Plan and EIR.

William J. McClung, 10/30/2009

LETTER C1
William McClung
October 30, 2009

C1-1: This comment provides introductory opinions of the commenter on the Plan and EIR, and indicates support of both documents, particularly for their "greater emphasis on the ecological consequences of reducing wildfire-supporting vegetation…"

The commenter questions the assumption that this work should be done on a "least fiscal cost basis." (Plan, Guideline, 2.2 on page 27). This guideline reads, in full:

> 2.2 Undertake vegetation management and fuel reduction activities to maintain and enhance diverse habitats and attempt to achieve a high representation of native flora. When planning and undertaking treatment activities, recognize the physiological and ecological needs and requirements of the native vegetation, and consider a full range of options for managing vegetation in these areas to ensure that benefits with the least fiscal and environmental costs.

Cost-effective does not mean "least cost". It means maximizing effectiveness to achieve the stated goals with the available resources over time. The Plan balances multiple goals of reducing wildfire hazard to protect public safety, maintaining park resource and aesthetic values and using public funding in the most responsible and sustainable way. On page 4, the Plan sums these goals up as follows:

> Each vegetation management goal is intended to represent a generally stable plant community with high habitat value and biodiversity, low fire hazard, and the lowest achievable requirement for ongoing maintenance.

These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted.

C1-2: The Plan authors agree with the commenter that the vegetation types that make up the landscapes within the Park District lands pass through successional stages (e.g., grassland to shrubland) unless they are disturbed or managed for various purposes (e.g., fuel reduction, native plant restoration, recreation, aesthetic enhancement, etc…). As stated in the Plan, these purposes or vegetation management goals (in Chapter V, Vegetation Management Program, Fire Hazard Reduction and Resource Management Goals are identified for each vegetation type occurring in the Study Area) are not necessarily mutually exclusive, and when undertaking the treatment actions identified in the Plan, the District will endeavor to meet the wildfire safety objectives while protecting and restoring environmental resources. As used in the Plan the term "ecologically stable habitat" was meant to denote a treatment area that has been managed over time to meet the fuel reduction, resource and vegetation goals identified by the District for that particular area, as stated on page 4 of the Plan:

A main premise of the Plan is that ecologically stable habitats are ultimately more economically sustainable. In effect, managing vegetation to achieve plant and animal communities and habitats with high levels of bio-diversity but inherently low fire hazards is more effective over the long term than the occasional treatment and/or ongoing maintenance of high fire hazard vegetation, such as areas infested by invasive weed species (e.g., broom) and thick groves of re-sprouting young eucalyptus trees.

C1-3: See response to comment C1-1.

C1-4: The statement on page 8 of the Plan Intro is correct. However, the term listed on page 8 of the Glossary (Plan Appendix A) and used in the definition will be changed from Wildland Fire to Wildfire. The National Wildfire Coordinating Group, which is the nationally recognized authority on wildland fire representing federal, state and local wildland fire protection agencies states in its glossary ("Glossary of Wildland Fire Terminology," PMS 205, November 2008):

Wildfire: An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland Fire: Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.

Page 8 of Appendix A of the Plan is revised as follows:

> **Wildfire:** An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.
>
> **Wildland Fire:** Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire. ~~An unplanned and unwanted fire requiring suppression action. An uncontrolled fire, usually spreading through vegetative fuels, but often threatening and involving structures. Wildland fires are not restricted to undeveloped areas but may also occur in the Wildland Urban Intermix.~~

C1-5: The comment is noted that Claremont Canyon is a Local Responsibility Area.

C1-6: The comment is noted that the twin goals in the Plan are consistent with and reinforce the 1997 EBRPD Master Plan.

C1-7: The comments and support for the Plan goals, objectives and guidelines are noted

C1-8: See response to comment C1-1.

C1-9: The comment that additional treatment is needed in the RTAs in Claremont Canyon is noted. Please refer to Master Response No. 1 and No. 2 in regards to additional site specific information being needed prior to preparing and finalizing fuel management goals and treatment prescriptions for each RTA. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted.

C1-10: In regards to suggestions for RTA TI012, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes.

C1-11: In regards to suggestions for RTA TI011, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes.

C1-12: In regards to suggestions for RTA TI010, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes.

C1-13: In regards to suggestions for Claremont Canyon and the RTAs identified on Table III-2 in the Plan and Draft EIR, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes.

C1-14: In regards to suggestions for RTAs CC001 through CC006, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The District will continue to consider this comment as they move forward with treatment implementation.

C1-15: Figure III-2 on page 35 of the Plan displays the wildfire hazard assessment process that identified the need for treatment. The area between RTAs CC001 and CC006 corresponds to an area in which the distance of parklands from structures is more than 200 feet in width and therefore, no RTA was identified for this area per the wildfire hazard assessment process.

C1-16: In regards to suggestions for RTAs CC007 through CC012, please refer to Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes.

C1-17: Comment is noted regarding support for the proposed strategic fire route in Claremont Canyon for its “multiple benefits and strategic importance” as outlined in

the comment. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted.

C1-18: These comments pertaining to the fuel treatment method, hand labor, described in the Plan and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes. See response to comment C1-14.

C1-19: These comments pertaining to the fuel treatment method, mechanical treatment, described in the Plan and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes. See response to comment C1-14.

C1-20: These comments pertaining to the fuel treatment method, chemical treatments, described in the Plan and not the adequacy of the Draft EIR, are noted. The project sponsor will consider the suggested changes. See response to comment C1-14.

C1-21: This comment pertains to the fuel treatment method, prescribed burning, described in the Plan and not the adequacy of the Draft EIR, is noted. The project sponsor will consider the suggested changes. See response to comment C1-14.

C1-22: These comments pertain to the fuel treatment method, grazing and particularly the use of goats, as described in the Plan. In regards to the potential adverse effects associated with goat grazing as addressed in the Draft EIR, see responses to comments B1-10, B3-5, and B3-10.

C1-23: The majority of this comment are excerpts from the Draft EIR. The potential adverse effects associated with goat grazing are addressed in the Draft EIR, see response to comment B1-10. The commenter's support for the use of hand labor as the preferred treatment method to meet the challenges of "(a) to control and reduce weeds and (b) to reduce and limit the succession of grassland-scale vegetation to shrubland-scale vegetation" is noted.

C1-24: The commenter notes and concurs with the finding of Significant and Unavoidable in regards to the potentially significant visual resources impact associated with vegetation management for fuel reduction activities.

Letter
C2

Jakki Kehl
720 North Second Street Patterson California 95363
Hm 209 892 1060 Cell 510 701 39753 Email: jjkehl@bigvalley.net

SENT YIA USA MAIL AND EMAIL(JJKEHL@BIGVALLEY.NET)

October 29,2009

RECEIVED
OCT 30 2009
PLANNING / STEWARDSHIP

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, California 94606
Email:wildfireEIR@ebparks.org

RE: Draft Wildfire Hazard Reduction and Resource Management Plan and Draft Environmental Impact Report comments

Dear Mr. Wiese

I do realize the importance and the need for this plan. My concerns are the absence of thoughtful consideration for cultural resources. Listed below are the my major concerns.

On page 3 you list "specific goals that have been established by EBRPD "as the following

- Reduce fire hazard
- Maintain and enhance ecological values for plant and wildlife habits
- Preserve aesthetic landscape value
- Provide a vegetation management plan that is cost effective

You have not mentioned protecting cultural/archaeological resources. **1**

On page 13 V. CULTURAL RESOURSE. Would the project

b) Cause a substantial adverse change to the significance of archaeological resource.....the report indicated it has Potentially Significant Impact **2**

c) Directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature .....This report indicates potentially significant impacts. I don't understand why you would group these together. Paleontology is the study of prehistoric life including organism' evolution and geology is the study of solid and liquid matter.

d) Disturb any human remains; including those interred outside formal cemeteries...the report indicated it has Potentially Significant Impact **3**

Letter
C2
cont.

The report states Cultural resources, archeological have been identified within the study area. ...the EIR will evaluate whether actions taken to implement the Plan would cause an adverse change, directly or indirectly destroys resource

Have you taken a physical inventory of all identified sites? Have all sites been formally registered with the State. On page 24 of the 2007 Master Plan includes the following statements," The district has the responsibility to preserve the legacy and the history of the people who occupied the land before the District was established...Within the Regional Parks are some of the finest remaining Native American sites in the Bay Area, Native American descendents treasure these remnants of their ancestral heritage and look to the District for their continued protection." A bullet point states, "The District...will preserve and protect these cultural features and sites 'in situ', in accordance with Board policy. The District will evaluate significant cultural and historic sites to determine if they should be nominated to State Historic Landmark Status or for the National Register of Historic Places..." **4**

On page 207 thru 239 the report discusses Cultural and Paleontological resources. I find it very odd that you would quote a fictional source (the Ohlone way) it is a scientific opinion that Penutian speakers migrated to the coast. The Ohlone believe we were created here. Was there consultation with the Native community? **5**

On page 218 the report states:

d. Known or Listed Cultural...resources in the study group identified through back ground research.

1. Cultural Resources. A total of 251 resources were identified in all of the parks that were studied through background research. Of the 251 resources ...(32 prehistoric /167 historical)....Three resources are not sufficiently described in EBRPD records to determine their classification....Cultural resources were identified through background research and consultation with interested parties. Were this site physically visited and their conditions recorded? Who were the interested parties consulted (earlier in the report it stated the NAHC was contacted, again were the Ohlone and Miwoks consulted? **6**

   The cultural resource inventory developed during the review of existing registration programs, archival sources, and environmental documents was compared to the EBRPD cultural resource database. Is this the "atlas" that was created in 2002 by staff? What is a GIS layer? There were six sites identified in the Study Area not depicted or otherwise noted in the EBRPD database but were on the NWIC maps. How many sites are in the EBRPD database but not on the NWIC maps? **7**

EBRPD has no cultural/archaeological stewardship. Has there ever been Native American consultation to develop EBRPD's guidelines for primary planning, treatment and review mechanisms for cultural resources? Have you determined what sites are eligible for the California Register? Most Native American sites "have or more than likely to yield, information in prehistory or history. **8**

EBRPD Guidelines for Protecting Parkland Archaeological sites contain guidance for EBRPD staff on the treatment of archaeological sites in the study area? Guidance is provided about archaeological site identification and protection, Native American input regarding proposed treatment of archaeological sites and human remains; and special zoning concessions for Native American and non-Native American archaeological sites? When were these guidelines updated?

9

This study cannot determine impact if site boundaries have not been recorded. This report indicates potential impacts but does not indicate actual mitigation techniques.

Page 226 Plan chapter IV. Fuel treatment Methods

Best treatment practices for hand labor – Cultural Resources

- EBRPD will exclude documented cultural resources ….that involves ground disturbance.
- A District staff member trained in cultural resource identification will demarcate the boundaries of priously documented cultural resources identified during hand labor treatment. These resources will be avoided··

10

Similar wordage use for mechanical treatment

EBRPD does not have an archaeologist on staff. This demarcation should be done by someone trained in archaeology not simply trained staff. It is also standard Federal and State policy to have a Native American monitor present. An archaeologist and NA monitor should be present at all cultural sites where hand lines within the burn areas.

Page 229 Mitigation Measure CULT-1

Following Health and Safety Code is not mitigation. Scientific information can only be recovered with the permission of the MLD. A treatment plan should be developed thru consultation with the Native community.

11

Letter
C2
cont.

Page 229 Impact Cult-3

EBRPD has no Cultural/archaeological stewardship to participate in monthly "fuel group meeting.

Page 231 "The biological data collection and monitoring is recommended treatment areas are the emphasis of the project's data collection, monitoring, and analysis. However, the disparate treatment of cultural resource issues at the planning stage is not consistent with EBRPD policy. Increasing the consideration given to cultural resources in planning for future fuel reduction and vegetation management activities in the Study conforms to the EBRPD's priorities. As stated in the EBRPD Master plan."

> "The District will maintain a current map and written inventory of all cultural features and sites found on park land, and will preserve and protect these cultural sites "in situ" in accordance to Board policy."

"Without compatible treatment , it is possible that cultural resource issues will become secondary to biological concerns, which may result in lower levels of protection, uneven resource management, and ultimately, and degradation of prehistoric and historical cultural heritage contained in EBRPD lands. Implementation of the following mitigation measures would reduce the potential impacts to a less-than -significant level."

Mitigation Measure CULT-3 "The district staff group responsible for Plan implication and preparation of annual Fuels Treatment Plan, should include staff with background in cultural resources management to inventory District cultural resource records, participate in pre-treatment fields review site assessment and provide input on issues of cultural resource identification evaluation, treatment, and long-term management as it pertains to fuel reduction and vegetation management (LTS)"

12

The above statement on this page summarizes what I have been telling you for over a year. What happen at Brushy Peak should not have occurred. Staff has admitted much more attention was given to the biological issues. No staff member had formal cultural training in site management. I'm not sure what training has with regards to identifying sites or protecting them from acumitive effects.

Again the recent Loop Trail at Brushy Peak not only has direct adverse impacts but acumitive effect that have not been addressed. Addition protection has not been executed.

EBRPD need a Cultural stewardship which includes staff that has a background in cultural management.

The""atlas"has to be rewritten by an archaeologist and monitored by a Native American.

This is not mitigation but it does seem to be EBRPD policy that has been ignored.

I believe Mitigation measures are developed thru meaningful consultation.

Thank you

Jakki Kehl

CC: NAHA ,SHPO,ARMY CORP

LETTER C2
Jakki Kehl
October 29, 2009

C2-1: Contrary to the commenter's assertion, the Plan does refer to the protection of cultural resources as an objective. The objective may be found on page 21 of the Fire Plan in the "Objectives" section. The Plan states that one of its objectives is to "Reduce the potential for loss of environmental, *cultural*, aesthetic or recreational *resources* due to a catastrophic wildfire" (emphasis added).

C2-2: Paleontology is included to maintain consistency with Question V of the environmental checklist in Appendix G of the *CEQA Guidelines.*

C2-3: Comment acknowledged; no response is warranted.

C2-4: The EBRPD made a reasonable and good faith effort to review existing documentation and prior analyses to inventory identified resources, including a records search at the Northwest Information Center of the California Historical Resources Information System. Not every resource is registered with the state, nor are they required to be so recorded in order to consider potential impacts to them.

C2-5: The source referred to by the commenter was used as a general background publication to characterize the manner in which the Ohlone people are referred to in the ethnographic literature. In no way was this intended to invalidate or challenge the Ohlone people's perception of their origin. The EBRPD consults with Native Americans on a case-by-case basis when there a clear indication that their interests may be affected. In the Draft EIR, known resources have been identified and Best Management Practices to avoid or minimize impacts to these resources during fuel management activities will be implemented.

C2-6: Visiting each resource identified in the Draft EIR was not warranted or feasible to evaluate the potential effects of the proposed project. Please refer to the answer to comment C2-5, above, in response to the second part of the question.

C2-7: The EBRPD Cultural Site Atlas is EBRPDs record of historic and prehistoric cultural resources on its parklands. It is compiled from records obtained from the California Historic Record Service (CHRIS), Northwest Information Center, along with records from EBRPD-commissioned cultural surveys and field finds, and, was a partial basis for the Draft EIR's baseline conditions. A GIS layer is an individual map layer showing the spatial distribution of a given environmental feature or variable (e.g., archaeological sites). Approximately 183 resources or features identified from EBRPD documentation were not matched with records from the Northwest Information Center because records of these resources exist in EBRPD files, but they have not been formally recorded with the State.

C2-8: The EBRPD consults with Native Americans on a case-by-case basis when there a clear indication that their interests may be affected. EBRPD considers the significance of sites and need for registration on a case-by-case basis.

C2-9: The EBRPD does have a policy for the protection of cultural resources, consisting of relevant State law (CCR, Title 14(3), sec. 15002(i), sec. 15064.5, PRC Sec 21001 (b), (c), the EBRPD Master Plan, the 1989 Guidelines for Protecting Parkland Archaeological Sites and Ordinance 38, all referenced in the Draft EIR, pages 219-224. Known cultural resources are recorded in the District's resource data base (Cultural Site Atlas), which is updated periodically. As stated in Response C2-8, above, the EBRPD considers the significance of sites and need for registration as well as the need to consult with Native Americans on a case-by-case basis, and where it is clear that Native American interests and resources will be affected.

C2-10: The EBRPD is confident that staff trained in cultural resources identification will adequately demarcate site boundaries. The EBRPD does not have a registered professional archaeologist on its staff, and while the District does contract with professional archaeologists as needed, it must use judgment in prioritizing those needs to maximize the benefit in protecting the cultural resources under its stewardship. Consequently, the District retains consulting archaeologists to conduct staff trainings to enable park staff to monitor the condition of cultural resource sites within the parks. Cultural resource trainings will be provided for staff who will conduct pre-treatment site assessments to implement the Plan. Please see the various BMPs for the protection of cultural resources, compiled at pages 226 and 227 of the EIR, as well as Mitigation Measure CULT-3:

> The District staff group responsible for Plan implementation and preparation of the annual Fuels Treatment Plan shall include staff with a background in cultural resources management to inventory District cultural resources site records, participate in pre-treatment field review site assessments and provide input on issues of cultural resource identification, evaluation, treatment and long-term management as it pertains to fuels reduction and vegetation management.
>
> The EBRPD will consult with Native Americans on a case-by-case basis when there is a clear indication that their interests may be affected.

C2-11: The Draft EIR has been revised on page 229 for mitigation measure CULT-1 in response to the commenter's statement regarding the treatment of human remains. The text on page 229 of the Draft EIR has been revised as follows, with additions underlined and deletions struck out.

> Mitigation Measure CULT-1: During project-related ground disturbing activities, should human remains or associated burial goods be encountered the steps required by *CEQA Guidelines* §15064.5(e) and Health and Safety Code §7050.5 shall be taken. Pursuant to these sections, and to the EBRPD's Cultural Resources Policy, the on-site EBRPD supervisor, or their designee, shall: (1) halt

work within 50 feet of the remains; (2) contact the Alameda or Contra Costa County coroners; and (3) contact an archaeologist to evaluate the remains and provide recommendations.

If the remains are of Native American origin, the archaeologist will provide a preliminary assessment of the eligibility of ~~evaluate~~ the remains for California Register of Historical Resources (California Register) ~~eligibility~~, and shall do so in a non-invasive manner that does not involve ground disturbance. The remains shall be considered as a part of an archaeological deposit for the purposes of assessing the overall site's archaeological values; this will be separate from, and not superior to, consideration of the remains as possessing cultural significance for descendant communities. T~~t~~he coroner will contact the Native American Heritage Commission in Sacramento, which will in turn identify a Most Likely Descendent (MLD). The MLD shall be provided the opportunity to make recommendations for the respectful treatment of the Native American remains and any related burial goods. At this time, the archaeologist shall, in consultation with the MLD, undertake ground disturbing investigations of the remains and associated deposits to determine their eligibility. If the remains are eligible for the California Register, the archaeologist shall recover scientifically valuable information, as appropriate and in accordance with the recommendations of the MLD. Following the archaeologist's evaluation, a report should be prepared to document the methods, findings, and recommendations of the archaeologist conducting the work. The report should be submitted to EBRPD and the Northwest Information Center. (LTS)

C2-12: The comment regarding Brushy Peak is noted, but is not relevant to the adequacy of the EIR for the Wildfire Hazard Reduction and Resource Management Plan.

Letter
C3

Public Comment: EIR for "Wildfire Hazard Reduction and Resource Management Plan"

The stated goals of the "Wildfire Hazard and Resource Management Plan" (henceforth "Plan") are:

> "• Reduce fire hazards on District-owned lands in the East Bay's wildland-urban interface (WUI) to an acceptable level.
> • Maintain and enhance ecological values for plant and wildlife habitat consistent with fire reduction goals.
> • Preserve aesthetic landscape values for park users and neighboring communities.
> • Provide a vegetation management plan which is cost-effective and both financially and environmentally sustainable to EBRPD on an on-going basis." (Plan, pg 21)

This comment will provide detailed evidence that the Plan does not meet these goals. In fact, the Plan directly contradicts these goals by:

- Increasing the risk of fire by
  - Enhancing native plant habitats that are more flammable than those they will replace
  - Promoting the growth of more flammable vegetation by thinning forests
  - Reducing moisture on the forest floor by thinning trees
  - Using flammable herbicides to prevent resprouting of non-native trees
- Making native plant restoration the highest priority, often at the expense of increased fire hazard
- Making a permanent commitment to management actions that are neither cost-effective nor environmentally sustainable by.
  - Requiring the long-term use of herbicides to eradicate non-native vegetation
  - Requiring the long-term use of prescribed burns to sustain native plant populations that are dependent upon fire
  - Significantly reducing the number of tall trees without substituting an equal amount of biomass, thereby releasing sequestered carbon in the short-run and reducing the amount of CO_2 absorption in the long-term.

To clarify that the subject of this comment is the deficiencies of the EIR for the Plan, these are specific ways in which the EIR does not meet legal requirements:

- Fallacious assumptions are made by the Plan that are unsupported by the Plan or the EIR
- The Plan supports these assumptions by manipulating data. The EIR does not identify or correct the fabricated data.
- Negative environmental consequences of management actions (such as herbicide use and prescribed burns) described in the Plan are not identified, analyzed or mitigated by the EIR. **1**
- The EIR does not quantify, analyze or mitigate the significant loss of carbon sequestration provided by the existing forest, as required by California law (AB32) nor does it acknowledge or mitigate the consequences for Global Climate Change (GCC). **2**
- The EIR does not consider the impact of GCC on the viability of the Plan. **3**
- The EIR does not review the mounting scientific evidence that native plant populations are not sustainable in their historical ranges. The EIR must explain the environmental consequences of the failure of massive native plant restorations. **4**
- The EIR proposes only those alternatives to the Plan that are easily dismissed. It does not make a good faith effort to identify alternatives that will mitigate the negative effects on the environment and reduce fire risk. **5**

- The EIR acknowledges that other jurisdictions in Alameda and Contra Costa Counties have similar plans to eradicate trees and replace them with native vegetation, but makes no attempt to quantify, analyze or mitigate the cumulative effects of all of these projects.

6

Fallacious assumptions are made by the Plan that are unsupported by the Plan or the EIR

The entire Plan is based on the fallacious assumptions that:

- Native plants are less flammable than non-native plants
- Non-native plants are more flammable than native plants
- Only non-native plants are invasive
- Non-native plants considered invasive are more flammable than other plants

We will examine each of these assumptions, using specific examples of how scientific and experiential evidence refute these assumptions.

The Plan considers eucalyptus the chief culprit in creating fire hazard, citing the 1991 fire in the Oakland/Berkeley hills as evidence of this claim. The role the eucalypts played in the 1991 fire in the East Bay is greatly exaggerated by the Plan.

As FEMA notes in its analysis of that fire[1], the fire started in dry grass ("On...October 19, 1991...a brush fire was reported...the vegetation on the slope was mostly grass with some brush and a few trees." page 22) and only leapt out of control when a spark reached nearby brush (On October 20, 1991, "Very suddenly, the fire flared up...Burning embers had been carried from one of the hot spots to a patch of tinder dry brush." page 26). During a wildfire accelerated by high wind, everything will burn, including eucalyptus. That does not mean the eucalypts were the cause of the fire.

FEMA identified the sources of fuel for the fire as follows: "The **northeast portions of the fire** area had more **wildland fuels**, while in the **south and western areas**, the **homes were the major fuels**. In effect, the more severe slopes in the **north and eastern portions of the fire area required the use of native species**. The more moderate slopes and deeper soil in the south and southwest areas allowed for the introduction of more ornamental type species." (page 8) (emphasis added)

7

Nor does the FEMA report identify the eucalypts as the sole source of the flaming brands and embers that helped to spread the fire: "The Oakland hills are covered with dense growths of trees, supplemented by grasses and thick brush. The east face is exposed to the more arid climate...and is predominantly covered by grasslands and brush. These particular trees and brush are highly vulnerable to rapid fire spread and release massive amounts of thermal energy when they burn. They also create flying brands, which are easily carried by the wind to start new spot fires ahead of a fire front." (page 7) Whenever the FEMA report mentions these fire brands as factors in the spread the fire, the eucalypts are not specifically identified as the source.

The only specific mention of eucalypts as a factor in the 1991 fire in the FEMA report is related to the deep freeze that occurred the winter preceding that fire: "The unprecedented drought was accompanied by an unusual period of freezing weather, in December 1990, which killed massive quantities of the lighter brush and eucalyptus. Dead fuel accumulated on the ground in many areas and combined with dropped pine needles and other natural debris to create a highly combustible blanket. Due to the fiscal cutbacks, governmental programs to thin these fuels and create fuel breaks were severely curtailed, so the fuel load was much greater than normal by the second half of 1991." (page 6) Such freezes, sufficiently deep and sustained, causing eucalypts to die back are very rare in the Bay Area and will become increasingly rare as GCC increases temperatures. Since

[1] "The East Bay Hills Fire Oakland-Berkeley, California (October 19-22, 1991)," FEMA Technical Report

they are rare, they can be easily mitigated by clearing the dead debris after such a freeze, a significantly more cost-effective measure than eradication of hundreds of thousands of trees (approximate reduction of tree density from 1,000 trees acre to maximum of 100 trees per acre [sometimes less] times 1,000 acres = 900,000 trees destroyed).

The FEMA report is consistent with the Mayors' "Task Force on Emergency Preparedness & Community Restoration" (February 3, 1992). Officials from all jurisdictions in the fire area participated in this analysis of the causes of the 1991 fire. They were assisted by nearly 100 citizens, experts, and scientists. The recommendations of the Forestry and Vegetation Committee were unanimous. Participants included "experienced fire ecologists, firefighters, foresters, arborists, landscape architects, park naturalists, geologist, writers, editors, and homeowners." (page 32)

Their "Primary Findings" included, "The current emphasis on Blue gum...and Monterey pine...as primary culprits in the recent fire, and calls for quick removal of them are an oversimplification that can lead to negative environmental consequences." (Page 31) And their "Policy Recommendations" included, "Do not target specific species, such as Blue gum eucalyptus, or Monterey pine, for eradication or exemption from tree regulation policies. Existing stands of pine and eucalyptus must be regularly maintained, and debris processed to substantially reduce susceptibility to fire. Rapid conversion of these stands could cause negative ecological impacts, such as significant soil erosion and possible landslides, and be very costly. Substitute trees should only be phased in gradually if appropriate and cost effective." (page 37)

The fire on Angel Island in October 2008, is an example of the bogus claims of the flammability of eucalypts. According to an "environmental scientist" from the California state park system, 80 acres of eucalypts were removed from Angel Island over 12 years ago. Only 6 acres of eucalyptus remain. ("Rains expected to help heal Angel Island," SF Chronicle, October 14, 2008). The fire that burned 400 acres of the 740 acres of Angel Island stopped at the forest edge: "At the edge of the burn belt lie strips of intact tree groves...a torched swath intercut with untouched forest." ("After fire, Angel Island is a park of contrasts," SF Chronicle, October 15, 2008). It was the native grassland and brush that burned on Angel Island and the park rangers were ecstatic about the beneficial affects of the fire: "The shrubs—coyote brush, monkey flower and California sage—should green up with the first storms...The grasses will grow up quickly and will look like a golf course." Ironically, the "environmental scientist" also tells the Chronicle that the eucalyptus forest was highly flammable, though it played no part in this fire and there was no history of there ever having been a fire in the eucalypts prior to their removal.

The fire on Angel Island is not an isolated event. Rather it is typical of recent wildfires throughout California: "It is estimated that no more than 3 percent of the recent 2007 fires...occurred in forests...the remaining 97 percent occurred in lower elevation shrublands and urban areas, burning native shrublands such as chaparral and sage scrub, non-native grasslands and urban fuels..." (Statement by Jon E. Keeley, USGS, before agencies of the US Senate, 2007)

The Plan attempts to support its assumption about the flammability of eucalypts by citing specific characteristics: "...shreddy bark, volatile oils, and aerodynamic leaf structure..." (page 162) Shreddy bark and volatile oils are characteristics of many plants, both native and non-native. They are not characteristics exclusive to eucalypts: "The [chaparral] community has evolved over millions of years in association with fires, and in fact requires fire for proper health and vigor...Not only do chaparral plants feature adaptations that help them recover after a fire, but some characteristics of these plants, such as fibrous or ribbonlike shreds on the bark, seem to encourage fire. Other species contain volatile oils." (page 341, A Natural History of California, Schoenherr, UC Press, 1992)

7 cont.

Madrone and Manzanita are native species that are promoted by the Plan. These are two examples of native plants with "ribbonlike shreds on the bark" that are highly flammable. Coyote brush and bays are two native species that are promoted by the Plan which contain highly flammable oils.

The Plan acknowledges these flammable characteristics of native plants:

- "Maritime Chaparral...Many species have oils, resins, or other volatile chemicals that make them burn faster and hotter." (page 132)
- "Consider selecting young bay trees for removal, as bay trees tend to produce ladder fuels and are known for their oil content. This species also is known to be a vector of sudden oak death and may prevent oak regeneration." (page 190)

Despite this observation about bay trees, conversion from non-native forest to oak-bay forest is the most frequently recommended "Vegetation Management Goal" in the "Recommended Treatment Areas." Anyone familiar with bays is familiar with its prostrate growth habit, growing from multiple stems, falling over to lie on the ground and sending up new vertical stems. They are also familiar with its aromatic properties, which are the physical manifestation of the bay's volatile oils.

As for the Plan's claim that the "aerodynamic leaf structure" contributes to the flammability of the eucalyptus, I must say that this claim defies logic. The implication is that the leaf has a tendency to fly through the air once ignited. Presumably, the leaf is on the tree at the time it is propelled into flight. The leaf is therefore living at the time. This contradicts one of the general principles of fire behavior, which is that live materials are more difficult to ignite than those that are dead because the former is moister than the latter. Even the GGNRA, famous for its commitment to native plant restoration, acknowledges that the eucalyptus leaf is fire resistant. The National Park Service reports on its website that the leaves are, in fact, fire resistant: "The live foliage [of the eucalyptus] proved fire resistant, so a potentially catastrophic crown fire was avoided." [2] If the Plan expects the reader to believe that eucalyptus leaves are "aerodynamic" it must provide us with evidence, either scientific or experiential.

7 cont.

The Plan also claims that the eucalyptus is "susceptible to...insect attacks." This is another unsubstantiated allegation that is contradicted by scientific evidence: "Insect infestations of eucalypt plantations have been comparatively uncommon beyond Australia...because most of the trade has been in seeds...rather than in seedlings or young plants." (page 148, The Eucalyptus, Doughty, 2000) What evidence is there that insects have infested the eucalypts in East Bay parks? Oaks, bays and other natives, on the other hand, are known to be infested in the East Bay—including Tilden Park-- with a fatal disease, Sudden Oak Death (SOD).[3]

The Plan also assigned the eucalyptus a high fire hazard rating due to the "presence of fine fuels." This allegation contradicts its earlier allegation that "That the size of leaves and bark...are typically large..." Which is it, fine fuels that ignite readily or large fuels that produce large flying embers?

In considering the role of fine fuels in fire ignition, we are introduced to the secondary target of the Plan, non-native broom. Broom is an example of a fine fuel, yet the Plan has apparently selected it for eradication primarily because it is considered invasive and it out-competes native species of chaparral.

8

Broom is appropriately compared to a native with the same characteristics, coyote brush. Its leaves are equally fine, making it equally susceptible to ignition. But its branches are wood, rather than the green stems of most species of broom. The wood is more flammable than green stems because it has less moisture content. And the coyote brush is just as invasive as broom, crowding out grassland and other species unless controlled by

[2] http://www.firescape.us/coastliveoaks.pdf
[3] "Sudden oak death spreads to East Bay hills," SF Chronicle, November 26, 2008

prescribed burns (page 148-149). Coyote brush is easier to eradicate than broom because the seeds of broom "are viable in soil from 5 to 60 years." (page 10 of Appendix G) Comparing non-native broom to native coyote brush with respect to both flammability and invasiveness epitomizes the Plan's bias in favor of native plants. If reducing fire hazard were indeed the primary goal of the Plan we would expect eradication of coyote brush would be as high a priority as eradication of broom.

8 cont.

Another excellent example of the Plan's bias in favor of native plants is provided by a comparison of the flammability of native and non-native grassland. The Plan would like us to believe that native grasses are less flammable than non-native grasses. The basis for this claim is that native grasses are perennials that are green longer than annual grasses and are therefore less flammable because they contain more moisture than annual grasses. The perennial grasses are just as dry above the ground as annual grasses during the fire season[4]. A visit to the Serpentine Prairie in late May confirms that native bunch grasses are dry above the ground throughout the summer.

The Serpentine Prairie is one of few places in the East Bay parks that support a viable population of native grasses because the serpentine soil inhibits the growth of the non-native grasses. Serpentine rock does not occur widely in the East Bay parks, so the Plan should not assume that suitable conditions exist elsewhere to establish new populations of native bunch grasses. The Serpentine Prairie is not one of the Recommended Treatment Areas included in the Plan, since it is the subject of a separate project. Even if native grasses were less flammable than non-natives (and that claim is not credible), it is extremely unlikely that EBRPD will be able to establish populations of native grasses in the project areas. This is acknowledged by David Amme, Wildland Vegetation Program Manager of EBRPD and one of the authors of the Plan (page 219):

9

> "But the Mediterranean annual grasses are a permanent part of the California grasslands, and they now are as much a part of California's grasslands as the native perennial grasses once were. The time is long overdue for an official naturalization ceremony. Despite the losses suffered by native plants in the face of exotic grasses, the East Bay annual grasslands remain a tremendously productive ecosystem..."[5]

Figure V-1.A &C confirm that the Serpentine Prairie and Point Pinole are the **only** parks in which native grasses exist. All other grasslands in the East Bay parks are classified as California Annual Grassland, which is described by the Plan as predominantly non-native. This is as we would expect given that, "...only about 1% of [California] grassland today could be considered pristine [AKA native]."[6]

Because the Plan frequently states that the conversion of eucalyptus forest to grassland is the Vegetation Management Goal in the Recommended Treatment Areas (e.g., RTAs LC007a-d, 008, 009), it is appropriate that we compare the flammability of these two vegetation types. We turn to the analysis of Alexander Kerr, author of "An Evaluation of the Fire Management Plan for the UC Hill Area" (September 1991) for this comparison. Mr. Kerr had "seven years of experience in Australia as a wildfire control officer" (page 8) when he wrote this analysis. His analysis is also of interest to those who are sincerely concerned about fire hazard because Australian bushfires are frequently used by those who advocate for the eradication of eucalypts to justify their crusade. Based on his experience with Australian wildfires and scientific literature about those wildfires, Mr. Kerr concludes that grasslands are far more instrumental in starting and spreading wildfires than eucalypts:

10

> "What makes grass fires particularly dangerous? The three interrelated characteristics of wildfire that can make it difficult or impossible to control are rapid rate of spread, high intensity, and instantaneous response to changes in wind direction or speed...a grass fire spreading rapidly through a relatively sparse

[4] "An Evaluation of The Fire Management Plan for the UC Hill Area," Alexander Kerr, September 1991
[5] "Grassland Heritage," Bay Nature, April-June 2004.
[6] Page 520, A Natural History of California, Schoenherr, UC Press, 1992.

amount of available fuel can have a higher fire intensity than a forest fire spreading slowly through a much greater quantity of available fuel." (page 8)

"...The influence of wind is much greater on grass fires than in forest fires. Providing a strong wind is blowing, fast rates of spread are possible in grasslands at very low temperatures and high humidities. Grass fires frequently continue to spread vigorously throughout night-time hours whereas forest fires tend to become self-extinguishing once fuel moisture content rises much above 20%"[7]

10 cont.

The Plan tortures logic in a futile attempt to justify its recommendations to eradicate less flammable types of vegetation, while promoting the expansion of grassland. It acknowledges that fire hazard exists in grasslands: "The critical fire behavior considerations for grasslands are the rate of spread and the ease of ignition as grasslands act as a 'vector' to ignite other vegetation types." (page 126) Yet on the same page, the Plan attempts to erase that hazard, "Airborne embers are not carried significant distances ahead of the flame front due to the rapid rate of spread..." The point is, the flame front in grasslands moves rapidly even without the movement of embers over long distances.

Perhaps the most extreme example of the Plan's bias in favor of native plants at the expense of reducing fire hazards is Chamise, a member of the maritime chaparral community according to the Plan (page 136).

"The relationship between fire and Chamise is illustrated by the plant's tendency to 'encourage' burning. A thermometer was placed within a Chamise shrub as a fire approached, and the following changes were documented. At about 200°F the plant began to wilt as its temperature approached the boiling point of water. At about 400°F the plant began to emit combustible gases such as hydrogen, alcohol, and methane. At about 600°F the shrub smoldered and began to turn black. At about 800°F the plant burst into flames! This species must have evolved in association with frequent fires to have reached the point where it seems to encourage burning."[8]

The Plan acknowledges the flammability of Chamise: "Preferentially cut back to the burl the most flammable sprouting species first, such as chamise." (page 136). However, this recommendation does not appear in any of the Vegetation Management Goals in the Recommended Treatment Areas. It is also contradicted on the same page in which the recommendation for "preferentially" cutting Chamise back occurs. The paragraph containing this acknowledgement of the flammable properties of Chamise concludes with a list of "criteria which are listed **in approximate descending order of importance...**" Twelve criteria are listed. The eleventh criterion is "Consider the conversion of shrubs to lighter fuel types." Criteria considered more important than reducing fuel loads include "value for wildlife," "aesthetic values," and "diversity of species." In other words reducing fire hazard is a very low priority.

11

Anyone with a rudimentary knowledge of the natural history of California could provide an infinite number of such invidious comparisons between native and non-native plants with respect to their relative invasiveness and/or flammability. I hope the examples I have provided illustrate that these characteristics of plants are unrelated to whether the plants in question are native or non-native. The assumptions that non-native plants are more prone to fire and more invasive than native plants are fallacious.

The Plan supports these assumptions by manipulating data

Chapter III of the Plan attempts to explain how wildfire hazard was determined in order to select specific sites for treatment to reduce those hazards. One relatively straight-forward criterion was "Parkland within 200 feet

12

[7] Page 85, Bushfires in Australia, Luke and McArthur, Australian Government Publishing, 1986.
[8] Page 344, A Natural History of California

of homes and other structures." Using the principle of "defensible space," this criterion is justified. Unfortunately, many of the VMGs for the RTAs that were identified using this criterion reduce only non-native vegetation, leaving flammable natives in place. RTA WC005 contains a "Facility at Risk," according to Table 3 (Plan, Chapter III). The Vegetation Management Goal and Considerations and Guidelines for WC005 are:

> "Thinned eucalyptus stand with increased proportion of native grasses, establish patches of north coastal scrub that have no overstory. Purple needle grass and other native grasses can be re-established using plugs or seeds. Remove French broom. Thin eucalyptus trees in patches to promote native grasses and scrub, with an emphasis on removing small or unhealthy trees or those with multiple stalks. Spray seedlings with an appropriate herbicide. Select individual eucalyptus trees to be retained on both sides of the paved road. For eucalyptus trees and shrubs to be removed consider using mechanical or hand labor treatments. Prescribed fire can be effective to control broom seedlings."

12 cont.

In other words, there is a facility at risk in WC005, but highly flammable native grassland and scrub will be promoted in this Recommended Treatment Area. This is only one of many examples that illustrate that the Plan has no intention of reducing fire hazard, even when valuable structures are at risk. Native plant restoration is the primary objective of the Plan.

Likewise, RTAs selected because they are "strategic fire routes," are easily justified if the VMGs for those RTAs actually reduce fire hazard. However, the VMGs for the RTAs selected using this criterion leave flammable natives in place (e.g., LC005b).

The remaining criteria for selecting RTAs, are superficially objective, but upon close examination we find that the manipulation of data has supported the primary goal of the Plan, i.e., native plant restoration, often at the expense of greater fire hazard. The remaining criteria are:

13

- "Areas of vegetation with the potential to produce greater than 8-foot flame lengths
- Areas containing fuels prone to torching and ember production." (page 31)

It is easy to evaluate whether or not RTAs were selected because they are "areas of vegetation with the potential to produce greater than 8-foot flame lengths," because the Plan reports flame lengths of each vegetation type:

Vegetation Types Categorized by Plan (Chapter V)	Flame Length	Origin
Grassland/Herbacous Vegetation	>10 feet	native & non-native
Maritime Chaparral	24-69 feet	native
North Coastal Scrub-Mesic	14-32 feet	native
North Coastal Scrub-Xeric	14-69 feet	native
Coyote Bush Scrub	14-32 feet	native
Non-Native Scrub	15-18 feet	non-native
Mature Eucalyptus Forest	6-21 feet	non-native
Young Eucalyptus Forest	7-31 feet	non-native
Mature Monterey Pine	2-16 feet	non-native
Young Monterey Pine	7-31 feet	non-native
Oak-Bay Woodland	1-34 feet	native
Redwood Forest	7-31 feet	native
Riparian Woodlands	2-5 feet	native

Assuming these values are correct, we learn from this table:

- Most vegetation types, both native and non-native, have potential flame lengths greater than 8 feet
- The greatest potential flame lengths occur in native vegetation (chaparral and scrub)
- Potential flame lengths of all forests, whether native or non-native, are less than other types of vegetation

We conclude that if flame length had been used to identify specific RTAs, as the Plan claims:

- Native vegetation (particularly scrub and chaparral) would have been selected as RTAs more frequently than non-native vegetation
- Brush (scrub and chaparral) would have been selected for RTAs more frequently than forests

Therefore, RTAs cannot be explained by the flame lengths of the vegetation types. We must look further for an explanation of how RTAs were selected. Chapter V offers three more measures of flammability:

- "Fire Hazard Rating" (page 112),
- "Ignition Potential" (page 121) and
- "Wildfire Fuel Models" (page 112).

The Plan tells us that the sources of these measures are: "most of the standards and special considerations established here are based on the experiences of land managers who have been working on fuel modification; available research...and the professional knowledge and judgment of EBRPD staff and the consulting team." (page 110) In other words, we are asked to take the word of EBRPD and its consultants about the relative flammability of vegetation types. We will examine each of these measurements, based on our knowledge of independent sources of information, as well as actual fire behavior.

13 cont.

"Fire Hazard Rating"

The Plan describes the Fire Hazard Rating as a rating that "determines the potential of different vegetation types to burn, the potential flame length from these vegetation types, and their anticipated heat output when burning." (page 112) The ratings are:

Extreme
- Maritime Chaparral
- North Coastal Scrub – Xeric

High
- North Coastal Scrub – Mesic
- Coyote Brush Scrub
- Non-native Scrub
- Mature Eucalyptus Forest
- Young Eucalyptus Forest
- Young Monterey Pine Forest

Moderate to High
- Mature Monterey Pine Forest

Moderate
- Coastal Prairie
- California Annual Grassland
- Ruderal Vegetation

Low
- Serpentine Bunchgrass Grasslands
- Oak-Bay Woodland
- Redwood Forest
- Riparian Woodland

Accepting these ratings for the moment, we learn from them that:

- The highest fire hazard rating is assigned to native chaparral and scrub
- Eucalyptus and Monterey Pine forests are not rated a higher fire hazard than native or non-native scrub or chaparral

However, we don't entirely accept these ratings because of observations we have made earlier about the flammable characteristics of bay in comparison to eucalypts. Bay leaves contain just as much oil as the leaves of eucalyptus. However, their leaves are more likely to ignite than those of the eucalyptus because their prostrate growth habit provides a much lower fuel ladder than eucalypts. Oaks also have a more prostrate growth habit than the eucalyptus and therefore provide more access to a fuel ladder than the eucalyptus. Furthermore, both bays and oaks are subject to a fatal disease—SOD—which exists in the East Bay. Any dead tree—whether native or non-native—is more flammable than a living tree.

"Ignition Potential"

The Plan describes ignition potential as "the ease with which a firebrand that lands within the vegetation type will start a fire. Fine fuels with large surface areas and an elevated ratio of oxygen to biomass tend to ignite easily (e.g., grasslands or pine forests)...ignition is more difficult in vegetation types that have a compact low fuel bed composed primarily of leaf litter (e.g., oak-bay woodland), or where the fuel is suspended above in the crown (e.g., chaparral)." (page 121) Ignition potential is assigned numerical ratings from one (most ignitable) to 10 (least ignitable). Assigned ratings by the Plan are:

13 cont.

Vegeation Type	Ignition Potential
Column1	**Column2**
California Annual Grasslands	1
Mature Eucalpytus	1
Coastal Prairie	2
Serpentine Bunchgrass Grasslands	2
Young Eucalyptus	2
Mature Monterey Pine	2
Young Monterey Pine	2
Ruderal Vegetation	3
North Coastal Scrub - Xeric	4
Coyote Brush Scrub	4
Martime Chaparral	6
Non-native Scrub	6
Oak-Bay Woodland	6 to 8
North Coastal Scrub - Mesic	8
Redwood Forest	8
Riparian Woodland	8

13 cont.

Eucalyptus is considered more "ignitable" than any other type of vegetation except non-native grass, more easily ignited than native grass, chaparral, scrub, etc. This is an obvious case of data manipulation. We will examine each factor in ignition to debunk this bogus rating:

(1) Fine fuels are those with smaller leaf and twig sizes: "the ease of initial ignition depends on fuel thickness or diameter. Ignition is almost instantaneous throughout a piece of dry grass...Hence it is necessary to distinguish between light fuels, which ignite and burn readily, and the heavier fuels in which combustion is incomplete or slow. The former are usually described as fine fuels or flash fuels." [9] Clearly the large leaves and shreds of bark of the eucalyptus do not qualify as fine fuel. To classify them as such is to obfuscate the combustibility of the eucalyptus.

(2) Available oxygen is also a factor in ignition. In that regard, the fuels of the eucalyptus both on the tree and on the ground are indistinguishable from oaks. They both have an open, branching growth habit.

(3) Moisture is usually considered a factor in ignition, though the Plan does not acknowledge this factor in explaining its ratings. This factor predicts that any living plant is probably less likely to ignite than a dead (or dormant above the ground) plant. The eucalyptus is very much alive. Its leaves contain more moisture than grass during the fire season. Only its dead leaf and bark litter are dry. Furthermore, the tall eucalyptus (and other tall trees) condenses the fog in the air, which moistens the leaf litter, particularly during the summer months: "Eucalyptus and pine groves planted there [Berkeley hills] long ago intercept large amounts of fog and cause a rainlike deposit of moisture. The fog drip during the summer months has been measured at a surprising 10 inches, an amount nearly half as great as the total rainfall..."[10]

[9] Page 31, Bushfires in Australia

[10] Page 37, Weather of the San Francisco Bay Area, Gilliam

For a real world example of the relative combustibility of grass compared to eucalypts, we return to the Angel Island fire of October 2008 in which 400 acres of grassland burned many years after virtually all eucalyptus were destroyed and removed and the fire stopped at the edge of the remaining few acres of eucalyptus.

13 cont.

The ignition potential ratings in the preceding table were manufactured to support a predetermined goal to eliminate non-natives and replace them with natives. The ratings do not reflect actual ignition potential.

"Wildfire Fuel Models"

These computerized statistical models are rather mysterious. Their intention is clear, i.e., to predict fire behavior, such as speed and direction of spread of fires. However, how they were used by EBRPD's consultants and how they interacted with other measures of fire hazard described above is not clear. Hoping to improve my understanding of the role these models played in selecting specific treatment areas, I asked for clarification and the statistical outputs of these models, which are not provided by either the Plan or the EIR. The reply to my questions (see Attachment A) does not entirely clarify, nor does it provide the statistical outputs.

The description of these tools (Appendix C of Plan) seems to contain 5 different fuel model systems. EBRPD consultants say in a private communication (Attachment A) that one described in Appendix C, the Burgan & Scott model, was actually not used in their analysis. It is not clear how the remaining 4 model systems interacted with the hazard ratings described above to arrive at specific treatment areas.

As we noted earlier, moisture reduces combustibility and is therefore an appropriate consideration in modeling fire behavior. EBRPD's consultant claims in a private communication (Attachment A) that, "The fuel models themselves do not use fuel moisture as an input, only fuel volume as differentiated by size classes and live vs. dead material." Descriptions of these fuel model systems available on the internet do not substantiate this claim:

14

- "What does FARSITE do? ...Uses existing fire behavior models for surface and crown fires, post-frontal combustion and **fuel moisture**."[11]
- "Features of FlamMap 3.0..."The user is required to input initial **fuel moisture** conditions for each surface fuel model"[12] (emphasis added)

Descriptions of fuel types (Appendix B of Appendix C) define moisture in terms of the proportion of living to dead material, not in terms of differences in moisture from one living species to another. In other words, any dead tree is considered more flammable than any living tree.

However, the EBRPD consultant using the models has added "bonus points" for many categories of living native plants for moisture (e.g., willow, huckleberry, etc), which seems inconsistent with the definition of moisture within the context of the fuel model systems. If there were an objective method of determining the moisture content of living plant material, it is probable that eucalyptus leaves would qualify for "bonus points" for moisture. Eucalyptus is renowned for its thirst. It has been used around the world to drain swamps and bogs for agricultural use. It has very deep roots to tap water resources. It is the sole food source of the koala, which meets all of its needs for moisture from the eucalyptus leaves, making it possible for him to remain safe in the trees.

[11] Page 1, www.firemodels.org/index2.php?option=com_content&task=view&id=49&pop-=1&p
[12] Page 213, "An Overview of FlamMap Fire Modeling Capabilities, USDA Forest Service Proceedings RMRS-P-41, 2006

Apparently bonus points for moisture in living native plants were insufficient to produce EBRPD's desired outcome, so the consultant subtracted "demerit points" for "oily" trees, i.e., eucalyptus and pines. However, the consultant doesn't assign these same "demerit points" to the bay trees or coyote brush which are equally oily. This handicap is assigned only to the non-native trees targeted for destruction. Oiliness is not a characteristic that is identified by any of the fuel model systems as a factor in fire hazard.

The description of fuel types in Table 1 of Appendix C does not make distinctions between specific species of trees. Trees are categorized broadly as timber or broadleaf. If these broad categories had been used, oak and eucalyptus would have been included in the same broadleaf category. Therefore, the EBRPD consultants "customized" (their term) the fuel types to give natives an advantage and non-natives a disadvantage.

If the fuel types described in Table 1 had been used, Monterey pine would have been categorized as timber. This fuel type is probably considered more combustible because of the resins and fine fuel needles. In that case, Monterey pine probably would have been assigned to the same category as Redwoods. So, the EBRPD consultant is not satisfied with assigning the Monterey pine to a timber fuel type. The Monterey pine must be handicapped further by calling it "oily" to achieve the desired outcome, which is to establish the justification for eradicating non-native trees.

14 cont.

This is a blatant case of data manipulation that has apparently given EBRPD the recommendations it desired, but it will not reduce fire hazard. In fact, in some cases, it will increase fire hazard in ways that we will identify latter.

If the effect of data manipulation is not obvious to the reader, a visual representation of the bias against non-native trees is provided by the Plan. If you compare the maps of vegetation types (Figure V-1) with the maps of the treatment areas (Figure III-3) you will see a nearly perfect correspondence between the existence of eucalyptus and the treatment areas. In other words, what EBRPD would like us to believe was a data-driven analysis, is really just an ex post facto justification for the eradication of most non-native trees.

Negative environmental consequences not identified or mitigated by EIR

We have established that the Plan is based on fallacious assumptions that were supported by manipulating data in order to reach the desired conclusion. Although the stated goal of the plan is to reduce fire hazard, the actual goal is to justify eradication of non-native species in the service of a massive native plant restoration. If the actual goal of the plan did not increase fire hazard while harming the environment in material ways, we would not be having this conversation. The discussion will now turn to the specific and significant harm to the environment that will result from the implementation of the plan.

The Plan will bathe the parks in toxic, flammable herbicides

15

The Plan requires the removal of hundreds of thousands of eucalypts (reduction of 1,000 trees per acre to 100 trees per acre on 1,000 acres equals 900,000 trees) and other species of non-natives considered invasive, such as broom. These species and others are capable of regenerating from the roots, in the case of eucalypts, or from seeds, in the case of broom. Therefore, the removal of these species will require the periodic application of herbicides to prevent regeneration. It is pointless to destroy these species unless a commitment is made to periodic application of herbicides into the foreseeable future.

In the case of broom, the Plan acknowledges that its seedbed lives on in the ground for up to 60 years. If the broom is not eradicated before every bloom cycle, that 60 year seed-cycle continues ad infinitum. Although foliar spraying of glyphosate (Roundup) is the preferred method of eradication, prescribed burns are an alternative. However, fire promotes seed germination of broom, so this method is less effective. (page 13 of

Appendix G). Mechanical methods are also an option if the ground is relatively flat (less than 30% grade). Unfortunately, those RTAs in which broom is the target, are too steep for mechanical removal (RTAs CC007, 10,11,12, etc.) We should assume that foliar spraying of herbicides will be required to remove most broom targeted for eradication.

We know that Roundup is harmful to amphibians. This fact was established by a suit brought by the Center for Biological Diversity on behalf of the Red-Legged frog (RLF), an endangered species. As a result of that suit, US Fish and Game has banned the use of Roundup in proximity of known populations of the RLF. An exception to this prohibition was granted for the removal of "invasive species," a testament to the power and influence of native plant advocates as well as one of many clues that the purpose of the plan is eradication of non-native species rather than fire mitigation. However, this exception does not alter the fact that scientific research has established that Roundup is harmful to amphibians. Legal protections apply only to the RLF because of the Endangered Species Act, but the research establishes that all amphibians are harmed.

15 cont.

Recent research has found evidence that Roundup may also be harmful to humans. Scientific American[13] reports, "But now researchers have found that one of Roundup's inert ingredients can kill human cells, particularly embryonic, placental and umbilical cord cells...scientists found that Roundup's inert ingredients amplified the toxic effect on human cells—even at concentrations much more diluted than those used on farms and lawns." Roundup is used widely in Argentina in crops such as soybeans. According to Scientific American, recent research there shows "a high incidence of birth defects and cancers in people living near crop-spraying areas." In Sweden, researchers "found that exposure [to Roundup] is a risk factor for people developing non-Hodgkin lymphoma."

This research has implications for other pesticides and herbicides. Presently, the EPA does not require that the manufacturers of these chemicals list all the inert ingredients. "A group of over 250 environmental, health and labor organization has petitioned the EPA to change requirements for identifying pesticides' inert ingredients. The agency's decision is due this fall."[14] The implication is that many other herbicides could be harmful to human cells. If the inert ingredients in other herbicides were known to us, we might be in a position to know of the potential danger.

16

Garlon (triclopyr) is the herbicide of choice to prevent resprouting of eucalypts, although the Plan says that Roundup is also used. The prompt application of herbicides to stumps is considered the only effective means of preventing resprouting. As the Plan explains, the eucalyptus regenerates after removal, fire, or die-back caused by freezes from "a specialized root system called a lignotuber. The lignotuber can live for many years in the soil after stems die back, and can regenerate growth of the tree if not destroyed."[15] In other words, in planning to destroy hundreds of thousands of eucalypts, EBRPD is making a commitment for years into the future to apply herbicides to resprouts to prevent regeneration.

Garlon is both a health and a fire hazard, as documented by its Material Safety Data Sheet (MSDS):

- "This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200."
- "Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, **Fire Hazard**."
- "NPFA Hazard Rating System: Health Hazard Rating = 2; **Fire Hazard Rating = 2**

[13] June 23, 2009
[14] Scientific American, June 23, 2009
[15] Page 14, Appendix G of the Plan

NPFA is the National Fire Protection Association system for rating hazards. A Fire Hazard Rating of 2 means that the **"Flash Point Temperature is between 100°F and 200°F."**

- ***Garlon is highly flammable because it is composed of 31% kerosene, according to the MSDS.***

If EBRPD had a sincere interest in mitigating fire hazard, would it be dousing eucalyptus forest in kerosene? If EBRPD believes that eucalypts are highly flammable, would it douse the stumps with kerosene in proximity of those eucalypts that remain?

16 cont.

The MSDS also informs us that Garlon is harmful to wildlife and the environment:

- "Movement and Partitioning: Bioconcentration potential is moderate...Potential for mobility in soil is medium."
- "Persistence and Degradability: Chemical degradation (hydrolysis) is expected in the environment. Material is **expected to biodegrade only very slowly in the environment**. Fails to pass OECD/EEC tests for ready biodegradability."
- "Material is **highly toxic in aquatic organisms** on an acute basis...Material is **slightly toxic to birds** on an acute basis..."

The Plan attempts to use the Marin Municipal Water District as a model for its use of herbicides to control non-native species: "Using herbicides to control invasive [AKA non-native] plant species...can be an efficient and cost-effective method...Recent studies conducted by the Marin Municipal Water District (MMWD) confirm this approach; the results of their studies on the use of non-chemical control methods for the control of invasive non-native plants indicated that non-chemical alternatives are ineffective for large-scale vegetation management projects. (see Appendix H...)" (page 92).

The author of the Plan cites MMWD as if it supports EBRPD's use of herbicides, but it does not. The MMWD report (Appendix H of the Plan) clearly states that **MMWD is not using herbicides on MMWD properties.** The report commits MMWD to conduct a risk assessment of herbicides prior to consideration of herbicide use. That herbicide risk assessment is available at: http://www.marinwater.org/documents/Chap1_Summary_8_27_08.pdf. The risk assessment makes the following observations about Garlon (active ingredient is triclopyr):

17

- "Triclopyr poses the highest risk to workers, the general public and most aquatic and terrestrial wildlife. The primary factor contributing to high human risk is dermal exposure from handling the chemical during applications or from vegetation contact."
- "Triclopyr is the herbicide of greatest concern for runoff into water bodies, both because of its high mobility and high toxicity. Use of no-spray buffer zones around water bodies and placing limits on the total acreage treated in a single year would significantly reduce the likelihood of herbicide runoff into water bodies....**Only 80 acres in the watershed could be treated with triclopyr**." (emphasis added)
- "Buffer zones around water bodies in which only manual weed-removal techniques can be used should be implemented. Triclopyr use should be limited to spot treatments only, and the more readily degradable herbicides...should be used in areas upslope of water bodies."
- "Triclopyr...[is] inherently more toxic to mammals. Triclopyr is particularly toxic to pregnant animals, causing severe birth defects in the fetus if the mother is exposed during pregnancy...Triplopyr...[is] an order of magnitude more toxic to birds than the other herbicides, and triclopyr is the most toxic of the five herbicides to bees..."

Marin Municipal Water District has confirmed in writing (Attachment B) that they are not presently using herbicides on MMWD properties. MMWD has demonstrated that its top priority is the safety of the public.

The Plan demonstrates that EBRPD considers the restoration of native plants a higher priority than the safety of the public.

The Environmental Protection Agency of the Obama administration is prepared to do its job after 8 years of inaction. In addition to announcing that it intends to regulate Greenhouse Gases (as we will discuss later), it has also announced that it intends to evaluate the use of potentially harmful chemicals and prohibit and enforce those prohibitions against chemicals found to be harmful.[16] Just days after making this announcement, the EPA announced that it is analyzing atrazine, an herbicide that has been found in drinking water in many states in the country.[17] Atrazine has already been banned in California and several other states.

What if herbicides used by EBRPD are banned in the future or EBRPD no longer has the resources to cut back resprouts and apply herbicides? In that case, many of the eucalyptus would return. If the past predicts the future, we can expect the eucalyptus to return: "One- to 5-year eucalyptus forest consists of stump-sprouts from trees that were cut in the last 5 years." (EIR, page 132) Since the Plan acknowledges that young eucalyptus pose more of a fire hazard (page 169) than mature eucalyptus (because of their fire ladder, greater susceptibility to freezes, etc.), the long-term consequence of the decision to destroy mature eucalyptus could be greater fire hazard in the future.

17 cont.

Furthermore, since Garlon is highly flammable, fire hazard will be increased if eucalypts are destroyed and herbicides are used to prevent their return as proposed by the Plan. One wonders if the use of flammable herbicides amongst the few eucalypts that will remain after implementation of the Plan is a conscious strategy. If the flammable herbicides cause a fire and the remaining eucalypts burn as a result, will that fire be used to justify the removal of the few eucalypts that remain? Will the public be in a position to know that the fire was caused by the use of flammable herbicides? Or is the use of Garlon on eucalyptus just a reflection of ignorance of its flammability?

The EIR does not acknowledge that the widespread use of herbicides required by the Plan could be harmful to humans and wildlife. Neither does it consider the increased fire hazard resulting from use of flammable herbicides nor the potential for increased fire hazard if herbicide use is banned or abandoned in the future. The EIR concludes that the use of herbicides will not be a significant threat to the environment: "The proposed Plan has specific implementation measures that would reduce potentially significant impacts related to handling hazardous materials during fuel reduction actions to a less-than-significant level through implementation of best management practice and by compliance with applicable regulations..." (EIR, page 285)

Since the EIR attempts to reassure us that best management practices (BMPs) for herbicide use will protect us from any harm, we will review the BMPs and compare them to actual use of herbicides by EBRPD. BMPs regarding herbicide use are:

- Herbicide use must be posted 24 hours in advance of application
- Stumps on which herbicide is applied must be cut no more than 4 inches above ground. Stumps must be level and smooth
- Pesticides can only be applied by "licensed or certified" personnel
- Integrated Pest Management (IPM) policies of EBRPD must be adhered to
- Pesticide application must be "suitable distances from wetlands and water bodies"

18

The BMPs merely inform us of IPM's procedures. Regardless of what procedures are followed, the fact remains that 154 gallons and 20 pounds of herbicides were used in the parks in 2007:

[16] "EPA wants more oversight on chemicals," SF Chronicle, September 30, 2009
[17] "Regulators Plan to Study Risks of Atrazine," NY Times, October 7, 2009

Letter
C3
cont.

Column1	Roundup	Surflan	Banvel	Casoron	Garlon
Year	(GAL)	(GAL)	(Gal)	(LBS)	(GAL)
2003	65	45	5	0	8
2004	85	49	4	15	26
2005	83	57	4	0	16
2006	56	41	5	0	23
2007	73	41	2	20	38
Percent Change	12.31%	-8.89%	-60.00%		375.00%

EBRPD's IPM program reports:

- 12.31% increase in use of the herbicide used to control broom (Roundup) in 4 years
- 375% increase in use of the herbicide used to prevent resprouting of eucalyptus (Garlon) in 4 years
- Since 31% of Garlon is kerosene, EBRPD sprayed nearly 12 gallons of kerosene onto parkland in 2007.

Neither the Plan nor the EIR attempts to quantify how much more herbicide will be needed to increase the size of treatment areas to implement the Plan. We will make an educated guess about what it would take. Using Table III-2 and Appendix F of Appendix C in the Plan, we can quantify the number of acres of eucalyptus and broom recommended for initial treatment. We compare the number of acres of initial treatment with those being maintained now to arrive at an estimate of the increased use of herbicides required to maintain the new areas in the future:

18 cont.

Species	Initial Treatment Acres	Maintenance Acres	Percent Change
Eucalyptus	1063.8	278.5	281.97%
Broom	10.2	3.3	209.09%

Comparing these data with the herbicide risk assessment of the Marin Municipal Water District, we observe that Garlon was probably used on approximately 278.5 acres of "treated" eucalypts in 2007, compared to the 80 acre limit recommended by the MMWD herbicide risk assessment. Since all EBRPD acreage eventually drains to the bay, it should all be considered watershed.

IPM policies were created by EBRPD in 1987 with the stated goal: "In accordance with the accepted principals of ecology, the District will strive to implement an integrated pest management program which **eliminates the use of chemicals as much as feasible whenever alternative methods are effective.**" (EIR, page 281, emphasis added) In the case of the "Wildfire Hazard Reduction and Resource Management Plan," the obvious alternative is to not eradicate plants and trees that will obligate EBRPD to use substantially more herbicides for years into the future. Since the Plan does not establish that non-native species pose a significantly higher fire risk than the native species that will replace them, EBRPD's violates its own IPM policy.

EBRPD's best management practices regarding herbicide use do not address the following issues; therefore the EIR must do so:

- Increasing treatment areas by over 200% will require substantial increases in herbicide use.
- The EIR has not considered new research regarding potential harm to humans of herbicides used by EBRPD.

- The EIR has not acknowledge or analyzed the use of a highly flammable herbicide (Garlon) on over 1,300 acres of eucalyptus forest, which EBRPD considers highly flammable even **without** the application of gallons of kerosene.
- In eradicating non-native species that regenerate for years into the future, EBRPD is making a commitment to continued herbicide use.
- If EBRPD is required to stop using herbicides, resprouting young eucalyptus will pose a greater fire hazard than existing mature eucalypts.

18 cont.

Requirements for prescribed burns will be greater than the potential for wildfires

The EIR asks us to believe that prescribed burns will not damage the environment because they will prevent wildfires in the future which would be even more damaging to the environment. This presumption enables the EIR to give prescribed burns a pass. That is, the EIR tells us that the prescribed burns required by the Plan do not pose a significant risk of environmental damage.

This claim is entirely bogus because most prescribed burns will be for the stated purpose of maintaining the native plant restorations resulting from the implementation of the Plan. Here is a selection of quotes from the Plan which document the actual purpose of the prescribed burns:

- "Grassland and Herbaceous Vegetation...broadcast burns in the summer or early fall are known to favor native plants." (page 128)
- "Maritime Chaparral...This [native] vegetation type and the Manzanita it supports are also fire dependent. Without disturbance by fire the Manzanita does not reproduce, becomes decadent, and is replaced by shade tolerant species." (page 132)
- "North Coastal Scrub...This plant community [of native plants] is adapted to natural fire cycles, and most species found within this plant community resprout easily to rejuvenate individual specimens after fire, or require fire to trigger germination." (page 139)
- "[Native] Coyote Brush Scrub...is adapted to natural fire cycles. Most species resprout easily to rejuvenate individual specimens after fire, or requires fire to trigger germination." (page 149)

19

Conversely, prescribed burns are not necessarily the preferred method for reducing fuel loads in non-native vegetation:

- "Burning in eucalyptus stands produces more seedlings and sprouting, however, and is therefore not a desirable treatment method where the intent is to convert the stand over time to an oak-bay woodland or grassland." (page 167)
- "Prescribed burning is generally not recommended without prior implementation of other treatment methods to prepare [young] eucalyptus stands for safe burning and to prevent crowning; prescribed burning is more difficult to use in young eucalyptus forest than in mature stands due to the increased presence of understory litter and the shorter distance between surface fuels and overstory canopies." (page 173)
- "Prescribed burns are generally more difficult to use in young stands [of Monterey pine] than in mature stands due to the density and content of fuels and the deep understory fuel beds." (page 185) However, this is apparently a matter of opinion:
    - "Prescribed burning may be used to kill seedlings or saplings, but is not practical for mature trees due to high fuel loads and risk of escape." (page 17 of Appendix G)

Anyone who is familiar with the natural history of California is not surprised to learn that fire is beneficial to the plants that are native to California.

> "The [chaparral] community has evolved over millions of years in association with fires, and in fact requires fire for proper health and vigor. Thus it is not surprising that most chaparral plants exhibit adaptations enabling them to recover after a burn. Many species are sprouters; the aboveground parts may be killed, but new growth arises from roots or buds at the base of the stem...Other species have seeds that require fire in order to break dormancy; they will not germinate unless they have been heated. The cones of some chaparral conifers open only after they have been heated. Some herbaceous species will not germinate unless there is ash on the ground when it rains...In the absence of fire, a mature chaparral stand may become senile, in which case growth and reproduction are reduced."[18]

19 cont.

Native plant advocates are well aware of the importance of fire to the sustainability of native plant populations. The San Francisco chapter (Yerba Buena) of the California Native Plant Society acknowledges the value of fire to restore and maintain native plant populations. A wildfire on San Bruno Mountain in native grassland and coastal scrub "consumed about 300 acres" in June 2008 according to an article on their website. The article reports that "Fire is an adaptive management tool that, along with natural grazing and browsing, has been missing in promoting healthy grasslands that once covered much of the lower elevations of California...The threats to native grasslands are invasions of non-native grasses and forbs, and succession by native and invasive shrubs. Fortunately the fire scrubbed the canyons pretty clean of just about everything. This gives the land a shot of nutrients to recharge the soil and awaken the seedbanks that have long been lying dormant."[19]
In July 2003, a prescribed burn on San Bruno Mountain raged out of control. The intention was to burn 6 acres. The fire eventually burned 72 acres and came perilously close to homes, according to an article in the Yerba Buena newsletter. The article describes in detail the return of the natives after the fire and concludes, "A January 2004 field trip...revealed mostly natives returning to the landscape."

The EIR asks us to believe that prescribed burns will not reduce air quality because they theoretically prevent worse fires. This is not a credible claim. There were only a handful of wildfires in the East Bay in the last century. The Plan proposes to conduct many periodic prescribed burns, most of which will be for the purpose of sustaining the native landscape which is dependent upon fire. Most of these prescribed burns should be viewed as incremental, not substitutes for wildfires. If EBRPD would permit a natural progression of vegetation from grassland to scrub, to forest, fire hazard would be reduced in the long run. It is EBRPD's desire to freeze the landscape into a specific time period, prior to the arrival of Europeans, which requires the discretionary use of fire.

20

The Plan is even more ambitious than halting natural progression of the landscape. In many instances it actually proposes to return the landscape to an earlier version of the native landscape, requiring yet more prescribed burns to attain. Here are a few examples of management actions that are intended to role back biological time to sustain native landscapes in an earlier period:

- "[Native] Grasslands and Herbaceous Vegetation...these widely-spaced trees will not cause an active crown fire because of the discontinuity of tree crowns. They could, however, provide a seed source for invasion of grassland habitats by woodland species and should be considered for removal to maintain desirable and declining grassland habitat." (page 131)

[18] Page 341, A Natural History of California
[19] http://www.cnps-yerbabuena.org/experience/other_articles.html#pageTop.

- "[Native] Maritime Chaparral...Favor chaparral community by removing oak, bay, madrone buckeye, and other trees under 8 inches diameter at breast height that are encroaching upon the maritime chaparral." (page 136)
- "[Native] North Coastal Scrub...Shift species composition towards native scrub species or consider conversion to grasslands, where appropriate on historic grassland sites..." (page 140)
- "[Native] Coyote Brush Scrub...In most treatment areas, encourage conversion to grasslands by reseeding with native grasses...after brush removal." (page 149)

None of these management actions reduce fire hazard. In fact, every recommended conversion to earlier versions of the native landscape will result in greater fire hazard as measured by greater flame-lengths, greater "fire hazard rating", and greater "ignition potential" according to the Plan's own rating schemes.

As it did with herbicide use, the EIR refers us to best management practices to reassure us that prescribed burns will pose no danger to the public. As we showed in the case of BMPs for herbicide use, the BMPs for prescribed burns are just procedures that do not alter the fact that prescribed burns can and do burn out of control, as well as produce polluting smoke and particulates.

Earlier I referred to a prescribed burn on San Bruno Mountain that burned out of control, burning 72 acres, when 6 acres were the target of the burn. I visited this site after the burn. I was flabbergasted by the apparent stupidity of this burn. A steep hillside had been clear-cut of eucalyptus. The eucalyptus debris had been piled into a nearby ravine and was dry by the time of the fire. The target of the prescribed burn was the barren hillside, still covered in dry grass. As we should expect, the fire moved rapidly through the dry grass into the ravine in which tons of eucalyptus debris had been dumped. The grass fire quickly became a conflagration that nearly destroyed many nearby homes. By shear coincidence I stumbled across the "resource managers" who had been responsible for the prescribed burn. They were chuckling about the poor choices made in this prescribed burn. Their amusement added to my understanding of the risks of prescribed burns to the public's safety.

20 cont.

BMPs are procedures written on paper. There is often a huge gap between these procedure manuals and the people on the ground, performing the work. In the case of the San Bruno fire, the prescribed burn was conducted by California State Park personnel. Presumably State procedures for prescribed burns are at least as rigorous as those for EBRPD. However, those procedures did not prevent State personnel from making a dangerous mistake.

The EIR has a legal responsibility to the public to distinguish between prescribed burns that will reduce fire risk and those that are discretionary for the sole purpose of maintaining and restoring native landscapes that are dependent upon fire. The latter category should be considered a source of incremental damage to air quality and needless risk of unintended wildfire. This damage should be mitigated—at minimum--by requiring EBRPD to abandon its commitment to rolling back existing landscapes to historical versions that are more flammable than they are at present, which would reduce the frequency of prescribed burns.

The EIR does not identify, analyze, and mitigate for increased landslide risk and impacts on water quality.

We will consider landslide risk and potential water quality issues together because they are sometimes related. When there is potential for landslide into a water resource, water quality becomes an issue. When water quality is jeopardized in a Recommended Treatment Area (RTA) in which the Vegetation Management Goal (VMG) will require continuous herbicide use to prevent regeneration of the species being eradicated, hazardous materials are also a potential issue.

21

RTA LC005b and its VMG are an example of how all three factors interact to produce a significant threat to the environment that is not identified, analyzed or mitigated by the EIR. LC005b is a strip of road on a steep slope directly above Lake Chabot which is an emergency water supply reservoir. A portion of LC005b is identified on Figure IV.C-1 as "mostly landslides." The VMG for this RTA is "Oak-bay woodlands with minimal understory" and the Considerations and Guidelines are "Steep slopes likely limit off-road mechanical treatments, but access for on-road treatments is good. High potential for roadside ignitions. Reduce understory fuels and remove selected eucalyptus to enhance travel along the designated strategic fire route, selecting for removal a greater number of eucalyptus trees nearest the road."

The EIR acknowledges that removing trees has the potential to destabilize the soil, particularly on steep slopes: "In some cases, vegetation removal would result in direct removal of root systems...or indirect loss of root systems by eventual decay (e.g., tree removal when stumps and roots are left behind but the tree is killed)." (page 189) Certified arborists tell us that the roots of the removed tree will decay over a period of 3 to 5 years, gradually losing their ability to stabilize the soil.

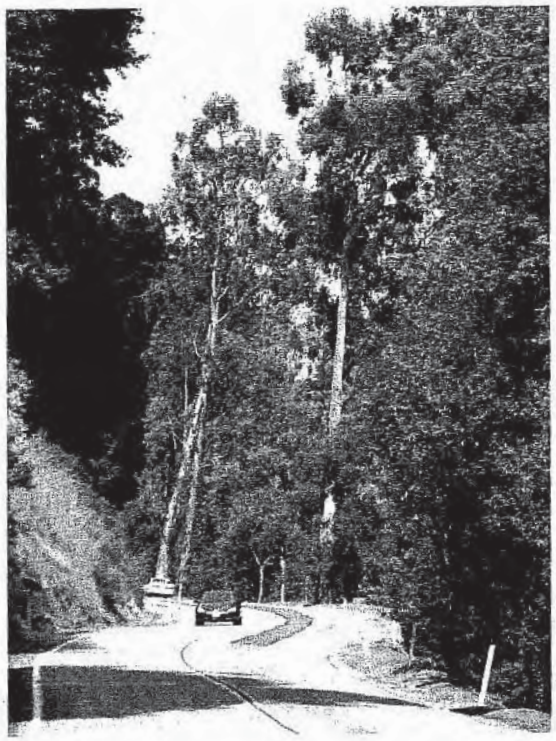
21 cont.

The Plan also tells us that herbicides will be applied to the stumps of the destroyed eucalyptus for years into the future to prevent regeneration.

Therefore, these are the potential impacts of the implementation of plans for LC005b:

- Landslides into Lake Chabot could result as the roots of the eucalyptus decay
- Hazardous herbicides used to prevent regeneration of the eucalyptus could drain into Lake Chabot

If we choose to take these risks, have we managed to reduce fire hazards? No, in the long-term fire hazard will probably increase if the Plan is implemented in LC005b. Here is a photo taken from the road that intersects LC005b to illustrate that point:



We see the eucalypts in the distance that the Plan intends to destroy. We notice that they are very tall and there is no fuel ladder to their canopy. In the foreground, on the right, we see some of the bays that are the intended "Vegetation Management Goal" for this RTA. We notice that they are close to the road and that they grow all the way to the ground, providing a fuel ladder to adjacent vegetation. We recall that bays are just as "oily" as eucalyptus and that they are vectors for/subjects of Sudden Oak Death. Although the Plan tries not to acknowledge this fact, the bays are a greater fire risk than the eucalypts that will be removed. Furthermore, the eucalyptus will require periodic applications of herbicide to prevent their regeneration, and those herbicides could drain into Lake Chabot which is directly beneath this road, down a steep slope. The herbicide used on the eucalypts is considered highly toxic to aquatic life. The eucalypts are large and have extensive root systems that stabilize the soil. When their roots decay, this land that has been identified as prone to slides, could slide into Lake Chabot, which is an emergency water source, taking years of accumulated herbicides that do not biodegrade with it.

21 cont.

If reduction of fire hazards were indeed the goal of the Plan, would eucalyptus be removed from this treatment area to be replaced by more bays? I don't think so. This is an example of increased risk of landslides and water pollution without any reduced risk of fire for the sole purpose of eradicating non-native trees.

Does thinning eucalypts reduce fire hazards?

A related question is whether fire hazard is reduced by removing and/or thinning eucalyptus, as prescribed by the Plan. First, we would have to believe that eucalypts are more flammable than all other types of vegetation. As we explained earlier, the Plan provides no credible evidence to substantiate this claim. Secondly, we would have to believe that eucalypts are more likely to spread embers than other types of vegetation. The Plan provides us no credible evidence of this claim. Absent a fuel ladder, the canopy of eucalyptus is no more likely to produce embers than other trees. Yet, the plan proposes to thin eucalyptus to distances as great as 35 feet, which would promote the growth of an understory that will provide a fuel ladder. This is exactly the opposite strategy that the plan proposes for native trees:

22

- "Encourage a dense, healthy canopy [of Redwoods] to shade out flammable understory plants and exotic species." (page 193)
- "Encourage a dense, healthy canopy [of oaks] to shade out more flammable and invasive understory species." (page 188)

One wonders why the opposite strategy—removing the closed canopy—is employed only for eucalyptus. The answer to that question is revealed by a careful reading of the Vegetation Management Goals:

- WC005: "Thin eucalyptus trees in patches to promote native grasses and scrub."
- TI002a: "...selecting for removal eucalyptus in areas where oak-bay woodland is developing"
- TI006: "Remove French broom, eucalyptus trees and sprouts as well as north coastal scrub to speed succession to oak woodland"
- TI008a: "Thin eucalyptus to 25-foot spacing, selecting for removal trees around developed oak-bay woodlands"

22 cont.

So, according to the Plan, it is "fire mitigation" when oaks shade out flammable understory, but also "fire mitigation" when eucalypts are thinned to encourage flammable understory.

These—and many other examples—illustrate the true intent to the Plan. The primary goal of the Plan is a massive native plant restoration. Reduction of fire hazard is at best a secondary consideration. In fact, many proposed management actions will increase fire hazard, require unnecessary herbicide use, and increase the potential for landslides.

The EIR does not comply with California State Law (AB32) regarding reduction of Green House Gases

The Executive Order of June 2005, implementing AB32, established goals for the State of California to reduce Greenhouse Gas (GHG) emissions requires: "by 2010 reduce GHG emission to 2000 levels; by 2020 reduce GHG emission to 1990 levels; by 2050 reduce GHG emissions to 80 percent below 1990 levels."

The EIR refuses to identify, quantify, analyze, or mitigate for increases in GHG resulting from deforestation on the grounds that CEQA guidelines have not yet been written to require such an analysis: "It [the EIR] discusses available methodologies for determining any potential global warming effects resulting from the project, but concludes that the impacts of the project on global warming are too speculative to determine."

23

This contention was subjected to legal challenge and was rejected by a settlement on September 5, 2007:

> "The State of California and San Bernardino County have settled a landmark climate change lawsuit which requires the County to inventory and mitigate greenhouse gas (GHG) emissions associated with its land use planning decisions. California Attorney General Jerry Brown filed the lawsuit under California's environmental review statute, known as CEQA, in April 2007, alleging that San Bernardino County's comprehensive land use planning update failed to quantify and mitigate GHG emissions, and failed to explain how population growth predicted under the plan would impact the State's ability to attain the GHG reduction targets mandated by California's Global Warming Solution Act (AB-32)."[20]

As a result of this settlement, San Bernardino County is obligated to:

[20] www.martenlaw.com/news/?20070905-ghg-settlement

- Identify all known, or reasonably known, sources of GHG emissions,
- Estimate 1990 GHG emission levels
- Inventory current GHG emission fuels
- Estimate GHG emission in 2020 attributable to the County's **discretionary land use decisions** [emphasis added] and internal government operations, and
- Establish targets and identify mitigation measures for reducing GHG emissions attributable to the County's discretionary land use decisions and internal government operations.

When this settlement was won, critics of GHG regulation attempted to use the State's budgetary crisis to exempt their projects from the requirements of AB32. The legislature passed some legislative relief from AB32 by exempting publicly funded transportation and flood control projects. This exemption does not apply to EBRPD's "Wildfire Hazard Reduction and Resource Management Plan." Thus CEQA does in fact require the EIR to quantify and mitigate increases in GHG emission caused by the Plan.

The EIR also erroneously claims that there are no federal guidelines regulating GHG. On April 18, 2009, "The Environmental Protection Agency...formally declared carbon dioxide and five other heat-trapping gases to be pollutants that endanger public health and welfare, setting in motion a process that will lead to the regulation of the gases for the first time in the United States"[21]

23 cont.

As a substitute for analysis of increases in GHG resulting from implementation of the Plan, the EIR engages in some vague hand-waving:

- That the Plan will reduce wildfire and therefore will reduce GHG emissions
- That the Plan will improve the health of the remaining trees, thereby increasing their "carbon stock"

Neither of these assertions is credible.

- As we have already observed, the Plan will engage in many discretionary burns intended to sustain native plant populations that will be incremental to potential wildfires, thus increasing GHG emissions.
- The Plan provides no evidence of improved health or increased carbon stock of the remaining eucalyptus, the primary target for eradication.

Deforestation is one of the primary sources of GHG. The carbon that is stored in the living tree is released into the atmosphere when the tree dies and decays over time. The Plan is silent on the question of the ultimate destination of the hundreds of thousands of trees that will be removed from the parks. Those that are chipped and distributed will release their stored carbon as they decay. Those that are burned as fuel might be alternatives to other types of fuels that may produce more GHG. The Plan and the EIR should tell us how the destroyed trees will be disposed of.

24

The second source of increased GHG resulting from deforestation is the loss of the CO_2 absorbing abilities of the trees, which is directly proportional to their biomass and is therefore quantifiable. Eucalyptus lives in Australia from 200 to 400 years.[22] However, there are many natural predators in Australia that were not imported to California. It is possible that the eucalypts will live longer here: "Once established elsewhere, some species of eucalypts are capable of adjusting to a broader range of soil, water, and slope conditions than in Australia...once released from inter-specific competitions and from native insect fauna..."[23] Since the eucalypts were planted

25

[21] April 18, 2009, New York Times
[22] page 67, Growth Habits of the Eucalyptus, Jacobs, 1955
[23] page 6, The Eucalyptus, Doughty, 2000

here roughly 100 years ago, we should expect them to continue to live and absorb CO_2 for at least another 100 years.

It is relatively straight-forward to calculate the loss of sequestered carbon and the loss of CO_2-absorbing properties resulting from the loss of hundreds of thousands of trees. The Plan informs us of all the necessary parameters to make such a calculation:

- There are over 1,300 acres of eucalypts planned for thinning or removal
- There are presently approximately 1,000 stems per acre
- The Plan proposes to remove or thin the eucalypts to be from 25 to 35 feet apart (minimum of 0 to maximum of 100 trees per acre)
- Appendix D of Appendix C estimates the height of the trees
- The Plan tells us what types of vegetation will replace the trees and their proximate height

25 cont.

The EIR has not made a good faith effort to identify, quantify, analyze and mitigate for the loss of hundreds of thousands of trees. It is required by law to do so. The usual mitigation for deforestation is reforestation. Since the Plan is first-and-foremost a native plant restoration and trees are not a conspicuous part of the native landscape, it prefers to punt this requirement down the road to a legal battle.

We must therefore assume that the implementation of the plan will increase Global Climate Change (GCC). Ironically, increased GCC will undermine the success of the massive native plant restoration that is the primary goal of the plan. The EIR tells us that "global surface temperatures have risen by .74°C ± .18°C" (page 253) in the past 100 years and "that temperatures in California are expected to rise 3 to 10.5°F by the end of the century." The EIR makes no attempt to identify, quantify, analyze, or mitigate for the increase in GCC that is predicted, despite the fact that there is scientific literature available on the subject.

> "Two-thirds of California's unique plants, some 2,300 species that grow nowhere else in the world, could be wiped out across much of their current geographic ranges by the end of the century because of rising temperatures and changing rainfall patterns according to a new study...California oaks could disappear from Central California in favor of cooler weather in the Klamath Mountains..." [24]

26

And this report from a local source:

> "Her pessimistic-case model for coast redwoods indicates that climate conditions will become unsuitable for these iconic trees through much of California by 2090, with the exception of a few small patches in Humboldt and Del Norte counties. 'Redwood trees take a long time to die, so they won't disappear overnight,' explains Hamilton. 'But new seedlings may no longer be able to take root, and eventually those forests will be gone."[25]

EBRPD and its consultants have apparently not gotten this message. Not only are they engaged in massive native plants restorations, they are also attempting to return existing native plant landscapes to historical versions, adapted to another climate, long since disappeared. Other managers of public lands have figured out the futility of these efforts. Andrew MacDougall of the University of Guelph, Ontario, has learned from experience that non-native plants are not the cause of the failure of native plants, but are just taking advantage of their failure.

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[24] Los Angeles Times, June 25, 2008

[25] Page 10, "Mapping our Future," in Live from the California Academy of Sciences, Fall 2009

"This is the conclusion he reached in a pair of studies, one of an oak savanna in British Columbia and the other of degraded prairie in southwestern Saskatchewan. MacDougall had not intended to focus on invasive plants when he began studying a Nature Conservancy Canada property on Vancouver Island. An 86 acre remnant of oak-studded grassland, this sanctuary exemplified a type of open savanna habitat that was once common in the area but that was nearly eliminated by agriculture and sprawl. MacDougall's original interest was in the native flora; this Nature Conservancy sanctuary is a biodiversity hot spot, hosting more than 100 species of plants and animals at risk in British Columbia or nationally. Despite this land's protected status, MacDougall found that the native plant community was failing, the rarities becoming rarer. The young ecologist blamed an invasion by several foreign grasses for this decline. Initially, he supposed that simply removing the foreigners would prompt a renaissance of the native grasses and wildflowers. The actual response was quite different. For three years, MacDougall removed the invasive grasses from plots he outlined within the reserve. In some plots, he did this by mowing or burning; in others, he removed the weeds entirely. Yet the native flora didn't rebound significantly. In some cases, the decline of the native plant species instead accelerated, and the fundamental character of the flora within the plots began to change, with woody plants encroaching on the formerly open, grassy areas."[26]

26 cont.

Lewis Ziska, a "weed ecologist" with the US Department of Agriculture has researched the effects of increased levels of CO_2 on weeds. He has found that increased levels of CO_2 promote the growth of weeds and their ability to reproduce, while making them harder to control: "Tests with common agricultural weeds in Canada, thistle and quack grass, found them more resistant to herbicides when grown in higher concentrations of CO_2..." (ibid.)

This finding may be related to a recent USDA study in which herbicide spraying for the purpose of controlling invasive weeds was found to reduce the population of native plants, defeating the purpose of the herbicide use.[27] This study was reported on a Nature Conservancy blog on September 8th, producing a flurry of outrage from native plant advocates (or Monsanto employees?).

There is a growing body of evidence that native plant restorations will not be successful in their historic ranges without reductions in GHG and the consequent reduction in GCC. It is truly ironic that the Plan will contribute to GHG by engaging in large-scale deforestation, thereby contributing to the demise of native plants they are attempting to restore.

<u>If native plant restorations are not sustainable, what are the implications for fire hazard?</u>

This important question is not addressed by the EIR because the EIR does not acknowledge the impact of GCC on native plants, nor does it acknowledge the GHG emissions resulting from the project. There is another important reason why the native plants restored by this project will not be sustainable in the long-term. That is the exorbitant costs associated with fighting against the forces of nature in a fruitless effort to turn back the biological clock to some idealized landscape that has not existed for 200 years.

27

It is not necessary to speculate about the costs of converting non-native landscapes to native landscape and existing native landscapes to earlier, historical versions of native landscapes. The Plan provides us with mind-numbing lists of "treatment guidelines" that inform us that it will not be physically possible to accomplish the desired restoration of native plants. As an example, here is a list of the "Treatment Considerations and Guidelines" for Maritime Chaparral (pages 135-136)

- "The following are recommended treatment performance standards for maritime chaparral stand structures where mosaic thinning is used for fuel modification (as shown in Figure V-3):
  - *Height:* Thin or selectively remove exotic species and shrubs to break up vertical and horizontal continuity.

[26] "Can Weeds Help Solve the Climate Crisis?," New York Times, June 29, 2008
[27] "Spraying Herbicide on Invasive Weeds Doesn't Always Pay, Study Shows," Comis, USDA, June 30, 2009

o *Clump Size:* Create clumps that are natural in appearance including specimens of variable age classes.
o *Spacing:* Distance between clumps should be greater than approximately twice the height of tallest shrub crown.
o *Crown Cover:* Retain approximately 25 to 50 percent shrub crown cover as determined by shrub height and island distribution.
o *Dead to Live Ratio:* The dead to live fuel ratio should be less than 20 percent in shrub canopy.
o *Preferential Removal of Species:* Preferentially cut back to the burl the most flammable sprouting species first, such as chamise. Keep less flammable sprouting species such as oak, coffeeberry, snowberry, rose, iris, and salal. Remove or thin huckleberries where they are likely to shade out pallid manzanita. The removal of brush should be based on the following criteria which are listed in approximate descending order of importance to fuel management objectives:
- Listed species – retain all healthy and vigorous individual specimens of pallid manzanita.
- Sprouting capability – remove species with sprouting capacity first.
- Plant vigor – remove shrubs of low vigor, and all dying or dead shrubs, including pallid manzanita.
- Effects of plant species on soils – i.e., retain ceanothus and other shrubs with slope-holding capacity that increase soil nutrients.
- Value for wildlife food and cover.
- Aesthetic values.
- Diversity of species.
- Encourage and protect obligate "seeders" (such as some species of Manzanita and ceanothus).
- Remove exotic species.
- Favor chaparral community by removing oak, bay, madrone, buckeye, and other trees under 8 inches diameter at breast height (dbh) that are encroaching upon the maritime chaparral.
- Consider the conversion of shrubs to lighter fuel types, e.g., grass, especially in maintained fuel reduction zone areas.
- Chipping/mulch depth should be between approximately 2 and 5 inches following treatment. Use caution when allowing chips to be spread on the ground, as this could lead to suppression of desirable species and favor weeds.
o Set the following standards for areas where chaparral plants are cut or pruned:
- Cut to a maximum height of 1.5 feet; allow maximum growth to 4 feet (total plant height) before re-treatment
- Remove shrubs surrounding trees to the dripline; prune trees of lower branches
- Debris to remain in place as mulch below shrub.
o Anticipate a 5 to 7 year treatment cycle to manage treated areas to standards of Chaparral (Fuel Model #4) with young brush, short mature brush, or patchy islands."

27 cont.

This lengthy list of treatment guidelines conjures an image of an army of gardeners, swarming over several thousand acres of parkland, pruning, weeding, mulching, chipping, etc. But not just any gardener will be able to follow these guidelines. The gardener must be able to identify all the species of native plants, know what soils they require, how they are propagated, how they are used by wildlife, etc. Also that highly qualified gardener must take into consideration the following constraints imposed by the requirements of Maritime Chaparral (pages 137-139):

"The following are resource considerations and treatment guidelines for maritime chaparral:
• Maritime chaparral is a sensitive plant community in the Study Area. It also supports pallid manzanita (a State- and federally-endangered species), leatherwood (CNPS List 1B), and Shreve's oak (CNPS List 3). Low impact, site-specific treatments such as hand cutting and pile burning are warranted in maritime chaparral, although pile burning would require additional measures to ensure seeds and seedlings would not be consumed. Goat grazing and mechanical treatments are not appropriate for this plant community, as these treatments are not selective and would result in unacceptable levels of damage to special-status and listed species.
• Many of the dominant shrubs (including pallid manzanita) in this plant community are obligate seeders that reproduce only by seed and will not stump sprout. These species (primarily ceanothus and pallid manzanita) need protection during treatments in their areas. In order to sustain populations, suitable conditions must be present for seedling germination and establishment. Suitable conditions may mean clearing to bare mineral soil for some species, or the selective removal of eucalyptus stands that choke out pallid manzanita.
• Bird nesting surveys should be conducted within 15 days prior to cutting shrubs if treatments are to be conducted during the nesting season (February to July) to locate and avoid nesting birds if deemed necessary by pre-treatment surveys. Treatment after approximately July 15 of any year will reduce the potential for disturbance of songbird nesting activities.

• Treatment after seed set (typically April or May) will reduce disruption to seed production of native obligate seeder shrubs, including pallid manzanita.
• Conduct follow-up monitoring of treatments. Monitoring the response to management practices needs to consider chaparral structure and composition, as well as fuel loading.
• There is a potential for fuel reduction treatments to spread a pathogen fungus, *Phytophthora cinnamoni*, which can kill pallid manzanita and other desirable native shrubs. The following procedures shall be implemented when conducting treatments in maritime chaparral:
o Trim lower branches of shrubs that have died to provide sunlight, and remove smaller flammable fuels.
o If dead or severely diseased shrubs are removed, avoid hauling material off of the site. If this is not possible, move it directly upslope without lateral movement and avoid any contact with maritime chaparral offsite. Clean equipment, vehicles and shoes that could spread infected soil when entering or leaving a maritime chaparral treatment area.
o Conduct treatments when the soil is dry if possible.
o If seed is collected for replanting, collect seed from high up on the shrub and ensure that it does not touch the soil. The disease is not spread by seed, but could be spread by soil attached to the seed."

Some of these activities will require more highly qualified personnel:

- Nest surveys must be conducted by "qualified personnel." (page 84)
- "Prescribed burns must be conducted by trained fire management personnel only...and requires the development and approval of a prescription and a burn plan." (page 96)
- Mechanical treatments "require supervision and specialized training to ensure the desired results and minimize negative impacts." (page 86)
- "Only personnel with appropriate license and/or certificate are allowed to use chemicals to treat vegetation." (page 93)

Every vegetation type requires an equally complex and lengthy list of treatment guidelines.

So, the Plan could fail because GCC means that native plants are no longer adapted to current conditions in their historical ranges and the prospect of success is reduced by the shear complexity and magnitude of labor requirements of the restoration. Returning to the original question: **If native plant restorations are not sustainable, what are the implications for fire hazard? With the removal of hundreds of thousands of trees and shrubs, if the native plants intended to replace them are not viable, the resulting landscape will be a barren, weedy mess that will also be more flammable because the combustibility of grassy weeds is greater than the trees that will be destroyed.**

The Plan says, "...the District's implementation objective is to move over time from conducting expensive initial treatment and ongoing maintenance actions to monitoring and maintenance activities that result in ecologically sustainable, low fire hazard plant communities with high habitat values that are also more economically sustainable and require decreased funding levels." (page 214)

The Plan is not consistent with this objective because:

- Unless GCC stops, the ranges of native plants will change and will not be sustainable in their present locations in the near future, if not presently.
- The treatment guidelines required to restore and sustain native plants are so onerous that they are unlikely to be achievable in the short-run, let alone in the long-run.

If maintenance cannot be funded for the long-term, the project is not viable.

Measure CC is the source of funding for the preparation of the Plan and the continuation of "fuels management activities in the East Bay Hills." (page 214) It is a matter of opinion that the purpose of the Plan is fuels management. This reader believes the Plan is primarily a massive native plant restoration with little, if any fire mitigation benefit. Measure CC will expire in 2020, but the demands of the Plan will continue long beyond that date. If this Plan is implemented, I won't be voting for a renewal of the property tax authorized by Measure CC.

27 cont.

28

If the implementation of the Plan results in the barren, weedy landscape that is predicted by GCC, I doubt that others will either.

The Plan also looks to FEMA to finance its restoration project (page 214). Perhaps EBRPD is unaware that FEMA has figured out that fear of fire is being used by native plant advocates to justify their restorations. FEMA has refused to fund UC Berkeley's vegetation management plan because it understands that it will not reduce fire hazard: "'If the university wants to clear-cut trees, there needs to be justification that it will reduce the fire hazard. So far, they've not proven that this is a viable fire hazard reduction,' said Alessandro Amaglio, regional environmental officer for FEMA. 'FEMA's mission is not to change landscape, but to reduce hazards.'"[28] FEMA is likely to reach the same conclusion about EBRPD's Plan because it is very similar to UCB's plan. EBRPD should not assume that FEMA will be willing to fund this project.

28 cont.

The EIR proposes only those alternatives to the Plan that are easily dismissed

The EIR has not made a good faith effort to identify viable alternatives to the Plan, as required by CEQA. It is a simple task to offer an alterative that will reduce fire hazards, reduce the need for toxic, flammable herbicides and prescribed burns, and be cost effective and sustainable:

- Remove all dead trees from the parks, avoiding occupied bird nests
- Replace dead trees with species adapted to changed climate conditions and equally capable of absorbing GHGs
- Remove dead debris from eucalyptus (and other species not freeze tolerant) after a freeze causing die back
- Thin forests only as required for health of the forest
- Allow succession of vegetation types in response to GCC
- Conduct only those prescribed burns necessary to reduce excessive fuel loads
- Clear all combustible vegetation from fuel breaks and defensible space whether native or non-native
- Protect endangered species of plants and animals as required by law

29

The EIR makes no attempt to quantify, analyze or mitigate the cumulative effects of all similar projects in the East Bay.

Unfortunately EBRPD is not the only manager of public lands that has been captured by native plant advocates. Projects similar to the Plan abound in the East Bay, as itemized by the EIR. That is precisely why this project is dangerous. The cumulative effects of deforestation throughout the Bay Area will release untold amounts of GHG, as well as reduce the absorption of GHG. The EIR is required by law to quantify, analyze, and mitigate for the accumulative effects of similar projects in the East Bay.

30

In conclusion, The "Wildfire Hazard Reduction and Resource Management Plan" is an enormous native plant restoration masquerading as fire mitigation. The fact is the local native ecology requires fire, making it impossible to maintain simultaneously with reduction in fire hazard. If the Plan is implemented as described it will increase fire hazard. It will also cause significant damage to the environment. The deforestation and discretionary prescribed burns required to maintain native plants will contribute to Global Climate Change. Ironically, in so doing, it will contribute to the demise of the native plants it intends to save. The plants that were native to the East Bay over 200 years ago are no longer adapted to current conditions. As the climate continues to change, they will not be sustainable in their present locations. Even without GCC, non-natives are so thoroughly established in the East Bay ecology that they will never be eradicated and replaced by less

31

[28] February 1, 2009, San Francisco Chronicle.

competitive natives. The futility of the effort does not justify the enormous amounts of toxic, flammable herbicides needed to control non-natives nor the costs associated with the intensive gardening needed to fight the forces of nature, even if some of those forces are caused by man.

I am sympathetic to the pressure EBRPD is under from the environmental organizations to devote all of its resources to native plant restorations. I have read the "green paper" entitled "Managing the East Bay Hills Wildland/Urban Interface to Preserve Native Habitat and Reduce the Risk of Catastrophic Fire" that was submitted to EBRPD in March 2009, by Sierra Club, California Native Plant Society, and the Golden Gate Audubon Society. These organizations represent a tiny fraction of the voters and taxpayers of the East Bay. And few members of the Sierra Club and Audubon actually support the nativists' agenda. Bowling Alone[29] reports that "membership" in environmental organizations sky-rocketed with the advent of direct mail in the 1980s, but the meaning of membership changed along with the means of recruitment:

> "As one might expect from this process of recruiting "members," organizational commitment is low...Most affiliates of tertiary organizations do not even consider themselves "members." More than half of Environmental Defense Fund members say that 'I don't really think of myself as a member; the money I send is just a contribution.' Another survey of "members" of the five top environmental organizations found that they averaged less than three years' affiliation, that more than half were affiliated with four or more such groups, and that **only 8 percent described themselves as 'active**,' all of which is consistent with a purely "checkbook affiliation."

31 cont.

If asked, I believe most "members" of Sierra Club and Audubon Society would consider Global Climate Change a higher priority than native plant restoration. Likewise, few "members" would approve of the use of toxic herbicides on the scale required for native plant restorations. Speaking for myself, I had been a member of both of these organizations for over 30 years until I learned that they were advocating for the destruction of most trees in the Bay Area and that they supported the use of herbicides in the service of their crusade against non-natives. Personally, I no longer consider them environmental organizations. They have been "captured" by a small group with a narrow, specific agenda that is in many respects damaging to the environment.

I therefore urge you to consider the needs and priorities of your entire constituency in this matter and to revise your Plan to make fire mitigation the primary objection.

Mary McAllister
Oakland, California

October 26, 2009

[29] Putnam, Robert, Bowling Alone, 2000, page 155-161

Mary McAllister **ATTACHMENT A**

From: "Brian Wiese" <bwiese@ebparks.org>
To: "hpcorresp" <hpcorresp@comcast.net>
Sent: Wednesday, September 16, 2009 4:46 PM
Subject: RE: REVISED: Questions about FlamMap and related issues

Dear Ms. McAllister—

As I agreed, I have forwarded your questions about the Wildfire Hazard Assessment to our consultants, LSA Associates and Wildlands, Inc. They have provided the responses which follow. I hope these will help to clarify the plan for you and assist you in whatever comments you may wish to make. By the way, just to remind you and reiterate the request in the CEQA Notice, please send any comments to by letter, in care of myself, at the address below, or, by email, to: WildfireEIR@ebparks.org . Thank you.

32

East Bay Regional Park District

Brian Wiese
Chief Planning & Stewardship | Planning & Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court, Oakland, CA 94605
Tel: 510-544-2321
bwiese@ebparks.org | www.ebparks.org

Hi Brian,

Carol and I have prepared some basic responses to Ms McAllister's questions, and we would appreciate it if you could provide this response:

- In response to her question regarding how treatment areas were determined, based, in part, on fire hazard, please see Figure III-1 that displays the areas in which hazards were assessed, and note that the recommended treatment areas are a subset of those locations. Figure III-2 (page 34) displays the process by which the specific areas for treatment were determined. Appendix E of the Wildfire Hazard Assessment includes a justification for each Recommended Treatment Area within the Hazard Assessment Area.

33

- In response to the question regarding how treatment areas were determined, based, in part, on fire hazard, please see Figure III-1 that displays the areas in which hazards were assessed, and note that treatment areas are a subset of those locations. Figure III-2 (page 34) displays the process by which the specific areas for treatment were determined. Appendix E of the Wildfire Hazard Assessment includes a justification for each Recommended Treatment Area within the Hazard Assessment Area.

- In regards to her questions on fuel models, the fuel models used were the standard Fire Behavior Prediction System models; the Burgan and Scott fuel models were not used for

decision-making. Some fuel models were assigned higher foliar moistures and others were assigned higher oil content as recommended by the literature. Those were the only parameters changed in the fire behavior modeling system.

- The fuel models themselves do not use fuel moisture as an input, only fuel volume as differentiated by size classes and live vs.. dead material.

- Additionally, fuel models are "blind" to the individual species that make up the vegetation "types", and the models only describe the physical characteristics of the fuel. Fire behavior goals and treatments are described in terms of desired changes to fuel characteristics and resulting fire behavior. Treatments are linked to vegetation types because natural resource outcomes are linked to the present and desired vegetation types.

33 cont.

- Ms. McAllister is correct that the different shading on the Table in Appendix D of the Wildfire Hazard Assessment does indicate vegetation types that were assigned either "oily" or "moist" inputs in the fire behavior simulations. We will correct that table in the Final Plan.

- Appendix E of the Wildfire Hazard Assessment details the justifications for each Recommended Treatment Area and provides treatment criteria.

Judy

Judith H. Malamut, AICP
Principal
LSA Associates, Inc.
2215 Fifth Street
Berkeley, CA 94710

From: hpcorresp [mailto:hpcorresp@comcast.net]
Sent: Monday, September 07, 2009 8:21 PM
To: Brian Wiese
Subject: REVISED: Questions about FlamMap and related issues

Dear Mr. Wiese,

We spoke last week about the description of the FlamMap in Appendix C of the "Wildfire Hazard Reduction and Resource Management Plan." Thank you for agreeing to forward my questions to the author of this description. I've now finished reading the Plan and my questions are a little broader than those I asked you last week.

34

1. Chapter III of the plan seems to explain how treatment areas were selected and the process of their selection. There appear to be 4 categories of areas selected for treatment (page 31). Two of the categories--parklands within 200 feet of homes and EBRPD facilities--were selected based on records and staff observation. Can you explain how the other two categories were selected: "eucalyptus stands that represent significant threats from torching and crown fires..." and "vegetation with the potential to produce greater than 8-foot flame lengths.?" Chapter V of the Plan reports two relevant hierarchies of fire hazard for different fuel types: "fire hazard rating" and "ignition potential." In addition, most descriptions of fuel types include flame

lengths. The FlamMap model (and associated statistical models) seems to predict fire behavior. How do these different sources of information interact to predict fire hazard and determine treatment areas and actions? **34 cont.**

2. Appendix C of the Plan seems to contain 5 different fuel model systems: (1) 10 "custom" fuel models described as "Standard Fuel Model" and an associated conversion to "New Custom Fuel Model" These models are divided into 5 "moist" and 5 "oily" categories. (2) Appendix B of Appendix C describes 10 fuel models that do not seem to be related to either moisture or oil. (3) Table I of Appendix C contains 13 fuel models. (4 &5) Appendix D of Appendix C has one column labeled "Old Fuel Model" with numbers as high as 81 and another column labeled "Burgan & Scott Fuel Model" with numbers as high as 210. All of these fuel model systems appear to be descriptions, not hierarchical with respect to flammability. If I am mistaken in that assumption, please explain in what sense higher numbers imply greater flammability (e.g., flame length, heat, speed, etc.) **35**
What if any relationship is there between these 5 fuel model systems?
Which model(s) was used to identify the treatment areas?

1. I understand from Appendix C that the "custom" fuel models were used to make adjustments to whatever other model(s) was used. Since the descriptions available on-line for those models seem to consider moisture one of the input parameters, why was it necessary to adjust further for moisture? **36**

2. The literature available on-line for the Burgan & Scott statistical model does not contain descriptions of all of the numbers listed in Appendix D of Appendix C. How and why were fuel models assigned to vegetation types that are not identified by the Burgan & Scott fuel model? What were the values of the parameters used by the statistical model ("fine fuel load," "characteristic SAV," "packing ratio," "extinction moisture control") assigned to the fuel models that were not defined by Burgan & Scott, if used by EBRPD to predict fire behavior? **37**

3. None of the fuel model systems appear to distinguish between different tree species, beyond conifer and broadleaf (Burgan & Scott) or timber and hardwood (Table 1) or oak, hardwood, redwood (Appendix B of Appendix C). Yet the Plan's proposed treatments appear to be species-specific. How was it possible to distinguish between different tree species? If the FlamMap was not used to do so, what was the means of making such distinctions? **38**

4. Appendix D of Appendix C was apparently color coded. Adjustments made to indicate moisture was colored blue and adjustments made to indicate oiliness were colored orange. However, these colors do not appear either on-line or in hard copies. Blue seems to appear as a lighter gray than orange. Based on that assumption, can you confirm that all polygons containing either eucalypts or pine were categorized as "oily" and all other shaded native vegetation types were categorized as "moist." **39**

5. Appendix C contains information about inputs to whatever statistical model was used to evaluate fire hazards. However, I don't see any information in the Plan about the outputs of that model. I understood you to say when we spoke that the outputs were Figure 3.2 of the Plan, which is a list of the recommended treatment areas. I had in mind the statistical outputs, **40**

which I assume were used to arrive at the recommended treatment areas and treatments. Is that information available?

Thank for your help to understand the process used to identify treatment areas. I hope the answers to my questions will make my comments on the EIR more relevant. If you are unable to find answers to my questions, I will make assumptions as best I can.

40 cont.

Letter
C3
Attach.

Mary McAllister **ATTACHMENT B**

From: "Andrea Williams" <awilliams@marinwater.org>
To: "Mary McAllister" <marymcallister@comcast.net>
Cc: "Janet Klein" <jklein@marinwater.org>
Sent: Monday, October 05, 2009 11:53 AM
Subject: Re: Re: "MMWD Herbicide Risk Assessment"

MMWD is not currently using herbicide on their property, with the exception of a small amount of glyphosate (Aquamaster(R)) that was applied for an herbicide half-life study. MMWD is not using triclopyr (Garlon 4 or Pathfinder (R)), although it is still under consideration for use as part of the Vegetation Management Plan process.
Thanks,

Andrea Williams
Vegetation Ecologist
Marin Municipal Water District
Sky Oaks Ranger Station
220 Nellen Avenue
Corte Madera, CA 94925
415-945-1184

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"The trails on Tamalpais are abundantly marked with signs--except where you want one most."
W.L. Jepson, July 9, 1916

>>> "Mary McAllister" <marymcallister@comcast.net> 10/5/2009 11:29 AM >>>
Andrea, Thank you for your reply. If MMWD's IPM policies have not changed, then am I correct to assume that MMWD is still NOT using herbicides on MMWD properties? If that's not correct, can you please find out which herbicides are being used presently? I am particularly interested in whether or not MMWD is using Garlon because it is being used extensively here in the East Bay. .

Thank you for your help.
Mary McAllister

----- Original Message -----
From: "Andrea Williams" <awilliams@marinwater.org>
To: <marymcallister@comcast.net>
Cc: "Janet Klein" <jklein@marinwater.org>
Sent: Monday, October 05, 2009 10:35 AM
Subject: Fwd: Re: "MMWD Herbicide Risk Assessment"

42

Hi Mary,
Your answering machine cut me off, so I will try email instead--sorry to have not contacted you before now, I have been out sick and am just back in the office today.
As far as I know, the draft document up on the website is the most current version available. The herbicide policy has not changed either to my knowledge. I include these qualifiers because I am still relatively new to the position (started in July), but I believe that the documents are

up-to-date, with the exception of timelines being off. We are much less further along in the process than anticipated.
I will double-check the answers to your questions and get back to you, or have someone get back to you. Please let me know if you prefer phone or email.
Thank you,

Andrea Williams
Vegetation Ecologist
Marin Municipal Water District
Sky Oaks Ranger Station
220 Nellen Avenue
Corte Madera, CA 94925
415-945-1184

"The trails on Tamalpais are abundantly marked with signs--except where you want one most."
W.L. Jepson, July 9, 1916

>>> Public Information 10/1/2009 7:52 AM >>>
Hello Mary,
I'm forwarding your question to our Vegetation Ecologist, Andrea Williams.
Best regards,
Elisa Ignatius
Public Information Office
MMWD

>>> "Mary McAllister" <marymcallister@comcast.net> 9/30/2009 1:21 PM >>>
Dear MMWD,
There is a document on your website entitled, "Marin Municipal Water District Herbicide Risk Assessemnt."
http://www.marinwater.org/documents/Chap1_Summary_8_27_08.pdf

This document, dated 8/26/08 is labeled a draft. Is there a final version of this document? If so, can you send me the final version electronically?

Can you tell me if MMWD's policy regarding herbicide dated 2/21/07 has been revised since then? The policy dated 2/21/07 states that a risk assessment would be done in 2007, and that the policy would be updated based on "research and experience."

If I'm asking the wrong people, please tell me who I should contact.

Thank you for your help.

Mary McAllister
Oakland, California
510-547-2563

42 cont.

LETTER C3
Mary McAllister
October 26, 2009

C3-1: This comment, which introduces the subsequent comments, is noted. As discussed in more detail in the following comments, the District and Plan authors disagree with the claims that the Plan contradicts the goals it has set forth, increases the risk of fire, makes native plant restorations the highest priority, and is not cost-effective or environmentally sustainable. Additionally, District and EIR authors disagree with the claims that the Draft EIR does not meet legal requirements; does not support, identify or correct "fallacious assumptions made in the Plan" for which the Plan manipulates data, and does not identify, analyze and mitigate the adverse environmental effects of the fuel reduction methods (e.g., herbicide use and prescribed burning) identified in the Plan. The purpose of the Draft EIR is to identify and mitigate to the degree feasible the potential environmental impacts of the project, and not to support or "correct" the contents of the Plan or determine if it is subject to substantive flaws.

The Draft EIR contains supporting evidence across the 300 pages of text, figures and tables that accurately and in a detailed manner assesses and mitigates the potentially significant adverse affects on the environment associated with implementation of the Plan including the management actions and proposed fuel reduction methods (Chapter IV of the Plan). In regards to herbicide use, see responses to comment letter B5; and in regards to prescribed burning, see responses to comments B7-8, B8-17, and B8-99, and in regards to grazing see responses to comments B1-10, B3-5, B3-10 and B7-8. See also Master Responses No. 1 and No. 3.

No significant new information, as defined in *CEQA Guidelines* Section 15088.5, has been introduced to the environmental review record as a result of this Response to Comments Document that would require recirculation of the Draft EIR.

C3-2: The comment states that the EIR must show compliance with AB 32. The comment incorrectly indicates that AB 32 requires a quantification, analysis, and mitigation for carbon sequestration contained within the existing setting vegetation for a project. AB 32 requires the State, not individual plans or projects, to show a reduction to 1990 greenhouse gas levels by 2020. The December 2008 Scoping Plan developed by the Air Resources Board and required by AB 32 recognizes that this is a statewide target and not all sectors will be impacted equally. The BAAQMD has delayed further consideration of revised CEQA guidelines pending resolution of a number of comments and issues; given the ongoing discussion related to those draft guidelines, it would not be appropriate to use them as a basis for the climate change analysis, which was conducted in early 2009. Specific calculations of the loss in carbon sequestration and related GHG emission calculations would be speculative and not necessary to perform a qualitative analysis of global climate change impacts per the CEQA Guideline Amendments. See also responses to comments, B8-17, B8-108, B8-109, and B8-112. The EIR addresses global climate change per the CEQA guidelines

as referenced in response to comment B8-108. The Draft EIR includes an analysis of Global Climate Change in Section IV.F, Air Quality and Global Climate Change. LSA has revised Chapter VI.C, Cumulative Impacts (pages 315 to 323 of the Draft EIR) for the topic of global climate change which is included in Chapter VI of this Response to Comments Document.

C3-3: The Plan and Draft EIR acknowledge the potential increase in wildfires in response to changing weather patterns and global warming, see Section IV.F, Air Quality and Global Climate Change.

C3-4: See response to comment C3-4 regarding the purpose of the Draft EIR, and that the EIR and Plan authors disagree with the commenter's contention that the Plan makes native plant restoration the highest priority of the Plan. See also Master Response No. 3.

C3-5: The EIR and Plan authors disagree with the commenter's contention that the Draft EIR proposes only those alternatives that are easily dismissed. Feasible Alternatives to the proposed project were identified and analyzed in Chapter V. Alternatives in the Draft EIR. See also responses to comments B1-11, B4-2, B5-20, B8-2, and Master Response No. 3. In addition, a new alternative, the Modified No Tree Removal and No Chemical Use Alternative, has been included in order to consider and analyze treatment methods proposed in some of comments received.

C3-6: The potential cumulative impacts associated with Plan implementation in concert with the effects of the vegetation management programs of other landowners are identified and evaluated in the Draft EIR Section VI.C, Cumulative Impacts. See Master Response No. 3.

C3-7: Contrary to this comment, nowhere in the Plan or EIR are the assumptions identified in the comment stated. The Plan and EIR authors do not agree with these assumptions. In regards to eucalyptus, see Master Response No. 3. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. This comment presents observations and opinions, and does not identify errors, disagreements or information that is not considered in the EIR.

C3-8: The commenter opines that the Plan has "apparently selected it (broom) for eradication primarily because it is considered invasive and it out-competes native species of chaparral." The Plan and EIR authors agree that broom is considered to be an invasive non-native plant and in Appendix G of the Plan provide detailed prescriptions for the control of invasive plant species and noxious weeds (including broom) common to the Study Area. On page 156, the Draft Plan notes that, "Because of its fast growth and high rate of reproduction, French broom may form monocultures that out-compete all native and other non-native species." However, nowhere in the Plan do the authors specifically compare broom to coyote brush in regards to ignition, flammability, invasiveness. The Plan does identify treatment goals, guidelines and standards for both broom (see pages 155-161 in the Plan), and coyote brush (see pages 148-155 in the Plan). This comment presents observations

and opinions, and does not identify errors, disagreements or information that is not considered in the EIR. See also Master Response No. 3.

C3-9: Comments on grassland are noted, see Plan Chapter V. Vegetation Management Program, Grasslands and Herbaceous Vegetation, pages 124 to 132. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. This comment presents observations and opinions, and does not identify errors, disagreements or information that is not considered in the EIR. See also Master Response No. 3.

C3-10: In regards to the preliminary vegetation goals, guidelines and considerations identified in Table III-2 of the Plan and EIR, see Master Response No. 2. In regards to the flammability of eucalyptus and grassland, see Plan Chapter V. Vegetation Management Program, subsection 2. Fuel Characteristics of Vegetation Types, pages 112 to 122 and Appendix C of the Plan. See also Master Response No. 3.

C3-11: Comments on chamise are noted, and the reader should note that the quoted text in the comment does not occur on page 136 of the Plan or anywhere else in the Plan. The criteria for removal of maritime chaparral species identified by the commenter is found on page 136 of Plan Chapter V. Vegetation Management Program, and is just a portion of the management program for the vegetation type maritime chaparral of which chamise is a component species. See Plan pages 132 to 138 for additional goals, guidelines and standards for treatment of this vegetation type to reduce fuel hazards and meet the objectives of the Plan. The District and Plan authors strongly disagree with the comment that "reducing fire hazard is a very low priority." These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. This comment presents observations and opinions, and does not identify errors, disagreements or information that is not considered in the EIR. See also Master Response No. 3.

C3-12: In regards to suggestions for RTA WC005, please refer to Master Responses No. 1, No. 2 and No. 3. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. See also responses to comment C3-1.

C3-13: The Plan and EIR authors disagree with these comments. See also Master Responses No. 1, No. 2 and No. 3. and response to comment C3-1. Figure III-2 on page 35 of the Plan displays the wildfire hazard assessment process that identified the need for treatment. The inputs to the wildfire hazard assessment process are described in Plan Appendix C, see especially the appendices attached to the Wildfire Hazard Assessment Report. The Tables referred to in this comment and in Plan Chapter V were not used to determine the location of RTAs. The ratings for hazard and ignition potential (Plan page 112 and 121, respectively) were intended to offer additional information regarding the various fuel types and were not used as a criteria to determine location or type of treatment. The ratings are based on accepted fire science and professional expertise. Similarly, the summary of fuel models on page 112 are for information only; the fuel-related inputs to the FlamMap model are

explained in detail in Appendix C: Wildfire Hazard Assessment and Treatment Areas.

C3-14: These comments pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR. Refer to Figure III-2 on page 35 of the Plan that describes the Wildfire Hazard Assessment Process, in which fire behavior modeling is noted as one of many criteria used when considering an area for treatment. In Plan Appendix C it is noted that for the recommended treatment area justification; flame lengths are one of four types of justification for treatment. Fuel models generally do not contain information on fuel moisture, however, a fire behavior model, such as FlamMap has three main types of information: inputs about fuels, weather and topographic features. Please refer to Appendix A, FlamMap Input Files and Assumptions in Appendix C of the Plan. The fire behavior outputs of Table 1 in this appendix are not the ones used for the determination of wildfire hazard. These outputs are displayed on Plan and EIR Figures III-5 through 16, on Plan pages 43-57. See responses to comments A3-7, B8-23 and C3-13 and Master Response No. 3.

C3-15: The Plan and EIR authors disagree with the commenter's statement that "we have established that the Plan is based on fallacious assumptions that were supported by manipulating data in order to reach the desired conclusion," and other statements in this comment regarding eradication of non-native species. See responses to comments C3-1 through C3-14 and Master Responses No. 1, No. 2 and No. 3. In regards to the use of chemical treatments, see responses to Letter B5. Potential effects to California red-legged frog related to the Plan are identified in EIR Section IV.B, Biological Resources, see impact and mitigation measure BIO-4. See also response to B8-102.

C3-16: Contrary to this comment, at no time is the District proposing to use kerosene for fuel reduction activities. Potential effects related to the use of chemicals for vegetation treatments are identified and evaluated primarily in EIR Sections IV.B, Biological Resources, and H, Hazards and Hazardous Materials, which also addresses the potential for increased wildfire hazards related to implementation of the Plan. See response to comments B8-78, B8-79, B8-105, and B8-107.

C3-17: In regards to the MMWD study see responses to comments B8-106 and B8-125. See Master Response No. 3. The comments regarding what might happen if the use of certain chemicals is prohibited is speculative, and CEQA does not require analysis of speculative conditions out of the control of the project sponsor. See also responses to comments C3-15 and C3-16.

C3-18: These comments pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR. In response to the comment that the amount of herbicide to be used to implement the Plan should be quantified, see Master Response No. 1. The Plan and EIR authors disagree with the "educated guess" that the commenter makes regarding the amount of herbicide that may be used as it is entirely speculative and based on conjecture. See response to comment B5-20 regarding alternatives that were identified in the EIR. Regarding fire risks related to non-native species, see

response to comment B8-118 and Master Response No. 3. Regarding the evaluation of hazards in the Draft EIR related to chemical use associated with Plan implementation and "eradicating non-native species," see responses to letter B5, response to comment C3-16, and Master Response No. 3. The table in the comment representing a 5 year summary identifies all weed control projects District-wide and does not represent solely French broom control. The figure provided in the table of a 375 percent increase with the use of Garlon over a 5 year treatment period to prevent resprouting of eucalyptus is incorrect. The commenter included other chemicals: Roundup, Surflan, Banvel, and Casoron, which are herbicides, but are used for general weed control, not for the prevention of eucalyptus resprouting. In addition, Garlon is no longer formulated with the carrier kerosene and has not been for a number of years, thus the kerosene issue is irrelevant.

In 2007, only 75 acres of fuel management projects occurred, all of which dealt with eucalyptus removal and cut stump treatment to prevent regrowth. Because these projects involved spot applications (i.e., herbicide is hand-applied to the cambium of individual stumps), as recommended in the Marin Municipal Water District Risk Assessment Study (see Draft August 26, 2008, Chapter 9, page 5) herbicide is absorbed by the vascular system of the plant, and the risk of exposure to wildlife and water quality are minimal or unlikely to cause adverse effects.

Initial efforts to implement the Plan may indeed result in an increase in herbicide use, however, the Plan and EIR indicate that any one site in any given year may be subject to various fuel reduction methods using an integrated vegetation management approach. Treatments include grazing, prescribed fire, mechanical and hand treatment; thus, not all treatments will involve the use of herbicides.

Pesticides utilized within the EBRPD lands are Federal EPA and State Cal-EPA registered products which have been reviewed for efficacy and human and environmental safety. The purpose and use of target specific herbicide is to prevent resprouting and regeneration into a new plant by killing the root system. If eucalyptus resprouting is permitted, it would add to the fuel load and provide an increase in ladder fuels, therefore, the District has determined that the use of a target specific herbicide is an appropriate method to be considered and used for vegetation management.

C3-19: The Draft EIR evaluated the potential environmental effects associated with prescribed burning (see especially sections B. Biological Resources, F. Air Quality and Global Climate Change, and I. Visual Resources). See also responses to comments B7-8, B8-17 and B8-99.

C3-20: Contrary to this comment, the Draft EIR states on page 261 that:

> "The Plan, as proposed, incorporates guidelines and best management practices to ensure that the EBRPD's vegetation management and fuel reduction activities are in compliance with the BAAQMD's standards for air quality (per Chapter IV. Fuel Reduction Methods, Prescribed Burning).

> Moreover, implementation of the Plan would not increase vehicular traffic, population densities, building intensities, or other development pressures that customarily contribute the overwhelming portion of air pollution within the region. Because prescribed burning of selected recommended treatment areas within the Study Area would likely be necessary to reduce the risk of wildfire in these areas some level of additional pollution would be created, including PM and CO_2 released from the combustion of organic materials, but these levels would fall within acceptable standards provided by BAAQMD under its exceptions for wildland management (Regulation 5 as noted above.) As such, the Plan is considered consistent with the CAP and any potential impacts would be less-than-significant."

Additionally on page 264, the Draft EIR states:

> "The Plan provides policies, guidelines and recommendations to manage fuels and protect wildlands in a manner consistent with State strategies and long-term climate goals. While some of these activities (e.g., tree removal and prescribed burning) may appear to conflict with short-term GHG emission reduction goals, the State and District expect that there will be reductions in long-term overall emissions (associated with catastrophic and damaging wildfires) and larger net gains in vegetation health.[34]"

See also responses to comments B3-17, B8-110, C3-19 and Master Responses No. 1 and No. 3.

C3-21: The EIR authors disagree with this comment and note that the potential for increased landslide risk and impacts to water quality associated with implementation of the Plan are addressed in EIR Sections C, Geology, Soils and Seismicity and D, Hydrology and Water Quality. Comments regarding RTAs LC005b are noted. See also responses to comments B8-106, B8-125, B8-116, C3-17 and C3-18 and Master Response No. 3.

C3-22: See response to comment B8-116 and Master Response No. 3.

C3-23: Please see response to comment B8-108. The comment refers to the San Bernardino County settlement, which contains specific requirements that are not applicable to this Plan. The comment also states that EPA has declared carbon dioxide and other gases as pollutants that endanger public health; this is a correct statement, but as indicated in the comment, "will lead to the regulation of the gases for the first time in the United States." On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change. This EPA action does not impose any requirements on industry or other entities. There are no federal

[34] California Board of Forestry and Fire Protection. 2008. *Draft Report to ARB on Meeting AB 32 Targets.* August 20.

or state guidelines on how to address or mitigate GHG emissions from the Plan. The comment states that the Plan will increase GHG emissions, but also provides no basis or references for this assertion. The EIR does state, as the commenter asserts, that the fuel-management actions proposed in the Plan are anticipated to reduce the frequency and intensity of major wildfires, and, thus, reduce potential GHG emissions over the life of the Plan. As this is a long-term plan to be implemented over many years, it is difficult to provide an accurate assessment of the GHG emissions or potential reductions over the life of the Plan.

Please refer to Section IV.F, Air Quality and Global Climate Change, of the Draft EIR for a discussion of the carbon emissions associated with implementation of the Plan, including prescribed burning of trees and other vegetation. As stated on page 264 of the Draft EIR, the Plan is expected to have a net positive benefit on global climate change, even taking into account the removal of some vegetation, because it would reduce the frequency and severity of fires which release greenhouse gases into the atmosphere. LSA has revised Chapter VI.C, Cumulative Impacts (pages 315 to 323 of the Draft EIR, included in Chapter VI of this Response to Comments Document) for a cumulative analysis of global climate change.

C3-24: See Plan Chapter V. Vegetation Management Plan and the subsections that provide information and standards for the removal of Mature Eucalyptus Forest and Young Eucalyptus Forest. Section XVI. Utilities and Service Systems, subsection f) of the Initial Study in Appendix A of the Draft EIR, addresses the potential effects of removal and disposal of "green waste" and trees associated with implementation of the Plan. Furthermore, the District will comply with Alameda County Waste Management Authority Ordinance 2008-01 prohibiting the disposal of green waste at Alameda County landfills.

The second bulleted item on page 89 of the Draft Plan is revised as follows:

- All <u>solid</u> waste and trash generated by any treatment actions must be removed from the treatment site <u>and organic waste (such as removed trees) must be disposed of at a commercial recycling or composting facility (and not at a landfill) as approved by the District</u>. Leftover materials can create a water pollution risk if they remain onsite and are later washed into water bodies through runoff.

C3-25: The Plan and EIR authors disagree with this comment. See responses to comments B8-108 and B8-109 and Master Responses No. 1 and No 3.

C3-26: The commenter states that the Plan will contribute to GHG by engaging in large-scale deforestation, that will in turn contribute to global climate change that will contribute to the demise of native plants. The EIR analyzes potential impacts related to GHG emissions on pages 239 to 266 of the Draft EIR. LSA has revised Chapter VI.C, Cumulative Impacts (pages 315 to 323 of the Draft EIR, included in Chapter VI of this Response to Comments Document) for additional information concerning a cumulative analysis of global climate change. See also responses to comments B8-

108, B8-109, B8-110, B8-111, B8-112, B8-113, C3-23 and Master Responses No. 1 and No 3.

C3-27: The Plan and EIR authors disagree with this comment. Regarding the comment that the purpose of the Plan is "native plant restorations," see response to comment B3-17, regarding the comment that GHG emissions are not acknowledged in the EIR, see response to comment C3-26, regarding comments on implementation of the Plan and the need for trained personnel, see response to comment B1-6, B3-6, B3-14, and B7-3 and Master Response No. 3.

C3-28: The Plan and EIR authors disagree with this comment that the "Plan is a massive native plant restoration with little, if any fire mitigation benefit." See Plan Chapter VI, Plan Implementation which describes potential funding for the Plan. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-29: The EIR authors disagree with this comment per the analysis contained in Chapter V. Alternatives in the Draft EIR. The authors also note that the suggested activities identified in the comment are included in the Plan itself.

C3-30 Subsection C, Cumulative Impacts in Chapter VI of the Draft EIR contains an analysis of the cumulative effects of similar projects for the purpose of fuel reduction. See also Master Response No. 1 in regards to the suggestion that the cumulative effects must be "quantified."

C3-31: This comment is a conclusion statement for the previous 30 comments made above. See responses to comments C3-1 through C3-30. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-32: This comment is a response from Brian Wiese, Chief of Planning and Stewardship at the District in response to the following comments contained in various e-mails.

C3-33: This comment contains responses to the following comments made in the e-mail dated September 7, 2009, starting with the comment C3-34.

C3-34: See comment C3-33 which contains a response to this comment, see also responses to other letter C3 comments. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-35: See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-36: See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-37: See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-38: See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-39: See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-40 See comment C3-33 which contains a response to this comment. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-41: This comment contains a response to the commenter from Andrea Williams of the Marin Municipal Water District. This comment is on merits of the Plan and not the adequacy of the EIR.

C3-42: This comment contains an e-mail from the commenter and a response from the Marin Municipal Water District. This comment is on merits of the Plan and not the adequacy of the EIR.

Letter
C4

Brian Wiese

From: Richard White [rwhite@eecs.berkeley.edu]
Sent: Friday, October 30, 2009 2:19 PM
To: Brian Wiese
Cc: Steven Chainey
Subject: Comments on the EBRPD Plan and the EIR from the Panoramic Hill neighborhood

30 October 2009

The following are comments from environmental consultant Steven Chainey, resident homeowner in the Panoramic Hill neighborhood:

1. Neither the Plan or the EIR mentions the City/County Fire Zone designations in general, or the hills fire zones 2 and 3. Of particular importance to us and to Claremont Canyon is that Panoramic Hill is the only Fire Zone 3 in the East Bay Hills. This extremely high risk area of urban/wildland interface should merit a higher profile and priority for vegetation management and fuel reduction in the Plan. A fire in Claremont Canyon Preserve would place at risk high density urban residential areas with very poor evacuation and fire fighting access routes (e.g., no outlet, narrow and winding roads in poor condition, parking encroachments) **1**

2. We should support EBRPD's proposed new 'Strategic Fire Route' within Claremont Canyon Preserve which would improve access for inspection, fuel reduction activity, and fire fighting access and egress. **2**

3. We should support EBRPD's ongoing goat grazing program to maintain low fuel grassland south of upper Dwight Way. In addition, EBRPD should install fire hazard warning and No Smoking signs at the trails entering the Preserve from the north side which is bordered by upper Dwight Way and gets a lot of casual use because of the panoramic views. **3**

4. Trails across Claremont Canyon Preserve from Panoramic Hill may someday serve as spontaneous emergency evacuation routes for residents and recreational users on Panoramic Hill. This is likely if a wildfire is approaching from the northeast and the safest evacuation pathway is downhill to the south and southwest. **4**

From Steven Chainey, __spchainey@sbcglobal.net__, 314 Panoramic Way, Berkeley, CA 94704

LETTER C4
Steven Chainey
October 30, 2009

C4-1: Comment is noted regarding City/County Fire Zone designations and the high wildfire risk in the Panoramic Hill area of Claremont Canyon. See page 9 of the Plan and Plan Appendix B Fire Safe Regulations and Information, as well as Section H. Hazards and Hazardous Materials of the Draft EIR in regards to fire zone designation information.

C4-2: Comment regarding support for the proposed strategic fire route in Claremont Canyon is noted.

C4-3: Comments noted regarding support for the goat grazing program south of upper Dwight Way and that the District should install more signs.

C4-4: Comment regarding the potential use of trails across Claremont Canyon for emergency evacuation routes is noted.

Letter
C5

1. Some Comments on draft: EIR for EBRPD WHR&RMP

Peter Rauch [peterar@berkeley.edu]

Sent: Tuesday, October 06, 2009 7:16 PM

To: Wildfire EIR

Attachments: 7-RptPrep.pdf (116 KB)

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381
Email: WildfireEIR@ebparks.org

In chapter "VII. Report Preparation", draft EAST BAY REGIONAL PARKS DISTRICT WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN ENVIRONMENTAL IMPACT REPORT, see the four sets of duplicated citations indicated with yellow highlighter and sticky notes in the attached file. 1

In each case, one of the two citations should probably be deleted, selecting the one citation which is least correct in each case.

Peter Rauch
Kensington CA resident of EBRPD Ward 1

Summary of Comments on Microsoft Word - 7-RptPrep.doc

Page: 1

Author: Peter Subject: Sticky Note Date: 10/6/2009 7:06:00 PM
There are four sets of citations flagged with sticky notes in this chapter which need attention.

VII. REPORT PREPARATION

A. REPORT PREPARATION

LSA Associates, Inc., Prime Consultant: *Project Management and Report Production; Land Use and Planning Policy; Biological Resources; Cultural and Paleontological Resources; Air Quality and Global Climate Change; Noise; Visual Resources; Alternatives;* and *CEQA-Required Assessment Conclusions*

2215 Fifth Street
Berkeley, CA 94710
Judith H. Malamut, AICP, Principal and Project Manager
Amy Paulsen, AICP, Senior Planner
Amy Fischer, Senior Planner
Phil Ault, Analyst
Jason Paukovits, Air Quality Specialist
Fred Bauermeister, Project Planner
Patty Linder, Graphics Manager
Jennifer Morris, Word Processing and Graphics

157 Park Place
Pt. Richmond, CA 94801
Malcolm Sproul, Principal-in-Charge
Steve Granholm, Principal
Christian Gerike, Principal
Andrew Pulcheon, AICP, Associate, Archaeologist/Historian
Greg Gallaugher, Associate, GIS, Specialist and Graphics
Richard Nichols, Biological Resources Manager
Eric Lichtwardt, Biologist
Eva Buxton, Senior Botanist
Benjamin Matzen, Paleontologist

Baseline Environmental Consulting: *Geology, Soils, and Seismicity; Hydrology and Water Quality; and Hazards and Hazardous Materials*

101 H Street, Suite C
Petaluma, CA 94952
Yane Nordhav, PG, Principal
Bruce Abelli-Amen, PG, CHG, Hydrogeologist
Todd Taylor, REA, Hazards Analyst

1 cont.

Page: 2

Author: Peter Subject: Highlight Date: 10/6/2009 8:33:22 PM
This publication is cited two time here, as 1985 and again as 1987. Choose the correctly-cited year and delete the other citation.

Author: Peter Subject: Highlight Date: 10/6/2009 8:30:56 PM

Author: Peter Subject: Highlight Date: 10/6/2009 8:33:22 PM

B. PRIMARY EAST BAY REGIONAL PARK DISTRICT CONTACTS

East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Michael Anderson, Assistant General Manager
Brian Wiese, Chief of Planning and Stewardship
Ken Blonski, Fire Chief
John Swanson, Assistant Fire Chief
Joseph DiDonato, Stewardship Manager
David Amme, Wildland Vegetation Program Manager
Wilde Legard, Botanist
Nancy Brownfield, IPM Specialist
Jessica Sheppard, Resource Analyst
Dave Drueckhammer, GIS Coordinator
Jeff Wilson, Parkland Unit Manager
Brad Gallup, FEMA Captain

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Letter
C5
cont.

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JULY [illegible]

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Two citations for same work. But, also, one citation is for issue number (5) while the other is for issue number (7). Pick the correct citation.

3 Author: Peter Subject: Highlight Date: 10/9/2009 6:58:50 PM
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LSA ASSOCIATES, INC.
JULY 2009

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JULY 2009
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LETTER C5
Peter Rauch
October 6, 2009

C5-1: Please see the following text changes below:

The following text revision has been made to page 114 in the Draft EIR:

[4] ~~Amme, D. and N. Havlik. 1987. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7 (4): 28-46. East Bay Regional Park District, Oakland, CA.~~

[4] Amme and Havlik, 1987. *Assessment and Management of Arctostaphylos pallida Eastwood.* Pp. 447-453 In: Elias, T. [ed] Proceedings of a California Conference on the Conservation and Management of Rare and Endangered Plants. California Native Plant Society, Sacramento, Calif., and Amme and Havlik, 1985. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7(4):28-46. East Bay Regional Park District, Oakland, CA.

The following text revisions have been made to page 326 in the Draft EIR:

Amme and Havlik, 1985. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7(4):28-46. East Bay Regional Park District, Oakland, CA.

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The following text revisions have been made to page 115 in the Draft EIR:

[16] McBride, J.R. and H.F. Heady. 1968. ~~Invasion of grassland by Baccharis pilularis DC. J. Range Management 21:106-108.~~ Invasion of Grassland by *Baccharis pilularis* D.C. Journal of Range Management 21(2):106-108.

The following text revisions have been made to page 126 in the Draft EIR:

[28] McBride, J.M. 1974. ~~Plant succession in the Berkeley Hills. Madroño 22(3):317-329~~ op.cit.

The following text revisions have been made to page 333 in the Draft EIR:

~~McBride, J.M, 1974. Plant succession in the Berkeley Hills. Madroño 22(3):317-329.~~

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~~McBride, J.R. and H.F. Heady, 1968. Invasion of grassland by Baccharis pilularis DC. J. Range Management 21:106-108.~~

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The following text revisions have been made to page 190 in the Draft EIR:

[32] Seidelman Associates, ~~1989~~1985, The Effects of Land and Vegetative Management on the Stability of Slopes Along the Wildland/Urban Interface Wildcat Canyon and Tilden Regional Parks, August 1.

The following text revisions have been made to page 335:

Scheyer, J.M., and K.W. Hipple, 2005. *Urban Soil Primer*. United States Department of Agriculture, Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska (http://soils.usda.gov/use).

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Letter
C6

3. Some Comments on draft: WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN

Peter Rauch [peterar@berkeley.edu]

Sent: Sunday, August 30, 2009 4:13 PM

To: Wildfire EIR

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381
Email: WildfireEIR@ebparks.org

Some more general comments (3rd set) are made on the draft WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN (the "Plan").

Other more detailed comments for the record will follow.

The Plan makes repeated reference to the following concepts: "cost-effectiveness", "cost-benefit", "financial(ly)".

One section, in chapter IV. FUEL TREATMENT METHODS, "3. Evaluate Overall Feasibility and Cost-effectiveness", briefly alludes or attempts to imply that evaluation of cost-effectiveness will be conducted. However, there is no description nor discussion anywhere in the Plan of what methodology or criteria will be used to make those evaluations. 1

The seriousness of this deficiency is to be found in the fact that no measurable value(s) are placed on the various (quality of habitat values or) goals to be sought and achieved, so there is no way to assess the comparative costs versus values preserved or gained, i.e., cost-effectiveness (or cost-benefit, or financial impact).

Without such comparability, facile management decision-making criteria may be resorted to, such as "cheapest" dollar outlay to reduce fuel to "some" arbitrarily "safe" level without any rational criteria for setting and measuring the level of natural habitat values to be attained or sacrificed.

Peter Rauch
Kensington CA resident of EBRPD Ward 1

LETTER C6
Peter Rauch
August 30, 2009

C6-1: See Response C1-1. In addition: Voter-approved funding for fuels management is finite, and extends through 2010. Other potential future funding sources will be similarly limited; however fuel maintenance activities will probably be required for the foreseeable future. It is therefore important that the District maximize the use of public funds. Probably the first cost-benefit analysis lies in making ongoing strategic decisions about which areas are the highest priorities for treatment in terms of wildfire hazard and threat to public safety, and which can be delayed. However, ensuring that the implementation of the plan is done in a cost-effective manner which maximizes the benefit from the use of public funds is only one goal of the Plan; and the Plan assures that this goal will be balanced with goals of protecting public safety and property valuses and maintaining park ecological and landscape values. Decision-making criteria for prioritizing treatment areas at any given time are laid out in Chapter VI of the Plan (pp. 205-209).

Chapter VI of the plan presents some estimated costs per acre of various treatment methods. These are based on rather small-scale treatments. As the program progresses, more data on costs and effectiveness of treatments will be gathered, enabling the District to make better decisions based on treatment priorities and available resources at the time. Additionally, the scale of treatments can be increased, leading to greater efficiencies as measured on a cost-per-acre basis.

Letter
C7

2. Some Comments on draft: WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN

Peter Rauch [peterar@berkeley.edu]

Sent: Sunday, August 30, 2009 11:12 AM

To: Wildfire EIR

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381
Email: WildfireEIR@ebparks.org

Some more general comments (2nd set) are made on the draft WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN (the "Plan").

Other more detailed comments for the record will follow.

The Plan makes reference to the following concepts: "Keystone and Indicator Species", which are described and discussed briefly in Appendix E.

Within the main body of the Plan, the concepts are "discussed" in only one paragraph, in Chapter 2, PLAN GOALS, OBJECTIVES AND GUIDELINES, on page 27:

> *2.4 Consider ?keystone? and ?indicator species? (as described in Appendix E) when planning and implementing treatment actions and preparing prescriptions for habitat protection and enhancement.*

In Appendix E, it states, "An important concept in the discussion of resource management for the East Bay Hills is the idea of keystone species. Keystone species are those that assume especially important roles because many other species are dependent on them (Table 1)." 1

The paragraph goes on to provide some ("...just a few...") examples of fauna which provide "keystone species" roles, and Table 1 lists several "particularly important" keystone species for the East Bay Hills, citing the 1996 EBMUD report of Robert Stebbins.

There is no description nor discussion of "indicator species" in Appendix E (in spite of the use of the term in the title to Appendix E).

Given the strength and seeming importance of the introductory statement in Appendix E, that keystone species is an "important concept", with "especially important roles", the "guideline" in chapter 2, to "consider" keystone species, seems peculiarly weak and non-committal.

And, perhaps even more alarming is the total absence of recognition of and concern for those plant species which serve as "keystone species" in the East Bay Hills.

Two plant species, in particular but not exclusively, come to mind as "role models" for the notion of "keystone" species: Coastal Live Oak, and Coyote Brush. A careful reading of Appendix E, of the few

Letter
C7
cont.

example "roles" or functions provided by keystone species should make it clear to anyone that there are keystone plant species as well operating in the East Bay Hills.

The often faunal-centric treatment of "keystone species" should not lead the District to exclude critical plant species from its "consideration" as keystone species. Both of these plant species are to be significantly and negatively affected (in their keystone roles) by the proposed management actions (to reduce "ladder" fuels, and to reduce "brush" fuel loads). These impacts must be more thoroughly anticipated, ecologically understood, and minimized.

1 cont.

(It's not as if some plant species are not seriously considered in the Plan with respect to possible management impacts, but rather that the seeming importance to which the Plan raises the concept of keystone species (and indicator species) suffers from a lack of both in-depth "consideration" and a total lack of recognition of some plant species' role as keystone species. Either plants, and more discussion ("planning"), should be brought under the keystone species banner, or perhaps the keystone species concept should simply be removed from the Plan ?)

Peter Rauch
Kensington CA resident of EBRPD Ward 1

LETTER C7
Peter Rauch
August 30, 2009

C7-1: This comment, which pertains to the merits of the project, and not the adequacy of the Draft EIR, is noted. The Plan authors disagree with the comment as footnote "a" to Table 2: Indicator Species for the East Bay Hills, provides a definition of "indicator species" for the purposes of the Plan. See Plan Chapter 5: Vegetation Management Program for a discussion of vegetation types, coastal live oak and coyote brush. See responses to comments B3-29 and Master Response No. 1.

Letter
C8

Some Comments on draft: WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN

Peter Rauch [peterar@berkeley.edu]

Sent: Saturday, August 29, 2009 10:17 AM

To: Wildfire EIR

Brian Wiese, Chief of Planning and Stewardship
East Bay Regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381
Email: WildfireEIR@ebparks.org

Some general comments are made on the draft WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN (the "Plan").

Other more detailed comments for the record will follow.

The Plan makes frequent reference to the following concepts:

-- "Best Management Practices", or "BMP",

-- "Adaptive Management", or "AM";

Also mentioned are:

-- "Public Review" and "Public Comment".

Perhaps clarification can be offered by the EBRPD (the "District") during the public comment meeting scheduled for September 2, 2009, as well as in the final document when released, as to the (specific, not general) foundations from which these concepts --BMP and AM-- are derived.

1

And, further consideration is needed as to the mechanisms to be made available for public review and comment during the implementation phases of the Plan.

The Plan relies heavily upon the use of these concepts to "describe" how the Plan will be successfully implemented and conducted through time. Therefore, it is very important for both the public and the District to be provided with a thorough description and details of each of these mechanisms (concepts); it is especially critical to do so at this early stage of conceptualization of the Plan (i.e., long before the Plan is actually implemented on the ground with site-specific, operational details).

BMPs:

"Best" management practices (and coupled with the use of capital letters, "B", "M", "P") strongly suggests or implies that criteria of "best" have been established by some objective means of standards setting, with all due peer review and testing.

In the case of this Plan, there appear to be no particular authoritative (tested, management and/or science-based) sources cited from which the specific practices enumerated in various chapters of the Plan are validated as "Best".

For the Plan and the District to claim that it will use "Best" Management

Practices, there should be identified in the Plan the basis for calling the specific listed practices "BMPs". E.g., who determined that validated BMPs actually exist for the specific objectives being managed for, and that those BMPs were the appropriate choice ?

Otherwise, the practices should be identified as originating from within the District and, even if originating elsewhere, there should be some discussion of (offer of validation as to) why it is believed that these particular practices -- and not others instead or in addition-- were selected.

1 cont.

Adaptive Management:

The commitment by the District to practice "Adaptive Management" ("AM") deserves to be specifically detailed as to what will constitute that commitment.

Firstly, an effort should be made to clearly distinguish when/where that commitment is of the "passive" type or of the "active" type of AM. It is generally understood by observers of ecological sciences that much is not adequately known or understood about natural resources management, especially of the intense kind that this Plan entails. It is therefore expected that structured, designed, ongoing studies (i.e., "active" AM) will be required in order to efficiently and effectively "adapt" management better toward the desired goals.

2

Second, an outline of specific AM protocols or practices intended to be deployed should be elaborated in the Plan (so that a reviewer of the draft Plan may assess the adequacy and robustness of the AM plan, and so that later, during implementation of the Plan, one may evaluate the quality of deployment expected from the Plan).

Public Review and Public Comment:

The Plan does not detail the specific implementations, nor the specific timings scheduling, of site-specific (polygon-specific) management, nor does or can it anticipate the adaptive management information and decisions which will occur as ongoing activities or which will bring new understanding and "adaptation" to the Plan's initially-proposed implementations.

Because of the complexity and relatively poorly-known qualities of natural habitat resources management, the Plan must necessarily be treated as a "living document" which can (must?) be frequently reviewed and modified (adapted) to better achieve the goals set out in the Plan. Such ongoing reviews deserve timely and in-depth contributions from the public sector, both to reassure that sought-after goals are kept foremost in mind and that all possible insights and knowledge may be applied to the revisions of the Plan.

3

Therefore, the Plan should describe how the District will include a formal, structured, timely and effective process to seek and accept public comment AS AN INTEGRAL PART of the District's adaptive management planning. The existing formal public "review" process --involving the use of extremely brief and untimely moments of "public comment"-- whereby the public may comment during Board Committee meetings and P.A.C. meetings, will not provide for the extent and depth of public input which this Plan (in its ongoing pursuit) deserves to have.

Peter Rauch
Kensington CA resident of EBRPD Ward 1

LETTER C8
Peter Rauch
August 29, 2009

C8-1: The comment regarding clarifications for concepts used in the Plan at the September 2, 2009 meeting (see Section D. Public Hearing Comments, and especially responses to comments from Peter Rauch, D6 and D15). See Master Response No. 2 regarding public review and input during the Plan implementation phase. The term "Best Management Practices" is used in the Plan to refer to the methods that have been identified by the District and the multi-disciplinary team of consultants who prepared the Plan to best reduce potential adverse environmental effects associated with fuel reduction techniques and activities and are the most feasible, available, and cost-efficient methods known at this time. Many of the best management practices identified by the team were formalized in documents in order to comply with CEQA and NEPA, others were identified in the not for public review interim draft for discussion Hills Emergency Forum's: Best Management Practices Working Paper dated April 4, 2008, and others were identified through the refinement of ongoing District practices as new equipment or innovative techniques become available and are shown to be effective. Through use of "adaptive management" techniques that includes monitoring and recording the results of activities, the District will employ better and more cost-effective methods and BMPs as they are identified when they meet the same performance standards identified in the Plan. The Plan authors have cited sources of particular best management practices via footnotes where available, see also Plan Appendix A: Glossary, Appendix B: Fire Safe Regulations and Information, and Appendix I: Bibliography.

C8-2: Plan Chapter VI, Plan Implementation, contains a description of the plan implementation program and framework, see especially Section A. Plan Implementation Overview that describes the concept of adaptive management as used in the Plan; subsection C.3. Post-treatment Monitoring, Maintenance, and Updating Plan Database, and Section D. Update Treatment Area Database.

C8-3: As described in Chapter VI, Plan Implementation, the annual work program, or Fuels Treatment Plan, will be reviewed on an annual basis with a Board committee in a public meeting setting. See also response to comment B1-6 and Master Response No. 2.

Letter
C9

Upton Crooks 9-1-09
Talking Notes - for Sept 2 open meeting

First. These comments are mine, as a member of the Sierra Club Public Lands Committee, and reflect my preliminary conclusions on Chapters 1, 2, 3, 4, and 6 - which cover areas of my professional expertise. I will defer to Calif Native Plants for their analysis on Chapter 5. Vegetation Management.

1

Second, I request that the deadline be extended, for these are two complex and very long documents. Those of use in Public Lands need time to bring our individual analyses together, and write a formal analysis which presents the Clubs formal position.

Third. There are 3 major errors in the draft document which need to be corrected before final drafts are completed by the consultant.

On page 14 the statement is made "Systemwide plans will be flexible enough to accomodate existing LUPs, which will take precedence unless amended." WRONG. The ~~was~~ purpose of this study is the reverse - so old outdated and limited LUPs (1970's)

2

Letter
C9
cont.

are to be superceed where conflicts exist between the two.

2 cont.

On page 13, ¶ 1. This paragraph refers to the EBT Hills Emergency Team, as if this report was the key which led to this current consultants Report. WRONG. The HEF was one of a series of reports dealing only with fire considerations.

The key was what started out as an informal group of about 30 or so representing fire depts, environmental groups, etc. FEMA, EBMUD Park district staff and mangers. This group became known as the Temescal Working group. Their conclusions were very clear. In an Urban Interface study, all components have to be considered, i.e. fire and flora, fauna, geology, hydrology Their formal recommendations to the District was to have a consultant to undertake such a balanced "interdisciplinary" study.

3

A correction is then need to this ¶ for without this Temescals 100 + recommendations this study would never have been done.

On page 216 "Protecting human lives and public and private property from wildfire danger is the highest priority for the district." WRONG

4

Letter
C9
cont.

Noone would argue that the districts fire department is not a fine one; head of all me. They saved our house in 1970 and sure tried to save it in the 1991 fire. They are my heros. Nevertheless, this statement is in violation of the Districts Master Plan, (1997, p3-4) and Vision Statement and following Mission Statements." These are the governing documents, and the ~~[illegible]~~ Vision states the "EBRP will preserve a priceless heritage of natural and cultural resources, open space, parks, and trails for the future and will set aside park areas for the enjoyment and healthful recreation for generations to come..." Fire is not mentioned. 4 cont.

To correct this a simple rewording of the text to eliminate "is the highest priority" to "is one of the major priorities" for the District

Fourth, here are some of my preliminary thoughts on Chapters 1-6 (excluding V). There is much I agree with and I appreciate the great amount of detail and the accompanying maps and tables. Some of the implementation steps (Ch VI) are 5

Letter
C9
cont.

Talking Notes pg 4.

excellent. The need for a cross-departmental structure which includes fiscal, planning, operational, and fire is essential. The consultants state that to successfully implement fuels reduction and resource management this team must be involved. They further state adequate funding and professionally qualified personnel must be involved. This interdisciplinary approach at all steps should broaden the knowledge and strengthen all departments.

So far, good. BUT here is a major inconsistency within the consultants report, for it states that the implementation of the program's treatment prescriptions would be performed by the Fire Department or by contractors under its direction. This would preclude the very necessary team approach and the involvement of the resource professionals which are required in many steps from planning, implementation, monitoring, and follow-up.

This inconsistency and other sections of the report have led me to the conclusion that the needed balance between fire and resources is lacking, and needs to be changed.

5 cont.

LETTER C9
Afton Crooks
September 1, 2009

C9-1: On September 21, 2009, the District extended the comment period to October 30, 2009, which represented an additional 30 days. The Draft Plan and Draft EIR were available for public review and comment for a total of 88 days.

C9-2: This comment generally pertains to the merits of the project and not the adequacy of the Draft EIR. The statement that the commenter identifies on page 14 of the Plan is within a restated policy contained in EBRPD's Master Plan that relate to management activities undertaken to reduce the threat of wildfire. See response to comment B1-3.

C9-3: This comment generally pertains to the merits of the project and not the adequacy of the Draft EIR. See response to comment B1-4. This comment suggests changes to language in the Draft Plan. Page 15 of the Plan is revised as follows:

> The informal group known as the "Temescal Working Group" who met in 1992-1993 was also instrumental in the identification of the need for a comprehensive fuel reduction plan and the preparation of Measure CC.

C9-4: This comment generally pertains to the merits of the project and not the adequacy of the Draft EIR. The complete citation the commenter notes is on page 206, and is as follows: "*Protecting human lives and public and private property from wildfire danger is the highest priority for the District while undertaking Plan implementation efforts"*. As has been noted in the Draft Plan, when determining which treatment actions or projects will be incorporated into the annual Fuels Treatment Plan, EBRPD's main objectives and priorities include: (1) protect life and property; (2) protect long-term environmental resource values; and (3) protect short-term resource values. See also response to comment B1-5.

C9-5: This comment generally pertains to the merits of the project and not the adequacy of the Draft EIR. See also response to comment B1-6 and Master Response No. 2.

Letter
C10

Lawrence P. Kolb
6225 Manoa Street
Oakland, CA 94618
October 8, 2009

Mr. Brian Wiese
Chief of Planning and Stewardship
East Bay regional Park District
2950 Peralta Oaks Court
Oakland, CA 94605-0381

Subject: **Wildfire Reduction and Resource Management Plan**

I offer the following suggestion, having to do with the day to day interaction of stewardship and fire safety staff within the District.

Pages 210 and 211 of the Plan call for preparation of annual Fuels Treatment Plans that should reflect and reconcile fuels management and resource management objectives. The Plan further calls for site assessment and data collection to precede and follow each individual action for any given treatment area.

I strongly concur with this approach, but have grave reservations as to whether it will actually be implemented. Fire safety has an importance that no one questions. I am concerned that this legitimate agenda tends to overwhelm the stewardship concerns, not through intent, but through an imbalance in staffing and rank in the respective sides (fire safety and stewardship) of the District's staff.

To address this concern, I urge that the Plan be amended to include the following language: 1

> All final treatment plans shall have the approval of District stewardship staff, and this shall be given only after site inspection(s) by staff having expertise in the resources present.
>
> Such treatment area plan approvals from stewardship staff shall be in writing, and signed by a stewardship official having a rank comparable to that of the Fire Department staff overseeing the project.
>
> Just above the signature shall be the following certification:
>
> I, the undersigned, have reviewed the plan described above in light of natural resource goals, and I or qualified members of my staff have inspected the site. Based on these steps, and after consultation with relevant members of my staff, I conclude that the plan cited above adequately reflects District stewardship goals for the area impacted.

This language is aimed directly at the tendency for fire safety projects to 'roll over' stewardship concerns. I believe this approach would cause no problems, and would eliminate many.

Yours truly,

Lawrence P. Kolb

LETTER C10
Lawrence Kolb
October 8, 2009

C10-1: Comment acknowledged. Page 209 of the Plan will be revised to add the following bullet:

- Obtain authorization from both the Fire Chief (or Assistant Fire Chief) and the Stewardship Manager who shall sign off on all annual fuels treatment prescriptions to certify that they meet the District's standards for fuels management, natural resource protection, and achievement of best management practices according to the Wildfire Hazard Reduction and Resource Management Plan and is consistent with the mitigation measures contained in the EIR.

Letter
C11

RECEIVED

OCT 30 2009

PLANNING / STEWARDSHIP

Marilyn Goldhaber
261 Stonewall Road
Berkeley, Ca 94705
marilyngoldhaber@hotmail.com

October 30, 2009

Dear Mr. Weiss,

I am a resident of the north slope of Claremont Canyon whose home abuts the boundary of the Claremont Canyon Regional Preserve. I have lived at this location with my husband for over 20 years, raising three children. During some of that time (and a decade or so prior to it) I was employed as a medical research scientist in the field of public health. More recently, I have become interested in fire science and have done a fair amount of reading on the subject. Most of what I have read and learned has occurred while serving on the board of the Claremont Canyon Conservancy. I still serve on that board, as treasurer, but I am writing to you today as a private citizen concerned about my neighborhood and what a reasonably informed citizen like myself can tell my neighbors about the plans for wildfire mitigation work in Claremont Canyon.

I am most concerned about the proposed new fire road on the north slope of Claremont Canyon. I would like to hear more about the pros and cons, and costs and benefits, of such a road. The concept of turning some of the north slope back into grazing land, if that is so intended by the "road," is troubling to people I know who care a great deal about Claremont Canyon. While we all desire the best fire safety, there remains a fear that the grassland concept may be out of date, based on a plan made more than 25 years ago. Does the current thinking account for the enormous amount of successional growth that has taken place there since the 1980s? **1**

The north slope apparently has not been involved in a major conflagration at any time in recorded history. Fires that have occurred there (such as the ones in 1999 and 2002) were quickly put out. It appears that the mid and lower canyon's north face is somewhat protected from winds, relative to the upper, southern slope of the canyon which has been involved in major fires. Could you please address whether this was considered in your plan?

Natural succession is occurring on the north slope and the terrain is on its way to becoming an eventual bay/oak forest, which could provide good, long-term fire safety. So the question comes down to "Do we really want to stop this natural process in lieu of converting the terrain to a semi grassland?" I would like to see a discussion of these two (and other?) options. **2**

Another question that I have concerns the nature of a preserve. I assume that a preserve means minimal interference with natural processes. Or does a preserve imply preserving a particular landscape or other value? I think it would be good to clarify for Claremont Canyon what is the intention on the part of the District of naming Claremont Canyon a preserve. This question comes up from time to time and it would be good to have the perspective of the District on this.

I am in favor a minimal disturbance unless there is a strong justification. If wildfire hazard mitigation work is deemed essential then I would like to be reassured of a strong commitment to follow-up, especially as pertains to weed abatement and homeless encampments, as well as careful attention to ecological values of the land. I share the fear of many that the District is sometimes heavy handed and has not aggressively followed up land interventions in the past. Any intervention should be attentive to ecological values and have the highest level of commitment to long-term follow-up. **3**

LETTER C11
Marilyn Goldhaber
October 30, 2009

C11-1: Regarding the proposed strategic fire route in Claremont Canyon, see responses to comments B3-6, B3-14, and B7-3. Plan Appendix C contains a description of the wildfire hazard assessment that was completed for the Study Area and included vegetation types mapped in the EBRPD GIS program.

C11-2: The comment is noted that treatment recommendations for the RTAs within Claremont Canyon should be reviewed.

C11-3: Claremont Canyon is designated as a Regional Preserve along with Sibley and Huckleberry, all covered under the same Land Use Plan. According to the District Master Plan (1997):

> The primary objective of a Regional Preserve is to preserve and protect significant natural or cultural resources. A Regional Preserve must have great natural or scientific importance …or be of such significant regional, historic or cultural value as to warrant preservation."

Claremont Canyon is designated as a preserve in order to protect: 1) western leatherwood located south of Claremont Avenue (now believed by District staff to occur near, but not within the Preserve), and 2) Alameda whipsnake habitat. Claremont Canyon Preserve is also designated as an educational research study area. The comment that careful follow up is needed is acknowledged.

Letter
C12

Re: Draft Wildfire Hazard Reduction and Resource Management Plan and EIR

Dear Brian Wiese,

As a longtime neighbor of the EBRPD in Claremont Canyon and land manager of my family's 14-acre parcel on its middle ridge, I would like to comment on several of the polygons from my perspective in the upper watershed.

CC009: I live next-door to the problematic turnout on Grizzly Peak Blvd overlooking Gwin Canyon. It may not be a trailhead but it does get a constant stream of visitors, day and night, and is a persistent danger in dry weather with enthusiastic smokers admiring the view—that much will not go away. Every summer, the EBRPD crews repeatedly mow the annual grasses, thistles, and mustard below the road. Burning below the turnout on Grizzly Peak Blvd is not a bad idea in itself if a prescribed burn could be part of an integrated program to deal with the flammable annual weeds and broom that dominate much of this area. But "*Shame!*" if this project ended up extending this weedy patch into the areas of rich native vegetation within the area defined by the path, Marlborough Terrace, and Grizzly Peak Blvd (the suggested target zone in the EIR). This spot has such high visibility that the EBRPD should use it to show their skill at dealing with the twin challenges of weeds and high ignition potential, while preserving the nearby areas of predominantly native vegetation in Gwin Canyon. 1

I have no problem with using goats, herbicides, prescribed fire, and/or handcrews *on the condition* that they be part of an overall plan, fine-tuned to the site, with monitoring for adaptive management towards the companion goals of fire hazard mitigation and diverse native habitat for wildlife. Developing that plan and its ensuing adaptations must be in the hands of the park biologists, not the firefighters.

CC009 & CC003: Broom is a major management issue that only gets worse as time goes on. It needs a long term commitment to an integrated plan of attack. Throwing effort at it periodically without an ongoing plan will only waste EBRPD resources and could easily exacerbate the problem. 2

CC010 & CC011: I have watched this hillside evolve and change for more than 50 years, and hope to continue to watch its natural succession without the heavy hand of humans. There is a big difference between an innocent foot trail and a "proposed strategic fire route". Granted when fires happen, lines are often dug to stop a "cool" fire, but there is no need to install one in advance. Fire engines, men and equipment transiting to the ridge would require the construction of a bona fide road which by definition would break up the continuity of that entire north slope of the canyon, in essence deface it. But defacing this hillside of mostly native vegetation can also take place by chipping away at it with multiple trails and pile burns. While firebreaks might make sense where ignition sources are likely in wind-prone areas or as part of the 3

Letter
C12
cont.

defensible space around structures, they do not in the landlocked middle of the preserve. Furthermore there is already existing on the neighboring UC property a "strategic fire route" connecting Claremont Ave to the east-west ridgeline that should be taken into consideration in planning regional preparedness.

3 cont.

The miracle of Claremont Canyon is that it has not been broken into pieces, yet it lies on the urban edge. It has been an ongoing struggle to protect this watershed, first from builders in the 70's, thanks to the visionary efforts of some people at the EBRPD, and now, from a desire to make the land "ready" for wildfire. While I appreciate the intense work that has gone into the creation of this EIR and plan, I hope that a balance may be struck between targeted WUI protection and preservation of the asset that is Claremont Canyon.

4

Yours sincerely,

Tamia Marg

4885 Grizzly Peak Blvd
Berkeley, CA 94705

LETTER C12
Tamia Marg
October 30, 2009

C12-1: This comment identifies specific concerns regarding RTA CC009, and will be considered by EBRPD as the Draft Plan is finalized. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

C12-2: This comment identifies specific concerns regarding RTA CC009 and CC003, and will be considered by EBRPD as the Draft Plan is finalized. The comment that broom is "a major management issue" is acknowledged. The issue is addressed specifically in Chapter V of the Plan. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

C12-3: This comment identifies specific concerns regarding RTA CC010 and CC011, and, in particular, the proposed strategic fire route on the north slope of Claremont Canyon. Please see responses B3-14 and B4-20. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

C12-4: Comment noted. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

Letter
C13

East Bay Hills Wildfire Hazard Reduction And Resource Management Plan and EIR

Mike Vandeman [mjvande@pacbell.net]

Sent: Tuesday, September 01, 2009 11:27 AM

To: Wildfire EIR

Gentlepersons:

1. Pesticides, including Roundup, are hazardous to people and wildlife and have no place in a public park. Besides, they are ineffective: just look at the French broom in Claremont Canyon Regional Preserve. It keeps returning. **1**

2. Removing exotic species like French broom is simple, if you understand the Law of Conservation of Energy. Plants store energy, but receive it ONLY through their leaves (occasionally through green stems). Such energy stores are FINITE. If the plants are cut each year as early as possible, before they set seed, eventually they will die and not return. There is nothing mysterious about it. **2**

3. I am sure that there are plenty of people like me who would be happy to help, in exchange for stopping the use of herbicides. I have been cutting French broom on the University property, with nothing but clippers and gloves. I find it very relaxing and rewarding work. A year after cutting it, a few tiny shoots appear, which are very easy to cut, in a fraction of the time that the original cutting took. On a larger scale, the same applies to Eucalyptus. **3**

4. Native species belong here, preceded us by millions of years, and should not be cut. Humans aren't smart enough to understand all of the interactions and dependencies among species. Hence, the Precautionary Principle applies: when in doubt, do no harm. You stood by and watched the Berkeley kangaroo rat go extinct. That should have been enough of a lesson to you. The same thing is happening to the Alameda whipsnake.

Sincerely,

Mike Vandeman, Ph.D. **4**

--

I am working on creating wildlife habitat that is off-limits to humans ("pure habitat"). Want to help? (I spent the previous 8 years fighting auto dependence and road construction.)

Please don't put a cell phone next to any part of your body that you are fond of!

http://home.pacbell.net/mjvande

LETTER C13
Mike Vandeman
September 1, 2009

C13-1: The use of pesticides is described in Chapter IV.H, Hazards and Hazardous Materials, of the Draft EIR. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required. See responses to comment letter B5.

C13-2: Comment regarding removing exotic species is noted. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

C13-3: Comment regarding volunteering to remove exotic plant species noted. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

C13-4: Comment regarding native species noted. See Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

Letter
C14

Miller/Knox Park

SALLY COLE [sallycoledesign@sbcglobal.net]

Sent: Wednesday, September 09, 2009 12:35 PM

To: Wildfire EIR

Dear Brian Wiese,

I just arrive back from a walk around the Miller/Knox park. Several of the evergreen pine trees have been trimmed in the last few days and are dripping pitch. Why would the EBRPD authorize to cut everygreen pine trees at the wrong time of the year? This practice will make the trees extremely vulnerable to disease and probable death (as I'm sure you are aware).

1

About 90% of the other trees that were trimmed were completely butchered; the limbed branches were not properly cut tight and at an appropriate angle(s) to the trunk(s).

With maintenance like this there will be no trees left in 10 years, fire or no fire- especially in light of the drought situation.

Please look into this matter.

Thank you,

Sally Cole

LETTER C14
Sally Cole
September 9, 2009

C14-1: This comment identifies specific concerns regarding a current vegetation maintenance project in Miller/Knox Park. See Plan Chapter V, section C.3.c. Mature Monterey Pine Forest and C.3.d. Young Monterey Pine Forest. This comment does not relate to the adequacy of the information or analysis within the Draft EIR; no further response is required.

Letter
C15

Comments on Draft Plan

Rk Bose [fk94131@yahoo.com]

Sent: Wednesday, October 28, 2009 11:03 PM

To: Wildfire EIR

Dear Managers,

The proposed plan appears to be another instance of Native Plant restoration masquerading as fire-hazard reduction.

It makes the implicit assumption that native plants are generally fire-resistant. They are not. They are fire-adapted. They burn, and they return. In fact, many of them burn very easily. 1

It also makes the assumption that eucalyptus is particularly vulnerable to wildfires. In fact, in all the wildfires that have swept our state, eucalyptus has been involved in very few. The Angeles National Forest, for instance, is not a eucalyptus grove; neither is Yosemite National Park. The recent Santa Cruz fire started in chapparal and brush.

The common pattern to these fires seems to be that they get started in chaparral and dry grass, and then ignite any trees available if they get hot enough. Native trees are not immune; neither is native vegetation of any kind. In fact, dense groves of trees that prevent the growth of flammable vegetation beneath them are less likely to ignite. 2

Our experience here in San Francisco – where the Mt Sutro's eucalyptus cloud forest is threatened as a matter of "fire hazard mitigation" in a fog-belt area where the forest floor is damp all year – indicates that the ideological beliefs of Native Plant activists are a powerful force in a great deal of misinformation about eucalyptus.

Special interest groups are often far more influential than their actual numbers because of their passion and single-mindedness. However, a governmental institution should represent the interests of the entire community, not just those with the loudest and most persistent voices.

Sincerely,

Rupa Bose
63 Forest Knolls Drive,
San Francisco
CA 94131

LETTER C15
Rupa Bose
October 28, 2009

C15-1: Comment noted. This comment does not relate to the adequacy of the information or analysis within the Draft EIR. See responses to Letters B8 and B9 and Master Response No. 3.

C15-2: Comment noted. This comment does not relate to the adequacy of the information or analysis within the Draft EIR. See responses to Letters B8 and B9 and Master Response No. 3.

Allen Pulido

From: Pascal Pellet [pascal.pellet@gmail.com]
Sent: Thursday, October 08, 2009 4:34 PM
To: Whitney Dotson; John Sutter; Carol Severin; Douglas Siden; Ayn Wieskamp; Beverly Lane; TRadke; Pat O'Brien
Subject: Save our Parks from Herbicides

Dear Board member:

I'm concerned about the proposed plan to apply chemical pesticides as set forth in the Wildfire Hazard Reduction and Resource Management Plan. As you are aware, these chemicals can contaminate the streams and reservoirs that widlife and humans rely on for drinking water and recreation.

As an alternative to herbicide spraying, the Park District should investigate the feasibility of reducing the risk of fire by re-hydrating parklands--best management practices in drought-stricken parts of Australia include the use of "keyline" plowing and hydrological design that captures run-off and allows it to infiltrate dry and eroded hillsides. The soaking of the hills in this manner allows dormant perennial grasses to grow year-round, thereby reducing the fire hazard (as well as building soil fertility and regenerating the native ecoystem). Australian land stewards who employ keyline design principals enjoy highly productive land that remains verdant year-round (without irrigation), while their neighbors' land continues to erode into dust and/or burn. Trainings in keyline design are available in the U.S. and Mexico and would be an excellent opportunity for park staff to learn about herbicide alternatives that are not merely safer for the environment but would take us a step beyond--reversing the damage caused by the drought and regenerating the ecosystem. 1

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Pascal
www.feastbay.org
Nature resources are not infinite. Pls consider our environment before printing this email.

LETTER C16
Pascal Pellet
October 8, 2009

C16-1: See response to comment B5-2 regarding the use of chemicals. This comment identifies specific concerns regarding vegetation maintenance, and will be considered by EBRPD as the Draft Plan is finalized. This comment does not relate to the adequacy of the information or analysis within the Draft EIR. See responses to Letters B8 and B9 and Master Response No. 3.

Letter
C17

Allen Pulido

From: Erica Etelson [ericadavid@earthlink.net]
Sent: Wednesday, October 07, 2009 8:00 PM
To: John Sutter
Subject: Fire Management

Dear Director Sutter:

I'm concerned about the proposed plan to apply chemical pesticides as set forth in the Wildfire Hazard Reduction and Resource Management Plan. As you are aware, these chemicals can contaminate the streams and reservoirs that widlife and humans rely on for drinking water and recreation.

As an alternative to herbicide spraying, the Park District should investigate the feasibility of reducing the risk of fire by re-hydrating parklands--best management practices in drought-stricken parts of Australia include the use of "keyline" plowing and hydrological design that captures run-off and allows it to infiltrate dry and eroded hillsides. The soaking of the hills in this manner allows dormant perennial grasses to grow year-round, thereby reducing the fire hazard (as well as building soil fertility and regenerating the native ecoystem). Australian land stewards who employ keyline design principals enjoy highly productive land that remains verdant year-round (without irrigation), while their neighbors' land continues to erode into dust and/or burn. Trainings in keyline design are available in the U.S. and Mexico and would be an excellent opportunity for park staff to learn about herbicide alternatives that are not merely safer for the environment but would take us a step beyond--reversing the damage caused by the drought and regenerating the ecosystem. Such trainings are often publicized on the website of the Regenerative Design Institute in Bolinas. 1

Thank you for your attention to this issue.

Sincerely,

Erica Etelson
Berkeley

LETTER C17
Erica Etelson
October 7, 2009

C17-1: See response to comment B5-2 regarding the use of chemicals. This comment identifies specific concerns regarding vegetation maintenance, and will be considered by EBRPD as the Draft Plan is finalized. This comment does not relate to the adequacy of the information or analysis within the Draft EIR. See responses to Letters B8 and B9 and Master Response No. 3.

Letter
C18

October 29, 2009

FROM:

David Maloney
PO Box 475776
San Francisco CA 94147
E mail: david.maloney@rocketmail.com

TO:

Brian Wiese
Chief, Planning and Stewardship
East Bay Regional Park District

Dear Mr. Wiese:

I retired from the Oakland Fire Department in 1988. In 1989 I was appointed by the United States Department of the Army to be Chief of Fire Prevention at the Oakland Army Base. In 1991, I was appointed to serve on the Task Force on Emergency Preparedness and Community Restoration. This task force was formed to investigate the causes of the most destructive wildland/urban interface fire in the history of the United States; the Oakland-Berkeley Fire of 1991, and make recommendations to prevent its recurrence.

1

Following are my comments about the East Bay Regional Park District's Wildfire Hazard Mitigation Plan (the Plan), and EIR.

An inordinate amount of the Plan is an attempt at land transformation disguised as a wildfire hazard mitigation plan. If it is implemented it will endanger firefighters and the general public; and it will be an outrageous waste of the taxpayer's money.

The objectives of a land transformation plan are different than the objectives of a wildfire mitigation plan. The only way a land transformation plan can succeed in masquerading as a wildfire mitigation plan is if it treats important data needed to compose a sound wildfire mitigation plan in a superficial manner, or ignores such data or circulates misinformation.

1 cont.

The Plan submitted to the East Bay Regional Park District (herinafter referred to as the Park, or EBRPD) does all three. It omits important Fire Science principles, disseminates misinformation about selected fuels, and ignores data that would be contrary to its aim of land transformation.

CLEAR CUTTING

Section IV: Fuel Treatment Methods; subsection A.2 of the Plan advocates clear cutting of trees. Not only does it advocate clear cutting with the phrase "...completely removing an overstory canopy;" it justifies this by standing fire science on its head by ignoring the significant role that tree canopies play in facilitating moisture which dampens ground fuels, and ignoring that volatile grasses will grow on the ground below the canopy gaps.

Clear cutting is anathema to the Fire Service. Clear cutting to effect wildfire hazard mitigation violates every Fire Science principle relative to wildfire mitigation. Clear cutting dramatically increases the chance of a wildfire. It is a tool of land transformation. Therefore the Plan has a prominent self contradiction

2

Fire Science has proven that every living tree - regardless of its species - due to its moisture content and canopy coverage of ground fuels, contributes to wildfire hazard mitigation.

"The shade and protection afforded by timber stands influence fuel type ratings due to favorable fuel moisture conditions that are created. In a dense forest, ground fuels are protected from the sun and wind. Temperatures and wind velocities are lower so that moisture does not evaporate as readily from the dead fuels situated beneath dense timber canopies." The Fire Protection Handbook, (20th edition, 2008) published by the National Fire Protection Association, Volume II, pg. 13-63.

"If too much wood was in the forests, it seemed intuitive, to some people, that cutting down tress must help the situation. Many pointed to the massive fires in the 1990's as evidence that not enough logging was going on. Yet, throughout the [20th] century large fires had followed logging." Burning Questions: America's Fight With Nature's Fire, pg. 253, by David Carle.

2 cont.

(It was the logging of the trees on Angel Island in 1999 that caused the Angel Island Fire of 2008.)

"While fuel is a key ingredient for any blaze, and fuel accumulations can exacerbate fire intensity, most large blazes result from drought and wind – not fuels. Yet, because fuel treatments are emphasized in management prescriptions, the general public is led to believe that fuels are the driving force in large blazes and, by inference, that fuel reduction by tree thinning will prevent large fires." Wild Fire: A Century of Failed Forest Policy. Pg. xiii, part of the section entitled 'Myth: Big Fires Are the Result of Too Much Fuel.' Edited by George Wuerthner.

There is not one single fire science authority who supports clear cutting for the sake of wildfire hazard mitigation.

MOISTURE

"Two conditions of fuel moisture have major influence on the rating of fuel types. One concerns the greenness, or curing stage, of vegetation. The other relates to the shade and protection furnished by green timber." The Fire Protection Handbook, previously cited, pg. 13-63

The Plan ignores the relationship between specific tree moisture, amount of canopy protection afforded to ground fuels by copses of trees due to the shade and windbreak these trees provide, amount of ground moisture which is created and dependent on the tree canopy above the ground, and ground moisture created by the size and type of the leaves of trees. (One of the major contributions leaves make to wildfire hazard mitigation is collecting moisture and dripping it onto the ground.)

Even though moisture is a critical key element in evaluating wildfire hazard, there is no mention of use of a hygrometer to evaluate how much moisture, according to season, is present in the various sections of the EBRPD, especially those sections where clear cutting might be considered.

3

Additionally, there is no mention of the specific hygroscopocity, according to season, of the various species of trees within the Park, especially of those species of trees for which clear cutting is recommended.

There is no discussion, or even a mention, of the average daily, weekly, and monthly dew, dewfall and dew point in those sections of the EBRPD affected by the Plan.

The Plan confuses cloud cover and precipitation with moisture. Moisture is different than cloud cover and precipitation. Cloud cover and precipitation contribute to moisture levels, but they are

not the sole determinants of moisture. The Plan barely mentions the moisture content of the lands and sections of the East Bay Regional Park District. Again, it cannot be over emphasized, moisture content is one of the most important factors in determining wildfire risk.

The EBRPD is located in a moisture rich environment. Its location is the envy of wildfire managers across our nation. Yet, there is not one chart or graph that shows the average weekly and monthly moisture content within the Park's boundaries or within specific sections of the Park, especially within those sections where it is proposed that clear cutting of trees take place. There is not one chart that compares the amount of moisture in the holdings of the EBRPD with the moisture content of other areas in California and the United States. 3 cont.

Are these omissions because showing the moisture content of the EBRPD, would lead to a downsize of the Plan, thereby negatively impacting land transformation?

(It was the moisture laden air coming from the Pacific Ocean through the Golden Gate, crossing San Francisco Bay and interfacing with the Oakland Hills Fire of 1991 that lowered the temperature of the fire sufficiently to halt its spread and allow firefighters to contain it. The fire began in grasses, spread to the rooftops of houses, where it attained sufficient heat to dry out the moisture in the trees of the East Bay Hills, and then caught the trees on fire.)

PRESCRIBED BURNING

The Plan recommends prescribed burning in a cavalier manner. Prescribed burning is a very serious and dangerous undertaking. It is only to be used narrowly and judiciously. It is only to be used to 4

effect wildfire hazard mitigation by clearing underbrush and ground fuels, and even then it is used sparingly. It is never to be used to effect land transformation by preventing trees from sprouting.

Due to the fact that so many prescribed burns have "escaped" the boundaries to which it was thought they would be confined, there is more and more momentum in the Fire Service to use prescribed burns less and less. A moratorium was put on prescribed burns after the Bandelier National Monument Fire in the year 2000. That fire was a prescribed fire that got out of control and burned 47,650 acres and destroyed 235 homes. The moratorium was lifted after new, more stringent guidelines governing prescribed burns were promulgated.

Still, prescribed burns continue to get out of control with alarming frequency. In August of 2009 the Big Meadow Fire in Yosemite began as a prescribed fire which was planned to burn 91 acres. It got out of control and burned 7,425 acres. That same month a prescribed burn in Scofield, Utah, got out of control and almost burned down 50 homes.

4 cont.

The Plan states in Appendix G page 5, "The California Invasive Plant Council has published a manual on the use of fire as a tool for controlling invasive plants that should be referred to for further information than that provided here."

The California Invasive Plant Council is not a fire prevention or a fire suppression organization. Its primary goal is land transformation. Why is an organization that is not a fire service organization, but primarily a land transformation organization, being used as a reference for the very dangerous undertaking of prescribed burning? Is it because the objective is not wildfire hazard mitigation, but land transformation?

Again, this Plan treats prescribed burning in a cavalier manner, which is inconsistent with safe wildfire hazard mitigation. 4 cont.

INVASIVE SPECIES

Sound wildfire hazard mitigation does not make a distinction between whether a species was here before or after Columbus landed in the Caribbean. Sound, effective, wildfire hazard mitigation does not determine that a plant or species is a fire hazard because of where it originated.

Such a determination is putting idealogical or economic considerations ahead of the safety of firefighters and the public, and gives rise to propagandistic statements which are designed to scare the public, but which have no basis in fire science. Below are several examples of such statements from the Plan.

"Eucalyptus is well known for its long distance ember distribution, casting firebrands miles from the flaming front to ignite spot fires in grass, brush or roofs ahead of the main fires." 5

"The presence of volatile oils in the trees increases the speed of fire spread, total output and overall ignitability. Ignited leaves and bark are easily lofted into the air by heavy winds and increase the potential for starting new fires long distances from a fire."

"The size of leaves and bark from mature eucalyptus trees are typically large enough to ensure that the ember is still burning (versus small particles that could be extinguished in flight) when it lands. Heat output from mature eucalyptus fires is high when sufficient fuel has accumulated in the area."

To refute these statements it is worth quoting extensively from Vol. II, page 13-62 of the Fire Protection Handbook.

"Aerial Fuels: Tree Branches and Crowns. " The live needles of coniferous trees are a highly flammable fuel. Their arrangements on the tree branches allow free circulation of air. In addition, the upper branches of trees are more freely exposed to wind and sun than most ground fuels. These factors, plus the volatile oils and resins in coniferous needles, make tree branches and crowns important components in aerial fuels."

Nowhere in the twenty editions and tens of thousands of pages of the Fire Protection Handbook is there a mention of the leaves or bark of the Eucalyptus trees. The only aerial fuel singled out for mention because of its high flammability and volatility are the needles of coniferous trees. The oils and resins of Euclyptus leaves and barks are not mentioned because they are not as flammable as the oils and resins of the needles of coniferous trees.

5 cont.

If the leaves and bark of Eucalyptus trees were more of a fire hazard than the thousands of other species of trees that are in California it would be noted in the Fire Protection Handbook.

(Any tree, no matter what its species, that is close to ignition point, or is on fire, is going to have its sap, resins, and oils boiling.)

Again, from Vol. II, page 13-62 of the Fire Protection Handbook,

"Snags, or tree stumps, are one of the most important aerial fuels that influenced fire behavior. Although green trees greatly outnumber snags in most forests, more fires start in snags because they are drier and are arranged for easier ignition."

"Burning embers blown from shaggy-barked snags are prolific starters of spot fires."

There is no mention of any particular species of tree. The entire passage concerns dead fuels. Some people have it backwards. They want to give a high fire hazard rating to green (living) trees and cut them down, because they did not originate in California, when it has been shown over and over again that green trees, regardless of where they originated, are a bulwark against wildfire because of the moisture they contribute to the ground fuels and because they act as windbreaks.

From page 13-63 of the Fire Protection Handbook: *"As the amount of flammable materials in a given area increases. The amount of heat a fire produces also increases. The hottest fires, as well as those most difficult to control, occur in areas containing the greatest quantity of fuel."*

5 cont.

The statement from the Plan: "Heat output from mature Eucalyptus fires is high when sufficient fuel has accumulated in the area" is misleading and disingenuous. It strongly, and erroneously, implies that the heat from a Eucalyptus forest fire is greater than the heat from a forest fire involving other species of trees. In fact, the heat generated by a forest fire is not dependent on the species of tree involved in the fire, but on the quantity of fuel in the area of the fire.

The Fire Protection Handbook on page 13-63 of volume II addresses the issue of spot fires.

"The development of spot fires depends not only on topographic and weather factors but also on the character of the fuels in the main fire and fuels beyond the main fire. In the main fire, rotten, shaggy barked snags, such as broken-topped hemlock snags, and large quantities of ground fuels, such as heavy logging slash, are the fuels most likely to cause spot fires."

6

No species of living tree is singled out as being more likely to cause spot fires than ground fuels or dead fuels, because ground fuels and dead fuels are more likely to cause spot fires than living trees no matter what their species. **6 cont.**

On page 13-64, Vol. II, of the Fire Protection Handbook is a section dealing with the characteristics of crown fires. None of the various species of Ecualyptus tree is mentioned in this section. Why not? Because any species of living tree that has had the moisture dried out of it by a fire, and then catches fire, can "throw burning embers far out ahead of the main fire.". **7**

Table 13.5.3 on page 13-63 vol. II of the Fire Protection Handbook gives the time lag relationship to fuel size for dead fuel moisture. This table should have been used as a reference point by the authors of the Plan, and coordinated with the moisture levels of the land holdings of the EBRPD. **8**

The fuel hazard ratings relative to the Eucalyptus trees are idealogically driven and therefore cannot be trusted.

In fact one of the Eucalyptus species mentioned, the Blue Gum, is very fire resistant.

As S.T. Michaletz and E.A. Johnson showed in their article "Heat Transfer Processes Linking Fire Behavior and Tree Mortality," the three characteristics that determine a tree's ability to withstand fire are the thickness of its bark, the height of its branches from the ground and its bark water content. **9**

The Blue Gum has a thick bark, branches that are high from the ground, and because it evolved in the arid and fire rich climates of northern Australia and Tasmania, an astounding ability to retain moisture, which ability gives it a high bark water content.

The Plan makes no mention of the ratio of surface area to volume of a wildfire fuel. This is an important ratio in contributing to determining the flammability of a wildfire fuel. **9 cont.**

RECOMMENDATION ON HOW TO IMPROVE THE PLAN:

Prepare a grid map for EBRPD land holdings. Set up a rotational schedule so that every four or five years ground crews have gone into each section and removed ground fuels and ladder fuels. This is ecologically safe and will cost the taxpayer a fraction of what the other methods and schedules in the proposed Plan will cost. **10**

Pay attention to the causes of wildfires as listed in the Fire Protection Handbook, Vol II. Page 13-56, table 13.5.2:

1) Arson: 25-39% of wildfires are caused by arsonists.
2) Trash Burning – 18-23%
3) Careless Smoking – 17-19%
4) Miscellaneous/unkown- 10-14%
5) Lightning- 9%
6) Machine use – 7-8%
7) Railroads- 5%
8) Campers- 3-6%

Develop programs that will specifically address and preclude fires due to the above reasons. **11**

CONCLUSION: The Plan has serious flaws that need to be addressed and rectified. Among these flaws are erroneous explanations of fire dynamics.

These erroneous explanations lead the public to believe statements such as, "The leaves of Eucalyptus trees are oily and so are highly flammable," which simplify and reduce fire science and fire dynamics to a highly inaccurate sound bite; and apparently are **12**

designed to mislead the public, and thereby enlist public support for a fundamentally flawed wildfire hazard mitigation agenda, which, if implemented, will have major negative ecological and financial repercussions on the taxpayer.

There is nothing wrong with advocating for native plant restoration. There is nothing wrong with advocating for land transformation. There is everything wrong with trying to effect either one or both under the guise of wildfire hazard management. It injures the reputation of the fire service; endangers the firefighters, who will be called to fight the fires that will be caused by improper wildfire hazard management due to putting idealogy ahead of fire science; and imperils the public.

12 cont.

LETTER C18
David Maloney
October 29, 2009

C18-1: This comment is primarily an introduction to the following comments. The Plan and EIR authors disagree with the commenter regarding the comment that the Plan is aimed at "land transformation" and not fuel hazard reductions, and that important data is treated in a superficial manner, ignored or misused. The Plan is based on sound and accepted fire science principals, contains supporting data regarding fuels, vegetation types, and recommended treatments, and provides extensive background and supplementary information in the appendices to the Plan on related issues such as the fire safe regulations and information (Appendix B), the wildfire hazard assessment for the Study Area (Appendix C), and exotic invasive weed control (Appendix G). This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-2: Contrary to this comment, Chapter IV. Fuel Treatment Methods contains a description of the potential methods to be used when implementing the Plan and does not advocate clear cutting of all trees throughout the Study Area. In fact "tree removal" is not a method that is described in this chapter (see Plan page 77). Plan Chapter V. Vegetation Management Program contains fuel reduction techniques and guidelines for the woodland vegetation types within the Study Area. See also Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-3: Contrary to this comment, the Plan does not ignore "moisture" as it relates to vegetation and the potential fuel characteristics of different vegetation types as described in Plan Appendix C. Wildfire Hazard Assessment. See also response to comment B8-23. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

Moisture contents of the vegetative fuels are a crucial input to every analysis of wildland fire behavior.[35] Fuel moisture is specified in dead fuels in three different size classes, or in live fuels, as foliar moisture. The Plan consultants differentiated the moisture of dead fuels based on their size as smaller materials respond faster to drying and wetting influences of the atmosphere than larger materials. These dead fuel moisture content values are a function of the ability of the dead, woody material to attract and absorb moisture from the environment (hygroscopy). The dead fuel moisture values were selected to be consistent with the values selected for the state-wide assessment of hazards by CalFire and are specific to the size class. The values represent a severe fire danger condition applicable throughout the State.

[35] Rothermel. 1983. Ibid.

Atmospheric moisture has the greatest influence in small particles, and is in part reflected in the relative humidity. The atmospheric moisture values were selected based on nearly 15 years of hourly weather observations and subsequent calculations from Remote Automated Weather Stations (RAWS). Two RAWS are strategically located within the planning area, and form elements of a network of ten RAWS in and adjacent to the District. This RAWS network is used to calculate National Fire Danger Rating System (NFDRS) indices for comparison with other areas of the region, state and nation for state-of-the-art, day-to-day and seasonal fire protection planning.[36]

Hygrometers measure relative humidity, or rather the factors that go into the calculation of relative humidity. Relative humidity is recorded hourly at each of the area's RAWS (see http://www.ebparks.org/about/fire/raws) and accessed daily during the fire season to determine NFDRS indices for fire protection planning. RAWS observations are transmitted and archived in the national Weather Information Management System database. Maximum and minimum relative humidity values were specified as weather inputs to the Plan's fire behavior analysis (see Plan Appendix C, Appendix C: Weather Inputs for FLAMMAP Simulations). Dew rarely occurs during periods of extreme fire weather; atmospheric moisture is normally measured as relative humidity.

Live fuel moisture content values were based on the records of field samples collected throughout the fire season from shrub lands in and near the Study Area and processed using nationally standardized procedures. Additionally, research on foliar moisture on shrubs and trees done in the East Bay Hills and Southern California augmented field samples were considered when determining the appropriate levels of foliar moisture for shrubs and trees. Available soil moisture and plant phenology are the major influences on live fuel moisture content; hygroscopy is a minor influence.[37]

For the FLAMMAP analysis on which this Plan is based, both dead and live fuel moisture contents were specified, as appropriate, for the fuel models selected as best fits to estimate fire behavior in the vegetation types being evaluated (see Plan Appendix C).
The commenter is correct that wind speed is decreased with tree density. For the Plan's wildfire hazard assessment, the amount of sheltering from wind was incorporated within the software of FlamMap for not only tree density but also the

[36] Deeming, John E. Burgan, Robert E. Cohen. Jack D. 1978. The National Fire-Danger Rating System. U.S. Dept. of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station 63 p. ill. (General technical Report INT; 39). Ogden, Utah

[37] Rice. 1987. ibid..

Rice, Carol L. 1991. Effects of Drought on Landscaping in the Pain Fire, Santa Barbara, California. Unpublished report submitted to Sycamore Associates, Walnut Creek, CA.

Rice, Carol L. 1989. Live fuel moisture sampling methods for Chiricahua National Monument. Technical Report No. 27, Cooperative National Park Resources Studies Unit. Tucson, AZ. 40pg.

position on the slope.[38] Similarly, the effect of tree canopy shading is similarly incorporated into the fire behavior prediction software. It is a function of the canopy cover, which is mapped for the various vegetation types.

Ground moisture is not measured within fire behavior prediction systems because the more applicable measurement is fuel moisture. Like ground moisture, moisture from dew is not a useful measurement in fire behavior prediction because fuel moisture is a more accurate factor since fire interacts directly with fuel rather than the ground.

Recommended treatment areas (RTA) and their corresponding vegetation management goals were identified in relation to the well-documented frequency, intensity and consequences of severe wildfires in the planning area's wildland-urban interface. The moisture-related factors suggested by the commenter, such as fog drip, dew, dew point, weekly and monthly moisture contents and moisture values do influence the time of year, the day, and even the time of day when fires will occur. Their comparison to other areas in the state and nation can assist with statewide and national fire preparedness planning, but does little to inform site specific fuels management treatment decisions. Nonetheless, at the commenter's suggestion the District and consultant team reconsidered their effect on the recommended actions, and reaffirmed our determination that when the low moisture, high temperature and high wind velocity conditions conducive to high severity wildfires do occur, as they do regularly each year (the Bay Area has the second highest occurrence of foehn wind conditions in the West, topped only by the Los Angeles Basin), it is the volume and arrangement of the vegetative fuels (together with the flammability of private properties downwind) that determine the severity of the fire. It is the fuel volume and arrangement on selected parkland parcels adjacent to private property that this Plan proposes to treat and maintain, for the most part. Other parcels within the parks were selected for treatment due to their proximity to valuable park improvements (values-at-risk), or for their potential to generate and cast burning embers on to private properties miles downwind under Diablo wind conditions. These RTAs were identified through science-based, state-of-the-art fire behavior analysis. Reconsideration of the moisture related factors suggested by the commenter did not change the outcomes of that analysis.

C18-4: Contrary to this comment, Plan Chapter IV. Fuel Treatment Methods contains an extensive description of prescribed burning (see Plan pages 95 to 104) as a fuel reduction treatment. The Plan describes considerations and best management practices to protect environmental resources with its use. The Draft EIR fully analyzes the potential effects associated with using prescribed burning to implement the Plan. See responses to comments B7-8, B8-99 and C18-1. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

[38] Finney, Mark. 2006. FARSITE Technical documentation. Countryman, Clive M. Moisture in living fuels affects fire behavior. 1974. Fire Management Notes, Spring 1974, pages 10-14

C18-5: Eucalyptus is treated in the Plan as a fuel hazard, not as an invasive species. Please see Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-6: Comment is noted regarding the cause of spot fires. See Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-7: Comment is noted regarding the characteristics of crown fires. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-8: Comment is noted regarding the commenter's belief that Table 13.5.3 on page 13-63 vol.11 of the Fire Protection Handbook should have been used as a reference point by the authors of the Plan. Response C18-3 provides an extensive response concerning how fuel moisture was considered and used in the wildfire hazard assessment (see Plan Appendix C) for the Plan. See also Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-9: Regarding the fire resistance of blue gum eucalyptus see responses to comment letter B8 and Master Response No. 3. This comment does not relate to the adequacy of the information or analysis within the Draft EIR.

C18-10: In regards to suggestions for improving the Plan, please refer to Plan Chapter VI, Plan Implementation and Master Responses No. 1 and No. 2. These comments, which pertain to the Plan and the merits of the project and not the adequacy of the Draft EIR, are noted. The District will consider the suggested changes.

C18-11: See response to comment C18-10.

C18-12: The Plan and EIR authors disagree with this comment which is a summary of the previous comments, see response to comment C18-1 and Master Response No. 3. The District and Plan authors strongly disagree with the comment that the Plan "endangers the firefighters who will be called to fight the fires that will be caused by improper wildfire hazard management due to putting ideology ahead of fire science; and imperils the public." The District staff and consultants who prepared the Plan who included trained foresters and wildland fire professionals worked in close coordination with the Hills Emergency Forum and the District's partners in emergency response to share and review the fire science inputs used to support and prepare the Plan and the resulting recommendations contained therein. The Plan contains guidelines aimed at increasing and enhancing coordination and response efforts with other jurisdictions, agencies, organizations, park neighbors, emergency responders, and State and local fire departments to suppress wildfire, when one occurs, and protect the public's health, safety and welfare, as well as public and private property. As stated in the Plan guidelines:

> 3.3 EBRPD will continue to coordinate with the adjacent cities, counties, special districts, State and federal agencies that own and manage public lands,

facilities and infrastructure, including roadways, and those that regulate private lands in the Plan study area to ensure that adjacent vegetation management programs are coordinated, information is shared, roadside vegetation clearance is maintained, and emergency evacuation, egress and ingress can be provided.

3.4 EBRPD will continue its outreach and education programs with stakeholders, neighborhood groups, and local organizations in an effort to reduce fire hazards on lands adjacent to parklands; assist private land owners with prioritizing and planning long term fuel reduction and fire safe landscaping strategies; and support State laws regarding the establishment and maintenance of a state-designated defensible space zone around homes, local hazard abatement ordinances, and fire codes.

The Plan in no way does or will impede the ability of emergency responders to protect the public from wildfire on District lands, and in fact, has as a primary goal the opposite condition:

> Reduce fire hazards on District-owned lands in the East Bay's wildland-urban interface (WUI) to an acceptable level.

Letter
C19

Comments to Draft EIR, east bay regional parks wildfire reduction and resource management plan

cherielj

Sent: Saturday, October 31, 2009 2:54 PM

To: Wildfire EIR;

Cheriel Jensen,
Protect Our Valley

October 31, 2009

East Bay Regional Park District
Brian Wiese, Chief of Planning and Stewardship
2959 Peralta Oaks Court
Oakland, CA 94605-081
WildfireEIR@ebparks.org

RE: Comments of Cheriel Jensen on the Public Review Draft of the EBRPD Wildfire Hazard Reduction and Resource Management EIR.
State Clearing House No. #2008042099

The entire premise of the EIR, to control wildfire, is defeated by the plan to apply herbicides with the assumption that this will help reduce vegetation and thus will reduce wildfire. But there is no controlled study that shows such an outcome to be true.

Our experiments and hands on workshops show that the herbicide Roundup actually degrades vegetation in a way that creates a much more flammable matrix. Our experiments in the San Francisco Bay Area climates show that branches cut from trees in areas where low level vegetation (grasses and/or shrubs) have been treated with Roundup, when lit by a torch, instantly flame up, whereas tree branches cut from trees in areas to which no herbicides have been used are actually difficult to light.

1

To demonstrate this to state and east bay local land managers and fire districts we held a well-attended, midsummer East Bay hands-on seminar at the Claremont Hotel. When the various branches were torched, this herbicide/fire acceleration effect was clear.

An EIR is supposed to enlighten actions. To enlighten this EIR, the East Bay Parks District should conduct their own actual on-ground test. On a day when there is no wind, get ready on a wide, paved area with a hose. Cut 2 or 3 long branches from trees where no herbicides or pesticides have been used within 200 feet. Within the same time frame (2 hours) cut similar sized branches from trees of the same type where herbicides have been used in the ground areas nearby. Using a torch, light the branch tips and video tape the resulting fires so you have a record. It will be clear that herbicide, not even directly applied, but used in the vicinity, has an effect on vegetation that will accelerate the burn rate of trees significantly. The vegetation looks the same to the naked eye, but the herbicide-exposed vegetation, however is very different in it's characteristics.

In addition to this experiment the following conclusions in the Draft should be revised as follows:

Public Review Draft, IV. Setting, Impacts and Mitigation, E. Hazards and Hazardous Materials, page 284, Impacts and Mitigation Measures,
"2. a., Significance Criteria"

Missing from the criteria is that "A significant impact from hazardous materials would occur if the project would:" **2**

- Apply hazardous materials, particularly herbicide that would contaminate groundwater or surface water.

- Vastly increase the flammability of vegetation by use of herbicides, particularly Roundup, thereby defeating the purpose of reducing fire hazards.

"2.b. Less-than-Significant Hazardous Materials Impacts."

The conclusion of this section are mistaken. There is no reference supporting the conclusion that the use of herbicides would have less than significant impact and in fact the use of herbicides would go a long way to defeat the plan's primary goal and thus have a significant impact. Devastating wildfire would become a virtual certainty. **3**

I have not responded to the health impacts of herbicides. This is not just a matter of spillage as the EIR implies. There is a huge body of research showing these impacts, way too much material to include here, but if you are not familiar with this research I can get you started. The impacts will show up throughout the east bay and beyond, the waters of the east bay, and the San Francisco Bay. The health of the people of the east bay will be severely impacted by the use of herbicides and widespread contamination, an issue virtually ignored by this EIR. **4**

As some notices of the deadline for inclusion say October 30, 2009 and others say October 31, 2009, these comments should be accepted.

Yours Truly,

Cheriel Jensen

LETTER C19
Cheriel Jensen
October 31, 2009

C19-1: This comment provides an introduction to the comments that follow. See responses to comment letter B5 and Master Response No. 3.

C19-2: The EIR authors working in coordination with the District as Lead Agency for the Draft EIR have determined and used the criteria of significance for analysis of the project. The potentially significant adverse effects related to the use of chemicals on hydrological resources is evaluated and mitigated in Section IV.D, Hydrology and Water Quality in the EIR and the potential impacts associated with an increased risk of fire related to the project is adequately evaluated Section IV.H Hazards and Hazardous Materials. See response to comment

C19-3: See response to comment B5-2 which addresses the location of the references in the Draft EIR to support the findings and conclusions contained therein.

C19-4: See responses to comment letter B5 and Master Response No. 3.

Letter
C20

Hills Conservation Network
1047 Alvarado Road
Berkeley, CA 94705

11/16/09

Dear EBRPD District Counsel Ted Radosevich:

As you are no doubt aware, the Measure CC Plan/EIR was recently released for public comment. Our group, the Hills Conservation Network, a Berkeley/Oakland based environmental group, has commented extensively on these documents. We apologize in advance for the length and complexity of our comments, but we felt it necessary to respond, point by point, to the extremely wordy and redundant EBRPD document. It is our purpose in writing this letter to encourage you to consider the deficiencies highlighted in our comments so that you will NOT certify the Plan/EIR in its current form.

Measure CC was approved by the voting public as a measure aimed at improving safety, in this case mitigating the fire risk associated with vegetation in the East Bay Hills. Our group is strongly in favor of vegetation management as a means of mitigating fire risk. As we studied the Plan and EIR proposed by EBRPD, we were disappointed to see that it is far more focused on native plant restoration than on fire risk mitigation, and, as such, it represents an inappropriate use of public funds on public lands. CEQA requires that an EIR should be free of bias, and should include a thorough analysis of reasonable alternatives. The proposed Plan/EIR clearly fails on both counts, so it is therefore open to legal challenge.

Our comments on the Plan/EIR included a detailed list of many examples of bias; we identified key areas of the EIR that are missing or that were addressed only in the most cursory manner; we pointed out areas of logical disconnects, and we raised concerns over the fairness and accuracy of the Flam Map analysis used to justify the plan. 1

The Flam Map analysis is of particular concern because it was positioned as a key piece of the analysis that was to have been used to determine the most appropriate plan to achieve the goal of fire risk mitigation. Unfortunately, it is deeply flawed. In addition to its use of jury-rigged inputs to the plan (inputs that appear to have been developed specifically to result in the desired outputs), and the lack of any clear linkage between the outputs of the model and the resulting plan, we have serious questions as to why Carol Rice was selected to do the modeling.

Carol Rice has a long history of advocating native plant restoration over species-neutral fire risk mitigation. She made public statements reflecting this bias as far back as 1986 when she wrote." The University of California has a situation more explosive than an atomic bomb just behind Memorial Stadium" (Rice, Carol L., and Richard Aronson. Fire Management Plan for the UC Hill Area,1986). While her obvious bias and her tendency to exaggerate might not automatically disqualify her from the important role she played in the creation of Measure CC Plan/EIR, her business conflicts are of great concern. Most recently, Ms. Rice was hired by the Hills Emergency Forum, a consortium of hills fire agencies and UC, to respond to FEMA in an attempt to gain approval of UC's Environmental Assessment for the Strawberry Canyon Project,

and release of funding. This work was a clear case of advocacy on behalf of an extreme native plant restoration agenda, the very reason why FEMA has so far refused to fund the project. Her work on this contract made it abundantly clear that Ms. Rice has business relations that would cause a reasonable person to question her objectivity. As a parallel, if she were a judge, to avoid having someone else disqualify her, she would have recused herself from this case

While our hope is that EBRPD staff will seriously consider our comments on the Plan/EIR, and will accept our recommendation that these documents be substantially modified and recirculated, we are concerned that our comments will be largely ignored and that the Plan/EIR might be sent to the board for certification with only minor modifications.

We need to be clear that these documents, in their current form, are unacceptable. The Plan/EIR appear to be little more than a thinly veiled attempt to co-opt the will of the voters and misuse money that was allocated for fire risk mitigation to native plant restoration.

We have proposed an alternative plan that achieves greater fire risk mitigation at substantially lower cost, and with far fewer adverse environmental impacts. Our alternative is species-neutral, and it is consistent with the will of the voters, who did not provide funding for native plant restoration. They asked and expected that their tax money would be used for fire risk mitigation. CEQA requires that all reasonable alternatives be considered, and we submit that the HCN alternative is a far better fit to the project objectives than the "preferred" alternative, and as a result, must be analyzed.

1 cont.

In summary, we urge you to ask staff to rework the Plan/EIR to be clearly in line with the will of the voters. As important as these documents are, they deserve to be free of bias and clearly targeted to achieving the goal of fire risk mitigation at the lowest cost and with the least environmental damage. Unfortunately, the Plan/EIR in their current form is far from this.

We believe that it serves no one's interest to pursue a legal challenge to the EIR, so we hope we will not have to consider that path. We sincerely solicit your thoughtful review of our comments so that the issues we raised can be resolved in a manner that will benefit the citizens who voted for Measure CC and expect fair treatment from their representatives on the EBRPD board of directors.

Sincerely,

Madeline Hovland

Madeline Hovland
Hills Conservation Network

LETTER C20
Madeline Hovland
November 16, 2009

NOTE: This letter was received after the end of the Draft EIR public review period.

C20-1: See responses to comment letters B8 and B9 from Madeline Hoveland.

D. PUBLIC HEARING COMMENTS

The following are individuals who made comments on the Draft EIR during the September 2, 2009 public workshop on the Draft Plan and Draft EIR. Responses that are keyed to the commenters follow.

D1: Afton Crooks, Sierra Club
D2: Norman LaForce
D3: Bob Faber
D4: Lynn Hovland, HCN
D5: Peter Scott
D6: Peter Rauch, CNPS
D7: Afton Crooks, Sierra Club
D8: Gordon Piper
D9: Ron Barklow
D10: Laura Baker
D11: Norman LaForce
D12: Martin Holden, Claremont Conservancy
D13: Mike Bond, El Cerrito Fire Department
D14: Bill McClung
D15: Peter Rauch, CNPS
D16: Afton Crooks, Sierra Club
D17: George Laing, Contra Costa Fire Police Department
D18: Laura Baker

D1: **Afton Crooks:** There needs to be more time to review and comment on the Plan and Draft EIR. Please extend the comment period.

Response to D1: The District will take that request into consideration. On September 21, 2009, the District extended the comment period to October 30, 2009, an additional 30 days, for a total of 88 days

D2: **Normal LaForce:** It is unclear how the District will form the fuels group; how it will operate, and where the ultimate decisions will be made. If there is a disagreement about a potential treatment, policy or practice, who makes the decision?

Response to D2: The Stewardship Manager will be closely involved with coordinating implementation of the program. If there is disagreement among the divisions, the question is brought to the District's management group. However, over the past two years there has been no disagreement among the divisions regarding the Draft Fire Plan recommendations.

D3: **Bob Faber:** Plan talks about the District doing its own monitoring. The Park District should have a separate outside monitoring group.

Response to D3: The District may use monitors that are not District personnel as necessary and appropriate to the situation; however, it is important for the District to remain closely involved with monitoring and quality control of its work.

D4: **Lynn Hovland:** There isn't anything about eucalyptus in the language of Measure CC, and it doesn't seem to be identified as part of the wildfire threat per Measure CC.

Response to D4: Measure CC specifically addresses the removal of eucalyptus in the table of actions adopted by the Board and formally made a part of the ballot measure language prior to presentation to the public in November, 2004 . Furthermore, the District's Master Plan states, "The District will evaluate eucalyptus, pine and cypress plantations, and shrubland or woodland areas occurring along the wildland/urban interface on a case-by-case basis for thinning, removal and/or conversion to a less fire-prone condition." The District and consultants have also considered the language and intent of Measure CC while preparing the Draft Plan and Draft EIR.

D5: **Peter Scott:** In the 1995 VMC Report, there was no vegetation group with a flame length less than 8 feet. Oak bay woodlands don't meet the 8 foot length. Why are eucalyptus featured as the biggest threat? What does the term "crosswalk of vegetation types" mean when used in the wildfire hazard assessment?

Response to D5: The Draft Plan contains a description of the primary vegetation types in the Study Area, and their fuel characteristics and fire hazard rating. The term "crosswalk" refers to the use of a set of decision rules to translate vegetation types into fuel types for use as an input into a fuel model (see Appendix C: Final Wildfire Hazard Assessment and Treatment Areas in the Draft Plan).

D6: **Peter Rauch:** In regards to the context of the Study Area, the PowerPoint slide showed the study areas as hills and areas around the Bay. How much does the Plan reduce the risk of wildfires that originate from urban areas or house fires within the neighborhoods?

Response to D6: The Draft Plan provides guidelines and recommendations for the District to reduce fuel loads and fire hazards on District lands and prevent them from spreading from parks into neighboring communities. Private property owners must still do their part to create and maintain defensible space around their homes.

D7-1: **Afton Crooks:** There are three errors in the document: 1) On page 14 "System-wide plans will be flexible enough to accommodate existing LUPs, which will take precedence unless amended." – this should be amended. LUPs should not be the preeminent document. 2) Page 15 does not identify the Temescal Working Group – the contribution this group made needs to be included. 3) There is a violation of the Master Plan – it says the primary mission of the District is to fight fires. This is incorrect; the Park District deals with parks/trails/nature/recreation/etc… Fighting fires is not the main mission.

Response to D7-1: The District will revise the Draft Plan as necessary to fix any errors or unintentional oversights in regards to these comments.

Comment D7-2: There wasn't a balance between resource stewardship/fuels management/fiscal concerns; the document was too heavily oriented towards fire.

Response to D7-2: Protecting public safety and reducing the risk of a wildfire disaster is a Park District Master Plan policy, a goal of Measure CC and the reason for producing this Plan; however the Plan is unique among fuels management plans in that it takes an ecological approach which addresses major goals of protecting natural resources and habitat. All of these are part of the District's mission.

Comment D7-3: At a site visit to Tilden, no one talked about anything but eucalyptus. Other vegetation types such as riparian areas should have been talked about.

Response to D7-3: The visit to Tilden's Lone Oak site was specifically to discuss how we move from the Plan to implementation in a dense eucalyptus stand, and whether the results of that implementation will meet fire hazard reduction objectives. We also gave an overview that illustrated the incorporation of other relevant resource concerns and requirements into the development of implementation prescriptions. Though the adjacent riparian areas were mentioned in that overview, the short time allotted for that visit did not allow for an in-depth discussion of any resource issues, nor was that the objective of the visit. In Chapter V, Vegetation Management Program, the Draft Plan contains a description of the primary vegetation types in the Study Area, including riparian areas, their fuel characteristics, fire hazard rating, and provides guidelines to protect sensitive habitat types (see pages 195 to 199).

Comment D7-4: How will eucalyptus thinning be done – on a piecemeal basis?

Response to D7-4: No. The Plan provides an overall, comprehensive approach to vegetation management and resource protection. It also provides goals and guidelines for each of the approximately 120 recommended treatment areas. Specific prescriptions for fuel reduction activities will be identified based on a site assessment for the specific area to be treated.

D8: **Gordon Piper:** How were BMPs developed? Were they crafted using professional knowledge, or industry standards? The Plan could be enhanced if you employed some additional professionals with expertise in hillside and shoreline wildland vegetation and exotic and invasive plant management. Plantings need to be included.

Response to D8: The BMPs were developed using a variety of sources including industry standards and professional knowledge. The consultant team and District staff who worked on the Draft Plan included biologists and botanists who have professional expertise in hillside and shoreline wildland vegetation and exotic and invasive plant management. Many of the BMPs also represent professional standards accepted and employed by resource agencies.

D9: **Ron Barklow:** Concerned that fuel reduction work (logging) is only going to occur on the East Ridge Trail in Redwood Park; the West Ridge Trail needs work too as pine trees have fallen and more may fall on the trail. How long until a tree falls on a child? People also carelessly smoke on the trail. There needs to be permanent signage about fire danger.

Response to D9: Tree removal was identified for many of the Recommended Treatment Areas in the Draft Plan. The District also has a hazardous tree program which is part of its normal operations.

D10: **Laura Baker:** For the annual grassland goals – was the District aiming for a specific height for the grasses after treatment?

Response to D10-1: The recommendation in the Draft Plan is to achieve a standing height of 4 to 6 inches of dead grasses for annual grasses. For areas of native grasslands, grass heights can be higher.

Comment D10-2: The Lone Oak Site – is this a typical polygon? How many times have biologists visited the site? What is the typical cost or treatment?

Response to D10-2: This site was used as an example to show how the guidelines of the Draft Plan might be implemented. It is not a typical polygon. The site has been visited many times by biologists. The costs of treatment vary by activity.

D11: **Norman LaForce:** There should be two meetings on this topic – one for the Plan and one for the EIR. There needs to be more time to review the documents. Hoping for a different kind of EIR where people thought outside the box. (Example – for takings, the District should have developed strategies to avoid takings). The EIR should have identified benefits or the plan and included actions to enhance special status plant species in areas of fuel management. Would have liked the EIR analysis to be more sophisticated. The Sierra Club and other environmental groups have submitted a Green Paper on vegetation management to reduce wildfires that should be included in the public record.

Response to D11: Please see Response to D1. The District has held five public progress meetings during the course of formulating the plan. The Plan and EIR have been available for public review and comment for 88 days. The District Board of Directors will hold a public hearing to consider adoption of the plan early next year. The Green Paper has been included in the record for this project.

D12-1: **Martin Holden:** The twin goals of the Plan are fire safety and resource preservation.

Response to D12-1: The comment is noted. This comment does not address the information or adequacy of analysis within the Draft EIR.

Comment D12-2: Don't like the goats. They are indiscriminate grazers that make the land look bad and should not be used for resource management. Hand work would be appropriate wherever goats are used. Doesn't agree with the figures in the cost table included in the Plan.

Response to D12-2: The comment is noted. This comment does not address the information or adequacy of analysis within the Draft EIR.

D13: **Mike Bond:** Fire is a natural phenomenon and was used by the native people; however, it is a negative risk for people in urban areas and along the urban interface. Applauds the District for difficult task of balancing fire protection with resource protection in the Plan and EIR as these issues must be addressed.

Response to D13: The comment is noted. This comment does not address the information or adequacy of analysis within the Draft EIR.

D14: **Bill McClung:** There is a similarity between the Green Paper language and the Plan language with the "twin goals" - believes that it is possible to attain the twin goals. The District doesn't meet these two goals with their current activities. Less than half of the 3,000 acres are managed, which leads to a dangerous condition. Of the five methods described in the Plan, only 1 (hand labor) has the potential to reduce fire and promote the environment, but the area to be managed is huge (3,000 acres in the RTAs) and is surrounded by urban development, and it will take lots of people to manage.

Response to D14: The comment on the Plan is noted. This comment does not address the information or adequacy of analysis within the Draft EIR.

D15: **Peter Rauch:** In regards to the goals for grass height, which grazer is going to keep grass at the desired height? There is the need for extensive management to make it work.

Response to D15: A number of different treatment methods, including grazing animals, are identified in the Draft Plan, and will be employed according to the fuel reduction and resource management goals identified for a particular area to be treated.

D16: **Afton Crooks:** Would like to again request the extension of the comment period. Would also like to have two hearings – one on the Plan and one on the EIR.

Response to D16: Please see Response to D1.

D17: **George Laing:** Homeowners creating their own defensible space and passive fire protection measures are extremely important as homes have more "fuel," burn hotter and usually spread a fire to a wildland area. The District prepared a detailed plan that has been reviewed by other fire districts. Applauds the District's effort in preparing a plan that provides fuel load reduction guidelines.

Response to D17: Comment noted. Please see Response to D6.

D18: **Laura Baker:** The Park District has done a good job on explaining the complex relationships between vegetation as fuel types and natural habitat. Would like an extension of the review period. Interested in seeing the very best possible Plan and EIR. There is a very strong public commitment to fire safety and resource protection, but the public needs more time to review the documents.

Response to D18: Please see Response to D1.

IV. TEXT REVISIONS

Chapter IV presents specific changes to the text of the Draft EIR that are being made to clarify information in the Draft EIR, in response to comments received during the public review period or the direction of City staff. In no case do these revisions introduce "significant new information" as defined in *CEQA Guidelines* section 15088.5, including new or more severe environmental impacts, new mitigation measures or alternatives, or information indicating that the Draft EIR is fundamentally and basically inadequate. All revisions contained herein are minor in nature. Where revisions to the main text are called for, the page is listed, followed by the associated revision. Added text is indicated with underlined text. Text deleted from the Draft EIR is shown in ~~strikeout~~. Page numbers correspond to the page numbers of the Draft EIR.

A. DRAFT EIR TEXT REVISIONS

Page 3 has been revised to add the following as the third paragraph under Section C. EIR Scope:

> To the degree that this EIR relies on reports, studies, or other documents for its analyses, such documents are incorporated by reference as applicable to this project. All reports, studies and other documents incorporated by reference are available for public review at the East Bay Regional Park District Offices, 2950 Peralta Oaks Court, Oakland, CA 94605-038.1

Page 25 of the Draft EIR is revised as follows:

> 3. Ensure that during the planning for and implementation of all fuel reduction activities that the protection, restoration and enhancement of biologically diverse habitats and environmental resources, including cultural resources, is given full consideration, and specific resource management objectives and actions are incorporated into all fuel reduction treatment plans.

Page 114 of the Draft EIR has been revised as follows:

> [4] ~~Amme, D. and N. Havlik. 1987. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7 (4): 28-46. East Bay Regional Park District, Oakland, CA.~~
>
> [4] Amme and Havlik, 1987. *Assessment and Management of Arctostaphylos pallida Eastwood.* Pp. 447-453 In: Elias, T. [ed] Proceedings of a California Conference on the Conservation and Management of Rare and Endangered Plants. California Native Plant Society, Sacramento, Calif., and Amme and Havlik, 1985. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7(4):28-46. East Bay Regional Park District, Oakland, CA.

Page 115 of the Draft EIR has been revised as follows:

[16] McBride, J.R. and H.F. Heady. 1968. ~~Invasion of grassland by Baccharis pilularis DC. J. Range Management 21:106-108.~~ Invasion of Grassland by *Baccharis pilularis* D.C. Journal of Range Management 21(2):106-108.

Page 126 of the Draft EIR has been revised as follows:

[28] McBride, J.M. 1974. ~~Plant succession in the Berkeley Hills. Madroño 22(3):317-329~~ op.cit.

Page 161 of the Draft EIR is revised as follows:

EBRPD recognizes that the control of invasive, non-native plant species on park lands before, during, and after treatment activities that are undertaken to reduce fuel loads is an important issue because of these species rapid proliferation in disturbed areas, their contribution to fuel loads and fire hazards, and their ability to adversely affect native and special-status plants and habitats. To reduce the potential impacts associated with invasive, non-native plant species, the Plan contains specific objectives and detailed guidelines and prescriptions for the control of invasive plant species common to the Study Area in Chapter V. Vegetation Management Program, Section B. Invasive Plants, and more specifically in the Plan Appendix G: Prescriptions for the Control of Invasive Plant Species and Noxious Weeds. As stated on page 122 of the Plan, "In keeping with the Plan's goals, the following are three objectives for reducing the invasive and noxious weeds that the District should seek to address when undertaking specific fuel reduction actions: 1. Control weeds; 2. Identify and achieve resource management objectives such as wildland fuel reduction, wildlife habitat maintenance, ecosystem preservation, forage production, or recreational land management, and 3. Prevent reinvasion of the targeted weed or invasion of other noxious species.

Page 171 of the Draft EIR has been revised as follows:

- Plan-related fuel reduction treatments activities in oak-bay woodland habitat could spread a pathogen fungus *Phytophthora ramorum* or sudden oak death (SOD) from treated areas to areas not yet infected. SOD can impact oaks and other desirable native trees and shrubs. Alameda County, Contra Costa County, and other Bay Area Counties are under quarantine restrictions for SOD. Oak and other host plant material (as defined by the statute cited) may not be moved outside of the quarantine region without specific written certification from the California Department of Agriculture or other authorized agricultural officials (e.g. County Agricultural Commissioners).[1] The following measures shall be followed when working in oak-bay woodland to reduce the spread of SOD:
    - District staff shall consult with the appropriate County Agricultural Commissioners, and implement Best Management Practices (BMPs) for treatments in infected oak-bay woodlands to minimize the risk of spreading this fungus to uninfected areas.

[1] California Department of Food and Agriculture. 2008. Plant Quarantine Manual Section 3700. Oak Mortality Disease Control. State Miscellaneous Ruling.

- o District staff and subcontractors shall ~~Personnel should~~ be informed of the presence of SOD and instructed to prevent unauthorized movement of host plant debris, soil, or mud and these resource guideines concerning SOD.
- o If dead or diseased host plants are removed from a treatment area, infected plant material shall be contained and moved for disposal off-site within the quarantine region in an area where SOD would not contact uninfected woody vegetation as specified by a permit issued by the authorizing agricultural compliance officer.
- o No host plant material shall be moved outside of the quarantine region which includes Contra Costa and Alameda County.
- o If cut trees are to be left onsite for chipping or burning, they should be felled in a manner that minimizes subsequent transport, disturbance, and contact with adjacent oak-bay woodlands.
- o Clean equipment, vehicles and shoes of host plant debris, soil or mud that could spread infected soil when entering or leaving an infected oak-bay woodland treatment area. Shoes should be cleaned with Lysol or bleach. Vehicles should be inspected to ensure they are clean prior to leaving an infected area.
- o Conduct treatments when the soil is dry (June-October). Avoid treatments in wet weather when soils are saturated (November-May).

Page 174 of the Draft EIR is revised as follows:

(12) Proposed Strategic Fire Route and Invasive Plant Species. Construction and maintenance of the proposed new strategic fire route in Claremont Canyon (per Figure III-5 and Plan Guidelines 1.9) could require the permanent removal of up to 0.2 acres of California annual grassland, 1.6 acres of xeric coastal scrub, 0.2 acres of coyote brush scrub, and 0.6 acres of oak-bay woodland, and could cause potential indirect impacts on downstream aquatic habitats, and potential impacts on nesting birds.

Page 175 of the Draft EIR is revised as follows:

Mitigation Measure BIO-3: The following procedures shall be implemented when constructing and maintaining ~~a new~~ strategic fire routes:

- The ~~road~~ shoulders of strategic fire routes shall be revegetated with a native grass seed mix, as approved by EBRPD Stewardship Department, to provide a competitive cover to minimize colonization by invasive non-native species.
- While maintaining ~~road~~ shoulders of strategic fire routes for fuel reduction and defensible space, the occurrence of invasive non-native species should be monitored and controlled per the guidelines in the Plan, and especially Appendix G: Prescriptions For the Control of Invasive Plant Species and Noxious Weeds. (LTS)

Page 190 of the Draft EIR has been revised as follows:

[32] Seidelman Associates, ~~1989~~1985, The Effects of Land and Vegetative Management on the Stability of Slopes Along the Wildland/Urban Interface Wildcat Canyon and Tilden Regional Parks, August 1.

Page 192 of the Draft EIR is revised as follows:

Mitigation Measure GEO-1: Prior to implementation of any proposed vegetation removal activity, the recommended treatment area shall be screened for potential landslide activation risk using the following procedure:

1) EBRPD staff shall refer to:

   - The most currently available landslide mapping from the United States Geologic Survey or the California Geological Survey for the Study Area (for example, the USGS, 1997, Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California. OFR 97-745c);
   - GIS slope steepness mapping for the Study Area.

2) If all of the following criteria are satisfied then no further action to address potential landslide activation would be required:

   - The area to be treated within the recommended treatment area is located in an area listed as "stable", "few landslides", or equivalent;
   - The average slope steepness of the recommended treatment area is less than 10 degrees (about 18 percent);
   - There is no visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the recommended treatment area, as documented by a field reconnaissance; and
   - There are no habitable structures within 100 feet of the toe of the slope downgradient of the recommended treatment area.

3) EBRPD staff shall determine whether to retain a qualified professional (e.g., engineering geologist or geotechnical engineer) to conduct a geotechnical reconnaissance (on a case-by-case basis) to evaluate the potential impacts of fuel reduction activities or vegetation type conversion on future landslide potential if:
   - Habitable structure(s) are located within 100 feet of the toe of the slope downhill of the treatment area, and
   - The prescribed treatment would include the use of heavy equipment or machinery and significant ground disturbing activities (i.e., this requirement would not apply to methods such as hand treatment, weed-eating, or chemical treatment), and one or more of the following conditions is identified:

- The treatment area is listed as "unstable", "many landslides" on applicable slope stability mapping, or
- The average slope steepness of the treatment area is greater than 10 degrees (about 18 percent); or
- There is visible evidence of landslide activity (e.g., scarps, crooked trees, landslide-generated debris piles) within the treatment area, as documented by a field reconnaissance,

All recommendations of the qualified professional (which may include avoidance of the proposed activity) shall be documented in writing, provided to EBRPD, and implemented to the degree necessary to reduce or avoid the potential for landslides and slope instability associated with fuel reduction activities as determined by EBRPD staff. (LTS)

Pages 202 through 204 of the Draft EIR are revised as follows:

Plan Chapter IV. Fuel Reduction Methods

Best Management Practices for Hand Labor Methods - Water Quality

- Treatment actions shall ~~should~~ not be conducted during storms.
- Treatment actions shall ~~should~~ avoid, when feasible, excessive foot traffic on steep slopes which could cause compaction and/or erosion to occur.
- Hand labor personnel shall ~~should~~ avoid driving support and haul trucks off established roads. If such traffic is determined by EBRPD and hand labor personnel to be necessary, inspection will be conducted to ensure that the ground is not saturated prior to traveling off-road, and that the ground can fully support the vehicles without excessive rutting of surface soils. Any ruts created as a result of off-road activities will be repaired and covered with mulch and/or wood chips to reduce potential runoff from these areas and reduce their potential for erosion.
- Hand labor personnel shall ~~should~~ take care to handle fuels and lubricants such that spilling and runoff of these substances does not occur.

Best Management Practices for Mechanical Treatment - Water Quality
Mechanical treatment techniques generally result in increased ground disturbance relative to hand labor techniques, and therefore require the use of additional BMPs to mitigate potential effects. For all mechanical treatment actions that could result in substantial ground disturbance, EBRPD will implement erosion control BMPs that are consistent with the San Francisco Bay Regional Water Quality Control Board's standards. Based on site-specific conditions and the type of treatment action proposed, EBRPD and its contractors should consider one or more of the following BMPs, at a minimum to be included in any necessary erosion control plan, where mechanical treatment techniques will be used for fuel management:

- Use caution when conducting any mechanical treatment actions during the area's rainy season. Treatment actions shall ~~should~~ be stopped temporarily if rainfall or other inclement weather makes access inadvisable, or if continued vehicular travel or mechanical action is determined to cause unacceptable damage to roads, trails, or other lands.

- Surveys shall ~~should~~ be conducted that identify and delineate on-site soil and hydrological conditions prior to initiation of any mechanical treatment techniques. Any planned mechanical treatment actions shall ~~should~~ include all necessary measures to minimize activity in sensitive areas that could be wetter than normal, or in areas near hydrological resources. Wet areas will be clearly marked for high visibility and avoided by treatment operations until such time as they are determined to be sufficiently capable of supporting any mechanical treatment activities without causing excess rutting, erosion, or sedimentation to occur.
- All mechanical treatment actions shall ~~should~~ use equipment, methods, and/or techniques that minimize alterations to the existing soil structure.
- Heavy equipment use (e.g., tractor-based yarding activities) shall ~~should~~ be concentrated at primary skid trails and landings. Skidding shall ~~should~~ be allowed only along clearly designated skidding trails. Mechanical treatment actions shall ~~should~~ be temporarily stopped and alternative treatment or removal methods considered if a single pass of equipment produces ruts deeper than 6 inches across a significant area of the site beyond primary skid trails and landings.
- Materials shall ~~should~~ not be dragged across park roads and drainage areas unless specifically allowed by EBRPD, and only then along routes recommended by equipment operators and approved by EBRPD. These routes shall ~~should~~ be created to minimize the total skidding distance needed; total area occupied by skidding trails should not exceed 15 percent of the treatment area.
- Skid trails shall ~~should~~ not cross streams except where absolutely necessary, and only at locations previously determined by EBRPD staff and included in the site treatment prescription. Trees identified for removal growing near a drainage channel (based on stream type and approved buffer width) shall ~~should~~ be hand-felled perpendicular to the drainage channel rather than cleared using mechanical equipment. These trees shall ~~should~~ only be processed by a skidder where EBRPD determines that the skidder could safely handle the stems at a reasonable distance from the drainage channel based on stream type and approved buffer width; if it is determined that the tree cannot be safely handled by mechanized means at this distance, the tree shall ~~should~~ be lopped and scattered by hand labor treatment or left as a long log. Branches and debris shall ~~should~~ not be felled, loaded, skidded, or hauled across any stream or watercourse unless EBRPD approves such a measure. No drainage channel with running or standing water shall ~~should~~ be crossed by mechanical equipment while water is present to avoid runoff and contamination from vehicle use as well as rutting and erosion. Crossing shall ~~should~~ not occur until the drainage completely dries out.
- Personnel will avoid driving support and haul trucks off of established roads. Where this is necessary, personnel shall ~~should~~ ensure that the ground is not saturated before traveling off-road and that the ground can support the vehicles without excessive rutting. Any ruts created shall ~~should~~ be repaired and covered with mulch and/or wood chips.
- Personnel will install and use waterbars, brush barriers, vehicle turnouts, or other methods as needed to control and capture potential runoff resulting from mechanical treatment actions. Other methods for controlling and capturing potential runoff could include broad-based dips, creating ditchlines inside of current drainage patterns (i.e., closer to treatment actions to capture runoff prior to reaching the drainage area), cross-drains, filter areas, sediment traps or pits, silt fences, hay bales, check dams or the in/outsloping and crowning of roads.

- All solid waste and trash generated by any treatment actions must be removed from the treatment site and organic waste (such as removed trees) must be disposed of at a commercial recycling or composting facility (and not at a landfill) as approved by the District. Leftover materials can create a water pollution risk if they remain onsite and are later washed into water bodies through runoff.
- Maintain all roads in a desirable condition to prevent problems that may result from their use, such as washouts, slumping, clogging or bending culverts, and drainage erosion. Any damages that occur to roads as a direct result of treatment actions shall ~~should~~ be repaired upon completion of the treatment action.
- Upon abandonment of an access road or skid trail, all refuse and unstable fill material must be removed and road banks restored to original contours. Road banks must also be revegetated or have permanent waterbars installed.
- Refueling areas will be designated for larger projects requiring mechanical treatment actions. Fuel tanks and refueling areas will be provided with secondary containment, where feasible. Materials and supplies needed to promptly clean up spills will be adequately maintained and located onsite, and personnel will be familiar with proper cleanup and disposal techniques. Examples of containment and cleanup methods and materials include using drip pans and absorbent pads for all vehicle and equipment fueling; equipping all fuel nozzles with automatic shut-off capability to contain fuel dripping and leakage; ensuring all vehicle fueling operations are not left unattended; inspecting vehicles and equipment each day to identify any fuel, oil, or hydraulic leaks; and repairing any identified leaks immediately prior to further use or storage of the leaking equipment to minimize further impact to the site. Vehicles with persistent or recurring leaks will be removed from the site until such leaks are properly repaired. Onsite fueling of vehicles and equipment will only be performed when offsite fueling is determined by EBRPD to be impractical.

Best Management Practices for Chemical Treatment - Water Quality

- EBRPD and its contractors will ensure that any pesticide or other chemical applications are performed only by licensed or certified pest control operators registered to perform such services in the County where the treatment is to take place, and only under a prescription prepared by a licensed pesticide advisor. The pest control operator must record and provide written accounts of the total amount of pesticides and other chemicals applied each month, as well as type(s) of pesticides or chemicals used and total areas treated with each pesticide or other chemical. These data must be reported to the County Agricultural Commissioner as well as to EBRPD's IPM Program. Operators must maintain accurate and calibrated application equipment to ensure correct amounts of pesticides and other chemicals are applied.
- Any chemical treatment actions must be performed according to EBRPD integrated pest management (IPM) policies and practices; pest control operators selected by EBRPD or its contractors shall ~~should~~ consult and use the advice and recommendations of EBRPD integrated pest management specialists and adhere to EBRPD pest management guidelines. For example, species-specific (instead of broad-spectrum) herbicides shall ~~should~~ be used wherever possible to avoid injury to non-target plants.
- EBRPD IPM specialists will oversee chemical application practices to ensure compliance with State and federal regulations and EBRPD IPM policies. Pesticide application prescriptions will include suitable distances from wetlands and water

bodies, in compliance with the California Department of Food and Agriculture Regulations and State-approved product labeling; the IPM Specialist will review application data to ensure the minimum amount of suitable chemicals are used during treatment actions to achieve the desired results.

Best Management Practices for Prescribed Burning - Erosion Control

- Personnel shall ~~should~~ ensure that ground cover is retained on 60 percent of the ground surface to prevent soil displacement from rain impact and to allow precipitation to absorb into the ground; where feasible, fire shall ~~should~~ not be allowed to burn sufficiently hot that the duff layer is destroyed. Actions shall ~~should~~ attempt to retain more groundcover in areas within 50 feet of a downslope water body. When water soaks into the ground there is less chance that it will run off and cause erosion into and around water bodies.
- Actions will include maintenance of buffer areas between the burn zone and nearby water bodies. Prescribed fires will not be actively ignited within the vegetative buffer zone. A minimum vegetation buffer of 25 feet shall ~~should~~ be maintained between burn areas and downslope water bodies for slopes under 5 percent, a 75-foot buffer between burn areas and water bodies for 5-10 percent slopes, and a 150-foot buffer for slopes over 10 percent. In most cases, fire can be allowed to "back" into riparian zones; however, no ignition shall ~~should~~ take place in the stream environment zone (i.e., the stream, its riparian corridor and adjacent marshes and wet meadows). High-intensity burns shall ~~should~~ be kept away from creeks and drainage buffer zones unless suitable measures, as determined by EBRPD, are used to ensure protection of water quality.
- Personnel will minimize the risk of erosion into water bodies from fire lines by:
    - Using existing barriers such as roads, trails, or wet lines as fire lines to minimize soil disturbance.
    - Constructing fire lines along the contour and avoiding straight up/downhill placement.
    - Establishing erosion control BMPs like water bars, turnouts, and sediment traps.
    - Fire lines must be restored upon completion of the prescribed burn if they are determined not to be used again. Erosion controls features must be placed, as necessary, to minimize the potential for additional impacts.
- Torch fuels will be mixed, and torches filled, only in designated fueling areas to isolate potential areas that could be affected by hazardous materials spills.

Best Management Practices for Grazing

- Livestock will generally be excluded from riparian areas. Only during limited circumstances and under the supervision of qualified personnel shall ~~should~~ livestock be used to reduce fuel loads in riparian areas.
- Livestock grazing will be closely monitored to determine when performance criteria are achieved. Once goals and desired fuel loads have been reached, livestock shall ~~should~~ be removed in a timely manner to avoid overgrazing and/or excessive hoof traffic.

- Inspections will occur with regular frequency and shall ~~should~~ pay particular attention to areas where bare ground is being exposed. Inspections shall ~~should~~ also note areas where animals are developing worn trails. Where excessive wear is occurring, livestock shall ~~should~~ be moved to other areas and alternative treatment methods considered if fuel reduction requirements have yet to be sufficiently reached.

Page 209 of the Draft EIR has been revised as follows:

On July 7, 2006, and August 30, 2007, Ms. Debbie Pilas-Treadway, NAHC Environmental Specialist III, responded by faxed letter that "A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area." ~~the Sacred Lands File did not indicate the presence of Native American cultural resources in the Study Area.~~ On September 5, 2007, LSA spoke to Ms. Helen Lore, Board Member of the ACHS. Ms. Lore stated that neither she nor her organization had any comments or concerns about the project. Ms. Betty Maffei, Director of CCHS, stated in a phone call on June 29, 2006 that neither she nor the CCCHS had any other concerns about the project or Study Area, but supports EBRPD efforts to reduce fire risk by managing fuels on their lands.

Page 210 of the Draft EIR has been revised as follows:

(1) Prehistory and Ethnography. Research indicates that California was probably settled by native Californians between 12,000 and 6,000 years ago. Penutian peoples migrated into central California around 4,500 years ago ~~and were firmly settled around San Francisco Bay by 1,500 years ago~~. The descendants of the native groups who lived between the Carquinez Strait and the Monterey area are the Ohlone, although they are often referred to by the name of their linguistic group, Costanoan.

Page 211 of the Draft EIR has been revised as follows:

These settlers established the mission system and exposed the Ohlone to diseases to which they had no immunity. Mission San Francisco de Assisi (Mission Dolores) was founded in 1776, and drew Ohlone from the entire Bay Area. Mission Santa Clara, just outside of San Jose, was founded in 1777, and Mission San Jose was founded in 1797. Many East Bay Native Americans, particularly those of eastern Alameda County and Contra Costa County, went to Mission Santa Clara. Mission records list the Huichun at Mission San Francisco between 1794 and 1805. The Jalquin and the Saclan appear in Mission San Francisco records in 1801-1803, although the Bay Miwok were listed as a group beginning in the 1790s. Following the disbanding of the missions in 1834, native people in the Bay Area moved to ranchos, where they worked as manual laborers.

Page 227 of the Draft EIR is revised as follows:

Best Management Practices for Prescribed Burning - Cultural Resources

- Cultural resources, both archaeological and those in the built environment, are fire-sensitive sites. Therefore, EBRPD or its contractors will ensure that recorded cultural resource sites are provided with appropriate protection during any prescribed burn. This may include conducting a pre-burn site assessment prior to any initial prescribed burn action on a site. The locations of any previously unrecorded cultural resources exposed by burning actions will be mapped and documented. All activities ~~should~~ shall be planned and executed in such a way as to ~~cause the least amount of~~ ensure that any impacts on cultural sites are reduced to less-than-significant levels.

- EBRPD or its contractors ~~will~~ shall exclude any fire-sensitive cultural sites within prescribed burn areas by constructing hand lines within the burn area or clearly delineating the boundaries of the burn area such that all fire-sensitive cultural resources are fully excluded. This exclusion ~~should~~ shall be done shortly before the prescribed burn, and the hand lines removed immediately following to minimize potential risk of resource vandalism. Any digging, surface disturbance, or displacement of soil and vegetation within cultural sites must be avoided. Any mechanical equipment used prior to, during, or following the prescribed burn must be excluded from the cultural site. Foot traffic ~~should~~ shall be minimized on the cultural site such that the least amount of potential impact is caused. During prescribed burns, onsite personnel ~~will~~ shall closely monitor fire movement near cultural resources and ensure that fires do not cross into fire-sensitive cultural resource areas.

- All onsite personnel ~~should~~ shall be adequately informed and knowledgeable of the location of known cultural sites within and around the prescribed burn area. Personnel ~~will~~ shall also be sufficiently knowledgeable of proper treatment actions that can be applied at cultural sites. The Incident Commander ~~will~~ shall provide briefings and supervision to prevent potential disturbance of cultural sites.

- Following the completion of prescribed burning actions, all means of delineating site locations must be removed, and any hand lines or other features to identify the cultural sites must be obliterated.

- EBRPD ~~will~~ shall exclude livestock from the vicinity of documented cultural resources deemed to be sensitive to grazing activities (e.g., a recorded site with human remains or midden).

Pages 229 to 230 of the Draft EIR have been revised as follows:

Mitigation Measure CULT-1: During project-related ground disturbing activities, should human remains or associated burial goods be encountered the steps required by *CEQA Guidelines* §15064.5(e) and Health and Safety Code §7050.5

shall be taken. Pursuant to these sections, and to the EBRPD's Cultural Resources Policy, the on-site EBRPD supervisor, or their designee, shall: (1) halt work within 50 feet of the remains; (2) contact the Alameda or Contra Costa County coroners; and (3) contact an archaeologist to evaluate the remains and provide recommendations.

If the remains are of Native American origin, the archaeologist will provide a preliminary assessment of the eligibility of ~~evaluate~~ the remains for California Register of Historical Resources (California Register) ~~eligibility~~, and shall do so in a non-invasive manner that does not involve ground disturbance. The remains shall be considered as a part of an archaeological deposit for the purposes of assessing the overall site's archaeological values; this will be separate from, and not superior to, consideration of the remains as possessing cultural significance for descendant communities. T~~t~~he coroner will contact the Native American Heritage Commission in Sacramento, which will in turn identify a Most Likely Descendent (MLD). The MLD shall be provided the opportunity to make recommendations for the respectful treatment of the Native American remains and any related burial goods. At this time, the archaeologist shall, in consultation with the MLD, undertake ground disturbing investigations of the remains and associated deposits to determine their eligibility. If the remains are eligible for the California Register, the archaeologist shall recover scientifically valuable information, as appropriate and in accordance with the recommendations of the MLD. Following the archaeologist's evaluation, a report should be prepared to document the methods, findings, and recommendations of the archaeologist conducting the work. The report should be submitted to EBRPD and the Northwest Information Center. (LTS)

Pages 259 to 260 of the Draft EIR have been revised as follows:

~~There is currently no CEQA statute, regulation, or judicial decision that requires an EIR to analyze the GHG emissions of a project, or whether a project will have a significant impact on global warming. However, Senate Bill 97 directed the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines to address GHG emissions. OPR is required to prepare, develop, and transmit these guidelines on or before July 1, 2009 and the Resources Agency is required to certify and adopt them by January 1, 2010. In April 2009, proposed CEQA Guideline amendments released by OPR included information on GHG emissions as a separate consideration and whether a project would generate GHG emissions, either directly or indirectly, such that a significant impact to the environment is created. The proposed CEQA amendments currently state that a lead agency has discretion on whether to use a model or qualitative analysis to determine significance of a project's greenhouse gas emissions.~~

On December 30, 2009, the California Natural Resources Agency adopted CEQA Guidelines Amendments related to Climate Change. These amendments become effective on March 18, 2010, and state that the "lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or

methodology to quantify greenhouse gas emissions resulting from a project…and/or (2) Rely on a qualitative analysis or performance based standards." The qualitative analysis presented in this EIR considers the Plan's consistency with the State goals and plans, including fuel reduction goals, to minimize the frequency and magnitude of catastrophic fires and associated GHG emissions. Additional details concerning the potential for cumulative impacts associated with greenhouse gas emissions are provided in Chapter VI. CEQA-Required Assessment Conclusions.

Page 264 of the Draft EIR is revised as follows:

~~The Plan provides policies, guidelines and recommendations to manage fuels and protect wildlands in a manner consistent with State strategies and long-term climate goals. While some of these activities (e.g., tree removal and prescribed burning) may appear to conflict with short-term GHG emission reduction goals, the State and District expect that there will be reductions in long-term overall emissions (associated with catastrophic and damaging wildfires) and larger net gains in vegetation health.[2] Tree removal and thinning or brush clearing may cause short-term emissions (through the use of vehicles to transport personnel and mechanical equipment) and loss of some carbon sequestered in vegetation, but these emissions are expected to be offset by the promotion and regeneration of native and low fire hazard vegetation and growth and wood products. The activities identified in the Plan are intended to reduce the frequency and severity of wildfires, and as a result, CO_2 emissions will be reduced and more carbon will ultimately remain in wildland biomass in the cumulative condition. However, quantifying the specific GHG benefits associated with avoiding wildfire through fuels treatment would be speculative and is difficult because of the unpredictable nature of fire.~~

~~The Plan would not conflict with or impede implementation of reduction goals identified in AB 32, the Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. In addition, the Plan would also be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. With implementation of those elements, the Plan's contribution to cumulative GHG emissions would be less than significant.~~

There is an emerging view among scientists that fire hazard mitigation (e.g., through vegetation treatments or prescribed fire)[3] may be able to play a beneficial role in long-term forest carbon sequestration, emissions reductions, and climate change mitigation; however, the specifics of where and how this can achieve the greatest effect are still open questions. The CalFire strategies were recognized by

[2] ~~California Board of Forestry and Fire Protection. 2008. *Draft Report to ARB on Meeting AB 32 Targets.* August 20.~~

[3] Wiedinmyer, Christine and Hurteau, Matthew. University Corporation for Atmospheric Research. 2010. *Prescribed Fire as a Means of Reducing Forest Carbon Emissions in the Western United States.* Environmental Science and Technology. March 16.

the Governor's Climate Action Team reports and by the Air Resources Board in the AB 32 Scoping Plan. The Plan is consistent with CalFire Forestry strategies and will reduce greenhouse gases in the long term consistent with AB 32. As discussed further in Chapter VI of this EIR document, the Plan would not conflict with any applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Therefore, the Plan's contribution to cumulative GHG emissions would be less than significant.

Table IV.E-1: Cultural Resources Identified in the Study Area on pages 232 to 238 of the Draft EIR has been revised and is included in subsequent pages of this Response to Comments Document.

Chapter V. Alternatives on pages 307 to 312 has been revised and is included in subsequent pages of this Response to Comments Document.

Chapter VI. CEQA-Required Assessment Conclusions, C. Cumulative Impacts, pages 315 to 323 of the Draft EIR, has been revised and is included in subsequent pages of this Response to Comments Document.

Page 326 of the Draft EIR has been revised as follows:

Amme and Havlik, 1985. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7(4):28-46. East Bay Regional Park District, Oakland, CA.

Amme, D, 2004. *Grassland Heritage: Stewardship of a Changed Landscape*. Bay Nature April-June 2004. Available online: http://www.baynature.com/2004apriljune/v04n02_grassland.html

~~Amme, D. and N. Havlik, 1987. *An Ecological Assessment of Arctostaphylos pallida Eastw., Alameda and Contra Costa Counties*. The Four Seasons 7 (4): 28-46. East Bay Regional Park District, Oakland, CA.~~

Amme and Havlik, 1987. *Assessment and Management of Arctostaphylos pallida Eastwood.* Pp. 447-453 In: Elias, T. [ed] Proceedings of a California Conference on the Conservation and Management of Rare and Endangered Plants. California Native Plant Society, Sacramento, Calif

Amphion Environmental, Inc, 1995. *Fire Hazard Mitigation Program and Fuel Management Plan for the East Bay Hills*, May.

Archaeological Consulting and Research Services, Inc., n.d. Mill Valley, California.

Archaeological Consulting and Research Services, Inc., n.d. *Report ~~of~~ of the Archaeological Reconnaissance of the Proposed Mountain Village Developments, Alameda County, California*. Mill Valley, California.

Page 333 of the Draft EIR has been revised as follows:

~~McBride, J.M, 1974. Plant succession in the Berkeley Hills. Madroño 22(3):317-329.~~

McBride, J.R, 1974. Plant succession in the Berkeley Hills, California. Madroño 22 (7):317-329.

~~McBride, J.R. and H.F. Heady, 1968. Invasion of grassland by Baccharis pilularis DC. J. Range Management 21:106-108.~~

McBride, J.R. and H.H. Heady, 1968. Invasion of Grassland by *Baccharis pilularis* D.C. Journal of Range Management 21(2):106-108.

Page 335 of the Draft EIR has been revised as follows:

Scheyer, J.M., and K.W. Hipple, 2005. *Urban Soil Primer*. United States Department of Agriculture, Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska (http://soils.usda.gov/use).

~~Seidelman Associates, 1989, The Effects of Land and Vegetative Management on the Stability of Slopes Along the Wildland/Urban Interface Wildcat Canyon and Tilden Regional Parks, August 1.~~

Seidelman Associates, Inc., 1985. The Effects of Land and Vegetative Management on the Stability of Slopes along the Wildland/Urban Interface, Wildcat Canyon and Tilden Regional Parks, August 27.

Shannon, Peggy, 1990. M.A. thesis, Sonoma State University, Rohnert Park, California.

Appendix E which includes the full text of Measure CC and supporting information for the Draft EIR is included in the subsequent pages.

Table IV.E-1: Cultural Resources Identified in the Study Area

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
achs001	N/A	N/A	N/A	Grass Valley farming and ranch site	AC	ALA	
achs002	N/A	N/A	N/A	Peterson/Aleyss homestead site	AC	ALA	
achs003	N/A	N/A	N/A	Big Bear riding stables site	AC	ALA	
achs004	N/A	CA-ALA-434H	N/A	Grass Valley ranch site - big trees	AC	ALA	
achs005	N/A	CA-ALA-435H	N/A	Stonebridge site	AC	ALA	
achs006	N/A	N/A	N/A	Homesite (1899)	AC	ALA	
achs007	N/A	N/A	N/A	Pinehurst watershed caretaker residence	AC	ALA	
achs008	N/A	N/A	N/A	Marciel Family homestead site	AC	ALA	
achs009	N/A	N/A	N/A	Homesite	AC	ALA	
achs010	N/A	N/A	N/A	Homesite	AC	ALA	
achs011	N/A	N/A	N/A	Homesite	AC	ALA	
achs012	N/A	N/A	N/A	Bort Meadow eucalyptus	AC	ALA	
achs015	N/A	N/A	N/A	"Possible" ranch building site	AC	ALA	
achs016	N/A	N/A	N/A	Buried bridge buttress	AC	ALA	
achs017	N/A	N/A	N/A	Homesite (1899)	AC	ALA	
achs018	P-01-002185	CA-ALA-580H	N/A	Fence	AC	ALA	
achs019	P-01-000158	CA-ALA-436H	N/A	Grass Valley Trail	AC	ALA	
achs020	P-01-002180	N/A	N/A	Grass Valley Bridge	AC	ALA	Concrete bridge faced with stone
acna021	N/A	CA-ALA-422	N/A	Bedrock mortars/cupules	AC	ALA	
bkhs011	N/A	N/A	N/A	Quarry Site and Artifacts	BK	CCO	
bkhs012	N/A	N/A	N/A	Sunken Sailing Barges	BK	CCO	
bkhs013	N/A	N/A	N/A	Island Historic Farming Features	BK	CCO	
bkna001	P-07-000168	CA-CCO-290	N/A	[Shellmound]	BK	CCO	
bkna002	P-07-000169	CA-CCO-291	N/A	[Shellmound]	BK	CCO	
bkna003	N/A	N/A	N/A	[Shellmound]	BK	CCO	
bkna004	N/A		N/A	[Shellmound]	BK	CCO	
bkna005	P-07-000169	CA-CCO-291	N/A	[Shellmound]	BK	CCO	Same site number as bkna002
bkna006	P-07-000167	CA-CCO-289	N/A	[Shellmound]	BK	CCO	
bkna007	P-07-000170	CA-CCO-292	N/A	[Shellmound]	BK	CCO	
cbhs001	N/A	N/A	N/A	Glory of the Seas/Crab Cove Maritime	CB	ALA	
cbhs002	N/A	N/A	N/A	Blackie, Maritime Mascot Gravesite	CB	ALA	
cbhs003	N/A	N/A	N/A	Memory Lane	CB	ALA	
cbhs004	N/A	N/A	N/A	Neptune Beach Site	CB	ALA	
cbhs005	N/A	N/A	N/A	Dirigible Anchor/Maritime School	CB	ALA	
cchs001	P-01-002183	CA-ALA-579H	N/A	Fence	CC	ALA	
cchs002	P-01-000039	CA-ALA-019	N/A	Contemporary rockcarving	CC	ALA	
eshs001	P-07-002554	N/A	N/A	Point Fleming Pier	ES	ALA	P-07-002554 superceded by P-01-010617 (ALA County)
kehs001	N/A	N/A	N/A	Former CCC campsite	KG	CCO	
kghs002	N/A	N/A	N/A	Oakland/Orinda railroad bed	KG	CCO	Listed in California Inventory of Historic Resources; California Point of Historical Interest
lchs001	P-01-00039	CA-ALA-423H	N/A	Yema-Po	LC	ALA	Chinese village site
lchs002	N/A	N/A	N/A	Slate House	LC	ALA	
lchs003	N/A	N/A	N/A	Lake Chabot and Chabot Dam	LC	ALA	Listed in California Inventory of Historic Resources; California Point of Historical Interest; Historic Civil Engineering Landmark
lchs004	N/A	N/A	N/A	Cork oak tree	LC	ALA	

Table IV.E-1 *Continued*

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
lchs005	N/A	N/A	N/A	Nike missile silo	LC	ALA	
lchs006	N/A	N/A	N/A	Sand filter plant	LC	ALA	
lchs007	N/A	N/A	N/A	Tunnel no. 3	LC	ALA	
lchs008	N/A	N/A	N/A	Filter pond no. 1	LC	ALA	
lchs009	N/A	N/A	N/A	Filter pond no. 2	LC	ALA	
lchs010	N/A	N/A	N/A	Nike missile silo	LC	ALA	
lchs011	N/A	N/A	N/A	Nike site kennels	LC	ALA	
lchs012	N/A	N/A	N/A	Nike site bldg - carpentry shop	LC	ALA	
lchs013	N/A	N/A	N/A	Nike site bldg	LC	ALA	
lchs014	N/A	N/A	N/A	Nike site bldg - auto maintenance shop	LC	ALA	
lchs015	N/A	N/A	N/A	Nike site bldg - public safety	LC	ALA	
lchs016	N/A	N/A	N/A	Nike site bldg	LC	ALA	
lchs017	N/A	N/A	N/A	Nike site bldg - storage	LC	ALA	
lchs018	N/A	N/A	N/A	Nike site bldg - pump house	LC	ALA	
lchs019	N/A	N/A	N/A	Nike site bldg - Lake Chabot office	LC	ALA	
lchs105	N/A	N/A	N/A	Nike launch site	LC	ALA	
lchs106	N/A	N/A	N/A	Nike radar site	LC	ALA	
lehs001	P-01-002181	CA-ALA-577H	N/A	Hunting cabin	LCn	ALA	
lehs002	N/A	N/A	N/A	McKell Cottage	LCn	ALA	
mkhs001	N/A	N/A	N/A	Bernardi Residence	MK	CCO	
mkhs002	N/A	N/A	N/A	False gun emplacements	MK	CCO	
mkhs003	N/A	N/A	N/A	Nicholl Knob	MK	CCO	
mkhs004	N/A	N/A	N/A	Santa Fe bldgs, steam rooms, etc.	MK	CCO	
mkhs005	N/A	N/A	N/A	Ferry Pt. Pier	MK	CCO	
mkhs007	P-07-000785	N/A	N/A	Bray Property	MK	CCO	
mkna006	N/A	CA-CCO-285	N/A	[Shellmound]	MK	CCO	
mkna008	N/A	CA-CCO-287	N/A	[Shellmound]	MK	CCO	
mlhs001	N/A	N/A	N/A	Arrowhead Marsh	ML	ALA	
mlhs002	N/A	N/A	N/A	Damon Marsh	ML	ALA	
mlhs003	N/A	N/A	N/A	WWII sunken ships (3 Sites)	ML	ALA	
mlhs004	N/A	N/A	N/A	California's first migratory bird reserve	ML	ALA	
pphs001	N/A	N/A	N/A	Main office safe footing	PP	CCO	
pphs048	N/A	N/A	N/A	No. 1 Nitrating House	PP	CCO	
pphs061	N/A	N/A	N/A	"Site of Giant Powder Co." Monument	PP	CCO	
pphs066	N/A	N/A	N/A	Gelatine mix house	PP	CCO	
pphs077	N/A	N/A	N/A	No. 2 Hall Punch House	PP	CCO	
pphs083	N/A	N/A	N/A	Magazine area office	PP	CCO	
pphs084	N/A	N/A	N/A	Gelatine magazine	PP	CCO	
pphs085	N/A	N/A	N/A	Dynamite magazine	PP	CCO	
pphs088	N/A	N/A	N/A	Old wharf	PP	CCO	
pphs100	N/A	N/A	N/A	Giant Powder Site	PP	CCO	
pphs110	N/A	N/A	N/A	Export magazine	PP	CCO	
pphs128	N/A	N/A	N/A	Testing laboratory	PP	CCO	
pphs191	N/A	N/A	N/A	Hospital	PP	CCO	
pphs222	N/A	N/A	N/A	Recreation hall	PP	CCO	

Table IV.E-1 *Continued*

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
ppbs317	N/A	N/A	N/A	Black powder rumbler	PP	CCO	
ppbs340	N/A	N/A	N/A	No. 1 Hall Punch House	PP	CCO	
ppbs425	N/A	N/A	N/A	Nitro di biazzi building	PP	CCO	
ppbs500	N/A	N/A	N/A	Sobrante to Nitro rail spur	PP	CCO	
ppbs501	N/A	N/A	N/A	Giant Station to "Old" Line spur	PP	CCO	
ppbs502	N/A	N/A	N/A	Giant Station to warehouses spur	PP	CCO	
ppbs504	N/A	N/A	N/A	Dynamite line	PP	CCO	
ppbs505	N/A	N/A	N/A	Gelatin line	PP	CCO	
ppbs506	N/A	N/A	N/A	"Old" Line	PP	CCO	
ppbs507	N/A	N/A	N/A	Black powder line	PP	CCO	
ppbs508	N/A	N/A	N/A	Magazine area lines	PP	CCO	
ppbs510	N/A	N/A	N/A	Safety area line	PP	CCO	
ppbs511	N/A	N/A	N/A	Powder line	PP	CCO	
ppbs550	N/A	N/A	N/A	Giant Post Office	PP	CCO	
ppbs551	N/A	N/A	N/A	Giant Station	PP	CCO	
ppbs552	N/A	N/A	N/A	Sobrante Station	PP	CCO	
ppbs605	N/A	N/A	N/A	[unnamed Black Powder]	PP	CCO	
ppbs624	N/A	N/A	N/A	Boarding house	PP	CCO	
ppbs629	N/A	N/A	N/A	Powder burn area	PP	CCO	
ppbs630	N/A	N/A	N/A	Safety Nitro (1892)	PP	CCO	
ppbs633	N/A	N/A	N/A	Steel water tank and tower	PP	CCO	
ppbs704	N/A	N/A	N/A	"horseshoe" monument	PP	CCO	
ppbs705	N/A	N/A	N/A	tenant house 3	PP	CCO	
ppbs706	N/A	N/A	N/A	tenant house 2	PP	CCO	
ppbs707	N/A	N/A	N/A	tenant house 1	PP	CCO	
ppbs709	N/A	N/A	N/A	Bowling alley	PP	CCO	
ppbs711	N/A	N/A	N/A	Petrich's Saloon	PP	CCO	
ppbs712	N/A	N/A	N/A	Ethnic Lodge	PP	CCO	
ppbs713	N/A	N/A	N/A	Foundation	PP	CCO	
ppbs714	N/A	N/A	N/A	Ethnic lodge	PP	CCO	
ppbs715	N/A	N/A	N/A	Dump	PP	CCO	
ppbs716	N/A	N/A	N/A	Foundation & berm	PP	CCO	
ppbs717	N/A	N/A	N/A	Foundation	PP	CCO	
ppbs718	N/A	N/A	N/A	Kearny Ranch Site	PP	CCO	
ppbs719	N/A	N/A	N/A	Foundation & berm	PP	CCO	
ppbs720	N/A	N/A	N/A	Granite Powder Co.	PP	CCO	
ppbs721	N/A	N/A	N/A	Randall Ranch (1860)	PP	CCO	
ppbs722	N/A	N/A	N/A	Foundation	PP	CCO	
ppbs723	N/A	N/A	N/A	Granite foun. & berm	PP	CCO	
ppbs724	N/A	N/A	N/A	Granite foun. & berm	PP	CCO	
ppbs725	N/A	N/A	N/A	Granite foun. & berm	PP	CCO	
ppbs726	N/A	N/A	N/A	Granite Powder	PP	CCO	
ppbs727	N/A	N/A	N/A	Foundation	PP	CCO	
ppbs728	N/A	N/A	N/A	Foundation	PP	CCO	
ppbs729	N/A	N/A	N/A	Foundation	PP	CCO	

Table IV.E-1 *Continued*

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
pphs730	N/A	N/A	N/A	Foundation	PP	CCO	
pphs731	N/A	N/A	N/A	Foundation	PP	CCO	
pphs732	N/A	N/A	N/A	Foundation	PP	CCO	
pphs733	N/A	N/A	N/A	Foundation	PP	CCO	
pphs734	N/A	N/A	N/A	Foundation	PP	CCO	
pphs735	N/A	N/A	N/A	Foundation	PP	CCO	
pphs737	N/A	N/A	N/A	Foundation	PP	CCO	
pphs738	N/A	N/A	N/A	Black Powder Press	PP	CCO	
pphs739	N/A	N/A	N/A	unknown	PP	CCO	
pphs740	N/A	N/A	N/A	Black Powder (?)	PP	CCO	
pphs741	N/A	N/A	N/A	Black Powder (?)	PP	CCO	
pphs742	N/A	N/A	N/A	[unknown]	PP	CCO	
pphs744	N/A	N/A	N/A	[unnamed Black Powder]	PP	CCO	
pphs745	N/A	N/A	N/A	Black Powder (?)	PP	CCO	
pphs747	N/A	N/A	N/A	[unknown]	PP	CCO	
pphs751	N/A	N/A	N/A	Large Shell Dynamite Hand Pack House	PP	CCO	
pphs757	N/A	N/A	N/A	Croatian Fishing Village-Sobrante	PP	CCO	
pphs758	N/A	N/A	N/A	Chinese Fishing Village-Site	PP	CCO	
pphs759	N/A	N/A	N/A	Gionochios Fishing Resort	PP	CCO	
pphs760	N/A	N/A	N/A	Giant Park/ Sobrante Park	PP	CCO	
pphs761	N/A	N/A	N/A	Trestle Bridge over RR	PP	CCO	
ppna862	P-07-000143	CA-CCO-264	N/A	[Shellmound]	PP	CCO	
ppna863	P-07-000144	CA-CCO-265	N/A	[Shellmound]	PP	CCO	
rdhs001	N/A	N/A	N/A	Blossom Rock redwoods tree site	RW	ALA	Listed in the California Register; California Historical Landmark
rdhs002	N/A	N/A	N/A	Rainbow Trout historic plaque	RW	ALA	Listed in the California Register; California Historical Landmark; CHRIS code: 1CL
rdhs003	N/A	N/A	N/A	Redwood stump	RW	CCO	
rdhs004	N/A	N/A	N/A	Redwood stump	RW	CCO	
rdhs005	N/A	N/A	N/A	Redwood stump	RW	CCO	
rdhs006	N/A	N/A	N/A	Sulfur mine	RW	ALA	
rdhs007	N/A	N/A	N/A	Logging mill location	RW	CCO	
rdhs008	N/A	N/A	N/A	Church of the Woods	RW	ALA	
rdhs009	N/A	N/A	N/A	Homesite	RW	ALA	
rdhs010	N/A	N/A	N/A	Big Bear Tavern site	RW	ALA	
rdhs011	N/A	N/A	N/A	Gulch	RW	ALA	
rdhs012	N/A	N/A	N/A	Park residence	RW	ALA	
rdhs013	N/A	N/A	N/A	Orchard	RW	ALA	
rdhs014	N/A	N/A	N/A	Possible homesite	RW	ALA	
rdhs015	N/A	N/A	N/A	Possible mill location	RW	ALA	
rdhs016	P-01-002182	CA-ALA-578H	N/A	Huntfields equestrian area	RW	ALA	Rock/concrete wall enclosures
rdhs017	P-07-000800	N/A	N/A	Historic trash scatter	RW	CCO	
rdhs018	N/A	N/A	N/A	Redwood Peak gravesites	RW	CCO	Two grave stones
rdhs019	N/A	N/A	N/A	Redwood Canyon School	RW	ALA	
rdhs020	N/A	N/A	N/A	Redwood Inn	RW	ALA	
rdhs021	N/A	N/A	N/A	Logging mill locations	RW	ALA	

Table IV.E-1 *Continued*

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
srhs001	N/A	N/A	N/A	Conley House	SB	CCO	
srhs002	N/A	N/A	N/A	Cottage site	SB	CCO	
srhs003	N/A	N/A	N/A	Gas station site	SB	CCO	
srhs004	N/A	N/A	N/A	Quarry with labyrinth	SB	CCO	
srhs101	N/A	N/A	N/A	East Portal Old Claremont Tunnel	SB	CCO	
srna004	P-01-002186	CA-ALA-581	N/A	Isolate	SB	CCO	Chert flake
tihs001	N/A	N/A	N/A	Vollmer Peak rock wall	Tld	CCO	
tihs002			76000480	Merry-go-round	Tld	CCO	Listed in the National and California registers
tihs003	N/A	N/A	N/A	Brazil Building	Tld	CCO	
tihs004	N/A	N/A	N/A	Rotary Grove peace monument	Tld	CCO	
tihs005	N/A	N/A	N/A	Pozzulana Quarry Site	Tld	CCO	
tihs006	N/A	N/A	N/A	Turn-of-the-century water system remnant	Tld	CCO	
tihs007	N/A	N/A	N/A	Sweetbriar Dairy Site	Tld	CCO	
tihs008	N/A	N/A	N/A	Anti-aircraft installation	Tld	CCO	Constructed circa 1944
tihs009	N/A	N/A	N/A	Big Springs water distribution structure	Tld	CCO	
tihs010	N/A	N/A	N/A	Hopkins Property/Byrnes Ranch Site	Tld	CCO	
tihs011	N/A	N/A	N/A	WPA golf course	Tld	CCO	Constructed circa 1930s
tihs012	N/A	N/A	N/A	Old Observatory Site	Tld	CCO	
tihs013	N/A	N/A	N/A	Mineral Springs	Tld	CCO	
tihs014	N/A	N/A	N/A	Mrs. Mary Curran Ranch Site	Tld	CCO	
tihs015	N/A	N/A	N/A	CCC Camp Wildcat	Tld	CCO	Circa 1930s
tihs016	N/A	N/A	N/A	Spillway and dam	Tld	CCO	Circa 1921
tihs017	N/A	N/A	N/A	Ferndale/Sullivan Ranch	Tld	CCO	
tihs019	P-01-000799	N/A	N/A	Tilden steam trains	Tld	ALA	
tihs020	P-01-002254	N/A	N/A	Rock art	Tld	ALA	
tihs021	P-07-000801	N/A	N/A	Golf course pipeline	Tld	CCO	
tihs022	P-07-000802	N/A	N/A	Archery range foundation	Tld	CCO	
tihs023	n/A	N/A	N/A	Memorial grove/botanic gardens	Tld	CCO	
tihs024	n/A	N/A	N/A	Memorial grove	Tld	CCO	
tihs025	n/A	N/A	N/A	Nike radar site	Tld	CCO	
tina001	n/A	CA-CCO-024	N/A	Jewel Lake campsite	Tld	CCO	Midden, obsidian blade
tina018	N/A	CA-CCO-024	N/A	Jewel Lake campsite	Tld	CCO	Midden, isolate
tina020	P-01-002254	N/A	N/A	Lake Anza mortars	Tld	CCO	Bedrock mortars
				Pony Ride	Tld	CCO	
				Little Farm	Tld	CCO	
tmhs001	N/A	N/A	N/A	Beach House WPA Rock Work	TM	ALA	
tmhs002	N/A	N/A	N/A	Kiwanis Bldg WPA Rock Work/Play Site	TM	ALA	
tmhs003	N/A	N/A	N/A	Temescal Dam	TM	ALA	
wchs001	P-07-000323	CA-CCO-553H	92000313	Wildcat Cn	WC	CCO	
wchs022	P-07-000323	CA-CCO-553H	92000313	Alvarado Park	WC	CCO	Listed in National and California registers, and the Contra Costa County Historical Resource Inventory
wchs023	N/A	N/A	N/A	Belgum sanitarium site	WC	CCO	
wchs024	N/A	N/A	N/A	Nike radar site	WC	CCO	
wchs025	N/A	N/A	N/A	Homesite	WC	CCO	

Table IV.E-1 *Continued*

EBRPD #	Primary #	Trinomial	HPD #	Resource Name/Description	Park[a]	County	Comments
wchs026	N/A	N/A	N/A	Homesite	WC	CCO	
wchs027	N/A	N/A	N/A	Homesite	WC	CCO	
wchs028	N/A	N/A	N/A	Homesite	WC	CCO	
wchs029	N/A	N/A	N/A	Homesite	WC	CCO	
wchs030	N/A	CA-CCO-889	N/A	Contemporary rockcarving	WC	CCO	"Giacou" carved in rock*
wchs031	N/A	N/A	N/A	Nike Launch Site	WC	CCO	
wcna001	P-07-000323	CA-CCO-553H	92000313	Alvarado village site/WPA park features	WC	CCO	Village Site; see CCO-553H, 125, 274, 349, 353, 373
wcna002	N/A	CA-CCO-125	N/A	Midden	WC	CCO	
wcna003	N/A	CA-CCO-373	N/A	Midden	WC	CCO	
wcna004	N/A	CA-CCO-349	N/A	Bedrock mortars/cupules	WC	CCO	
wcna005	N/A	CA-CCO-274	N/A	Midden	WC	CCO	
wcna006	N/A	CA-CCO-553H	N/A	Wildcat Cn	WC	CCO	
wcna007	N/A	CA-CCO-553H	N/A	Wildcat Cn	WC	CCO	
wcna010	N/A	CA-CCO-578	N/A	Mortar	WC	CCO	Bedrock mortar
wcna011	P-07-000346	N/A	N/A	Amos Site	WC	CCO	Shellmound/petroglyph/bedrock mortar/cupule
wcna012	P-07-000347	CA-CCO-580	N/A	Amos Rock	WC	CCO	Cupule rock
wcna013	P-07-000348	CA-CCO-581	N/A	Star Rock	WC	CCO	Pleiades Petroglyph
N/A	P-01-002184	N/A	N/A	Fence	CC	ALA	
N/A	P-01-000235	CA-ALA-429H	N/A	Chinese work camp	LC	ALA	
N/A	P-07-002587	N/A	N/A	Rock wall	SB	CCO	
N/A	P-07-002717	N/A	N/A	Petroglyphs and bedrock mortars	Tld	CCO	
N/A	C-889[b]	N/A	N/A	Isolate	WC	CCO	
N/A	P-07-002607	CA-CCO-762	N/A	Petroglyph	WC	CCO	
N/A	P-07-001171	N/A	12796	Brooks Island	BK	CCO	CHRIS code: 5S2
N/A	N/A	CA-CCO-301	N/A	Shellmound	ES	CCO	
N/A	P-07-002555	CA-CCO-754H	N/A	Stege Marsh Pier	ES	CCO	
N/A	P-01-005892	N/A	68815	Naval Supply Center	MH	ALA	CHRIS code: 2S2
N/A	P-01-010632	N/A	N/A	Western Pacific Railroad Ferry Slips	MH	ALA	Western Pacific Mole
N/A	P-01-000255	N/A	N/A	U.S. Army Air Corps Mechanics Training	ML	ALA	Mapped within park at NWIC
N/A	P-07-001374	N/A	74394	Giant Powder Company Site	PP	CCO	California Historical Landmark; CHRIS code: 7L
N/A	P-07-002569	N/A	N/A	Shell deposits	PP	CCO	Mapped within park at NWIC
N/A	P-01-009576	N/A	106353	Lake Temescal Bath House	TM	ALA	CHRIS code: 2S2

[a] AC - Anthony Chabot, BK - Brooks Island, CB - Crown Beach, CC - Claremont Canyon, ES - East Bay Shoreline, KG - Kennedy Grove, LC - Lake Chabot, LCn - Leona Canyon, MH - Middle Harbor, MK - Miller/Knox, ML - Martin Luther King, Jr. Regional Shoreline, PP - Point Pinole, RW - Redwood, SB - Sobrante Ridge, Tld - Tilden, TM - Temescal, WC - Wildcat Canyon.

[b] EBRP database lists C-889 as "CA-CCO-889." This resource is an isolate and has not been formally recorded

California Historical Resource Information System (CHRIS) Status Codes

ICL - Automatically listed in the California Register due to CA Landmark status, 2S2 - Determined eligible for separate listing in National and California registers, 5S2 - Ineligible for the National Register, but still of local interest, 7L - Evaluated for a register other than the National Register.

V. ALTERNATIVES
(REVISED FROM DRAFT EIR)

The CEQA Guidelines require an analysis of a range of reasonable alternatives to the proposed project, or the location of the proposed project, which could feasibly attain most of the project's basic objectives and avoid or substantially lessen any of the significant effects of the proposed project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.[1]

The Wildfire Hazard Reduction and Resource Management Plan (Plan) has been described and analyzed in the previous chapters with an emphasis on potentially significant impacts and the guidelines, best management practices and performance standards included in the Plan and recommended mitigation measures to avoid these impacts. The following discussion is intended to inform the public and decision-makers of the potentially feasible alternatives to the proposed project.

This chapter is divided into three sections. The first section provides a brief discussion concerning alternatives that were considered but rejected. The second section briefly describes the principal characteristics of the alternatives considered in this section (i.e., the No Project alternative and the Mitigated alternative) and provides a qualitative comparison to the project. The last section discusses the environmentally-superior alternative. Table V-1 is a matrix that compares the impacts of the project to the impacts of alternatives evaluated in detail and alternatives rejected from detailed analysis. The comparison evaluates project and alternative impacts prior to mitigation.

Chapter III of this EIR describes the proposed Plan and identifies its purpose and lists the goals and objectives contained within the Plan. The Plan goals are listed below.

- Reduce fire hazards on District-owned lands in the East Bay's wildland-urban interface to an acceptable level.
- Maintain and enhance ecological values for plant and wildlife habitat consistent with fire reduction goals.
- Preserve aesthetic landscape values for park users and neighboring communities.
- Provide a vegetation management plan which is cost-effective and both financially and environmentally sustainable to EBRPD on an on-going basis.

The 12 Plan objectives (listed in Chapter III. Project Description) serve to more specifically direct wildfire hazard reduction and vegetation management actions. The purpose of these objectives and the policies and guidelines within the Plan is to provide guidance to District staff that will make a variety of informed, adaptive decisions according to site-specific information and will prepare annual fuel treatment plans that identify individual projects designed to meet the Plan goals over time (see Plan Chapter VI. Plan Implementation). The management goals and treatment recommendations included in the Plan focus on specific high wildfire hazard treatment areas and vegetation types. The treatment recommendations in the Plan are intended to be flexible and adaptable and provide

[1] *CEQA Guidelines*, 2008. Section 15126.6.

guidance to the District as it ~~they~~ prepares specific treatment prescriptions for individual areas in order to address changing needs and conditions over time. The individual fuel treatment plans will be based on site specific assessments and available information, including this EIR, background studies and the District's GIS database. Specific treatment guidelines, best management practices, and mitigations are included in the Plan and this EIR to address the fuel reduction methods, vegetation types, and environmental conditions likely to be encountered during implementation of the Plan recommendations (see Table III-2 in Chapter III. Project Description) and the vegetation management program. The vegetation management program (VMP) identifies and describes the various vegetation types found within the East Bay parklands, including their associated fuel characteristics; describes treatment considerations for invasive plants; outlines goals and objectives of vegetation management activities within the EBRPD's jurisdiction; and delineates recommended treatment performance standards for each vegetation type to meet EBRPD's vegetation management goals. Coupled with the information presented in Chapter IV. Fuel Reduction Methods, the VMP provides information to enable the District to determine and prepare the annual fuels treatment plan.

The evaluation of environmental topics contained in Chapter IV of this EIR assesses the potential impacts that could occur with implementation of the Plan. Based on the analyses, all potential impacts but one associated with implementation of the Plan can be reduced to less-than-significant levels with the implementation of Plan guidelines and the mitigation measures identified in this EIR. One significant and unavoidable impact associated with short term substantial adverse visual impacts to the scenic character of the Study Area was identified.

A. ALTERNATIVES THAT WERE CONSIDERED BUT REJECTED

The following section describes five alternatives to the proposed project that were considered but rejected for the reason(s) provided.

1. No Action Alternative

Under the No Action alternative, the District would not undertake any existing or new fuel reduction activities to either maintain the existing fuel reduction zone or to complete projects that have been authorized under the FEMA Environmental Assessment.[2] In the short term, no potential adverse effects associated with vegetation management activities and related to biological resources, soil loss, erosion, compaction, potential landslides, water resources, air quality, cultural resources, and visual resources would occur. However, none of the beneficial impacts of the Plan would occur, including: reducing the threat of property damage, personal injury, and other impacts to public health and safety caused by future fires; removing non-native, highly flammable, invasive plants, and ultimately converting park vegetation to low fire hazard primarily native plant species and habitat types. This alternative would not meet the objectives of Measure CC, which calls for the use of public funds to "…enhance public safety (police and wildfire protection…" and which is included in Appendix E. Additionally, this alternative would not meet the goals and objectives of the Plan or the District's Master Plan objectives and policies, and, therefore, has been removed from further consideration.

[2] URS Corporation, 2003. Final Environmental Assessment for the East Bay Regional Park District Vegetation Management Projects, Alameda and Contra Costa Counties, California. HMGP #919-515-24. Prepared for the Federal Emergency Management Agency. April.

2. Maximum Fuel Reduction Activities

Under the Maximum Fuel Reduction Activities alternative, the entire Study Area (approximately 19,000 acres) both within and outside the recommended treatment areas described in the Plan would be within the "area of impact" and considered and prioritized for fuel reduction activities. Under this alternative, the District would first treat all areas of high hazard fuels (as determined through the wildfire hazard assessment and FlamMap modeling, see Appendix C of the Plan) regardless of whether they were adjacent to homes and facilities outside of the parklands.

This alternative would ensure that the most hazardous fuels were treated within each park unit, environmental resources within the parks were considered, and park facilities at risk were protected. However, because no fuel hazard priorities would be identified under this alternative, as they are in the 3,000 acres that are the focus of management activities in the proposed project, the Maximum Fuel Reduction Activities ~~this~~ alternative would not meet the primary objective of protecting life and property, nor would it meet the goal of providing a cost-effective vegetation management plan that is both economically and environmentally sustainable on an on-going basis. This alternative would not significantly reduce or avoid the impacts identified in Chapter IV for biological resources, slope instability, cultural resources, noise and visual resources, as fuel reduction treatments and activities would continue to occur. In fact, the alternative would likely increase any potential impacts associated with the project proportional to the larger area affected by fuel reduction activities (19,000 acres would be affected under the alternative compared to 3,000 acres under the project). The Maximum Fuel Reduction Activities alternative would require substantially more ground-disturbing and vegetation removal activities than the proposed project. Although adverse effects associated with these activities would be mitigated under the proposed project, the Maximum Fuel Reduction Activities alternative would adversely affect aquatic habitats and nesting raptors and songbirds, could conflict with policies that protect biological resources, and could introduce non-native species to the area. Because this alternative would require more heavy equipment use than the proposed project and more high hazard fuels would be removed (including plants whose root systems stabilize hillsides) compared to the proposed project, the alternative could contribute to landslide hazards. Ground-disturbing activities could also result in greater adverse effects to buried archaeological resources than the proposed project. The increased level of operation of mechanical equipment as part of these ground-disturbing activities, including vegetation management activities, also has the potential to increase ambient noise and vibration levels. Lastly, the removal of vegetation associated with the alternative would change the scenic character of the area and its surroundings. For these reasons, this alternative was considered but rejected from detailed analysis ~~for not meeting the basic goals and objectives of the project.~~

3. No Tree Removal

Under the No Tree Removal alternative, the fuel reduction and vegetation management activities identified in the Plan would be fully implemented, except that no trees would be removed as part of any fuel reduction activities. While this alternative would maintain ecological and landscape aesthetic values within the Study Area over the short-term, the increasing number of trees and overall density within tree stands of all types would contribute to increased wildfire hazards and would promote the spread of diseases within and across stands, such as sudden oak death and pine pitch canker. Furthermore, mature and young eucalyptus and Monterey pine forests are non-native plant species that were widely introduced in large plantations and pose significant fire hazards within the Study Area. Non-native eucalyptus and pine are some of the most dense and flammable plant communities

in the hills. Unmaintained eucalyptus groves can have 400 to 900 trees per acre with fuel ladders into the canopy and 50 to 100 tons of flammable fuel on the ground.[3] Wind driven wildfire in these groves can be expected to produce flame lengths and ember throws that will quickly overcome firefighters and significantly reduce evacuation time for homeowners. In addition, the ground vegetation and ladder fuels in these dense woodland communities are difficult to maintain in a cost-effective manner. Unmaintained pine groves are also extremely flammable with deep needle duff on the ground and dense pine seedling growth within and around the grove. Additionally, eucalyptus re-growth through stump sprouting of previously cut mature eucalyptus is a significant issue and fire hazard in the Study Area. The young eucalyptus forest (one to ten years of age) is dominated by trees with multiple trunks and a large amount of leaves at the lower levels, and is more hazardous than mature eucalyptus forest due to high tree density and the presence of multiple stems, which can suspend dead leaves and branches within these stems that act as an additional ladder fuel.

It should be noted that selective thinning, pruning and removal of ground and ladder fuels are the recommended actions for the majority of the approximately 1,370 ~~1,360~~ acres of eucalyptus stands within the identified treatment areas (see Table III-2 in the Project Description chapter of this EIR.) Removal of eucalyptus or pine stands is the recommended action when the eucalyptus or pines: (1) are located along a ridgeline close to homes to minimize ember production and distribution during a wildfire under Diablo wind conditions; (2) have heavy concentrations of understory fuels and are located adjacent to designated strategic fire routes or major roadways used for evacuation and emergency access; and (3) are located above a well-developed understory of native plant communities (e.g., oak-bay woodland). Even if most of the eucalyptus forests within the recommended treatment areas were removed (approximately 1,370 ~~1,360~~ acres of eucalyptus or 548,000 to 1,233,000 trees), there would still be thousands of acres of eucalyptus and Monterey Pine forests and other tree species remaining within the 19,000-acre Study Area and the remaining wildland areas under management by others such as EBMUD and UC Berkeley.

This alternative would not significantly reduce or avoid the impacts identified in Chapter IV for biological resources, cultural resources, noise and visual resources as fuel reduction treatments and activities within the RTAs would continue to occur. Although no mature trees would be removed as part of this alternative, ground and ladder fuels would be eliminated. The removal of these fuels would require actual removal of younger and/or low-profile vegetation and associated use of heavy machinery on the site. Therefore, the alternative has the potential to result in greater adverse effects to aquatic habitats and nesting raptors and songbirds than the proposed project, and could conflict with policies that protect biological resources. In addition, the alternative could introduce non-native species to the area. Similarly, because heavy equipment would operate on the site (although equipment use would be less than associated with the proposed project), the alternative could contribute to landslide hazards. Ground-disturbing activities could also result in adverse effects to buried archaeological resources (although these effects would be less than the proposed project). Mechanical equipment operated as part of these ground-disturbing activities, including vegetation management activities, also has the potential to increase ambient noise and vibration levels (although these increases would be less than associated with the proposed project). Lastly, the removal of vegetation associated with the alternative would change the scenic character of the area and its surroundings (although the alternative would not result in the removal of mature trees, the removal of other types of vegetation would still change the visual character of the area). Compared to the

[3] Kent, Jerry. 2009. Non-published Draft Wildfire Discussion Paper to EBRPD and LSA Associates, Inc. January 21.

proposed project, this alternative could potentially reduce impacts associated with slope instability as trees, whose roots contribute to holding the soil in place, would not be removed. However, under the proposed project, stumps and roots would remain in place after tree removal. Other vegetation may be removed on steep slopes, and perhaps more understory vegetation would be required to be removed under this alternative to counter the increased hazard of leaving non-native eucalyptus and Monterey pines in place, which would lead to impacts associated with slope instability. Mitigation Measure GEO-1 has been identified to reduce the impacts of the Plan related to slope instability to a less-than-significant level, and would be applied to both the project and all alternatives that could adversely affect slope instability.

This alternative also would not meet the Plan's objective of furthering biologically rich and relatively low fire hazard native habitats such as bay-oak woodlands, native grasslands, and differing age groups of chaparral (and would not realize associated beneficial environmental effects, such as improved foraging habitat for raptors). Dense ground fuels, such as those that occur in young, dense groves of eucalyptus trees, are known to reduce biological diversity. Therefore, t~~T~~his alternative would not meet the primary objectives of protecting life and property, maintaining a network of strategic fire routes for evacuation and emergency access; and reducing and removing non-native invasive plants and converting park lands to viable, sustainable, and low hazard ecosystems. This alternative also would fail to meet both the goals and objectives of the project over the long-term. Because of these ~~this~~ reasons, this alternative was considered but rejected.

4. Wildland-Urban Interface Management Only

To maximize the protection of homes and buildings outside of the parks, under the Wildland-Urban Interface Management Only alternative, the fuel reduction and vegetation management activities identified in the Plan would be fully implemented only on park lands within treatment areas that are within 200 feet of homes and other structures outside of the parks and along strategic fire routes. The eucalyptus stands that represent significant threats from torching and crown fires that can cause ember flight at great distances under a Diablo wind condition would not be treated, nor would any developed facility or facility at risk as defined in the Plan (see Table III-1 in Chapter III, Project Description). Similar to the No Tree Removal alternative, implementation of this alternative would not meet the Plan's primary objectives of protecting life and property as the fire threat associated with eucalyptus and Monterey pine on ridges producing embers and quickly spreading fire under a Diablo wind condition wildfire is significant. ~~Additionally, n~~Not managing certain areas of vegetation to protect facilities at risk, some of which are cultural resources, could create new significant impacts associated with this alternative. Additionally, this alternative would not avoid or reduce any of the potentially significant impacts associated with the Plan related to biological resources, slope instability, cultural resources, noise, and visual resources. Although this alternative would reduce fuel reduction and management activities compared to the project, such activities would still occur and would result in adverse short-term environmental effects. Although impacts associated with ground disturbance and vegetation removal would be reduced compared to the project, the alternative would result in similar types of associated impacts (although these impacts would be incrementally reduced compared to the project). Therefore, the alternative has the potential to adversely affect aquatic habitats and nesting raptors and songbirds, and could conflict with policies that protect biological resources. In addition, the alternative could introduce non-native species to the area. Because heavy equipment would operate on the site, the alternative could contribute to landslide hazards. Ground-disturbing activities could also adversely affect buried archaeological resources. Noise generated by these ground-disturbing activities, including vegetation management activities, also has the potential

to increase ambient noise and vibration levels. Lastly, the removal of vegetation associated with the alternative would change the scenic character of the area and its surroundings (although changes to the aesthetics of the area would mainly be confined to areas near existing structures and along strategic fire routes). Because this alternative would fail to reduce any significant impacts and would not meet the basic objectives of the Plan, it was removed from further consideration.

5. No Chemical Use Alternative

The No Chemical Use alternative proposes that all fuel treatment methods except chemical treatments would be included for consideration as part of fuel reduction and vegetation management activities covered under this EIR. The reader should note that no ~~significant~~ potentially significant impacts related to the use of chemicals for vegetation management activities were identified as a result of the analyses in this EIR. This alternative would not achieve the primary goal of the Plan, the reduction of wildfire hazards, because when eucalyptus trees are removed and no chemical treatment is provided, the regrowth of eucalyptus sprouts from the stump will create a mass of fuel and a level of fire hazard that will, over time, exceed the original, as has been documented by the District in the Study Area itself.[4] The goals and objectives of the Plan associated with maintaining ecological values, and preserving aesthetic values would generally be achievable, under this alternative. However, this alternative would not meet the objective of providing a cost-effective and sustainable Plan, because ~~with the exception that, where~~ chemical treatments are considered to be ~~would otherwise be~~ the most economic and effective means of treatment ~~other treatment methods would be required and so may not provide the most cost-effective or financially sustainable vegetation management plan possible~~.

The Marin Municipal Water District (MMWD) Board of Directors suspended the use of herbicides on their lands in August 2005. Prior to the suspension of herbicide use, MMWD staff estimate that broom had essentially been eradicated from the defined fuelbreak system. Since 2005, MMWD staff estimate that 1,000 acres, representing 5 percent of the watershed, is seriously infested with invasive plants, primarily broom (see www.marinwater.org and Plan Appendix H for additional detail). The other alternative methods tested by MMWD include: mechanical removal, hand removal, controlled burning, grazing, high intensity heat/flame, biological control, and water or foam (soap-based). Since 2005 MMWD has been preparing a risk assessment of herbicides (essentially the same as those allowed for use by EBRPD) and updating their Vegetation Management Plan. As of March 2010, MMWD's draft reports and analyses have shown no significant risk associated with the use of the chemicals studied on human health, animals or non-target plants, and a greatly increased average annual cost for eradicating 100 acres of the 750 acres of broom without the use of herbicides ($2,810,625 per year) as compared to with the use of herbicides ($823,250).[5] MMWD watershed managers have determined that the use of chemicals is a cost-effective and safe method to reduce wildfire hazards on MMWD open space lands and control exotic weed invasions.

[4] Kent, Jerry, Previous EBRPD Assistant Manager. 2010. Unpublished report concerning EBRPD eucalyptus removal projects from 1972 to 2004, Revised Draft, March 2, 2010.

University of California, Berkeley. Office of Emergency Preparedness. 2007. Fire Mitigation Program – Annual Report 2007, Large Projects.

[5] Klein, Janet, MMWD Watershed Manager. 2010. Personal communication to LSA Associates Inc. March 17, 2010. Marin Municipal Water District. 2009. Vegetation Management Plan Update, Interim Background Report No. 7, Vegetation Management Plan Alternatives Report. February 13.

Following a deep freeze in 1972 that killed or damaged many eucalyptus trees, EBRPD employed a variety of vegetation management techniques to create a 13-mile fuel break along the crest of the East Bay Hills. The judicious application of chemicals (including 2,4-D and Roundup) was deemed to be most effective in reducing regeneration of eucalyptus trees from stumps; other techniques, such as logging without application of herbicides, were considered generally ineffective in the long-term at controlling eucalyptus-related fire hazards. In some smaller areas, the application of Roundup was determined to be highly effective at controlling regrowth from stumps. Therefore, the use of small quantities of herbicides, in a way that is protective of ecological values, is considered a necessary tool for controlling the regeneration of hazardous eucalyptus groves.[6]

The Plan proposes that the primary use of chemical treatment is to prevent the re-growth of cut vegetation~~, particularly in areas which are inaccessible to heavy equipment and where soil disturbance is to be avoided,~~ and to control invasive non-native plant species that exacerbate wildfire risk (e.g., broom and eucalyptus resprouts). Per the Plan and as evaluated in Section IV.H, Hazards and Hazardous Materials of this EIR, chemical use is an efficient and cost-effective method that the District uses under the auspices of EBRPD's IPM policies and practices and in combination with other treatment measures (e.g., mowing, burning and hand removal). Recent studies conducted by the ~~Marin Municipal Water District (~~MMWD~~)~~ confirm this approach; the results of their studies on the use of non-chemical control methods for the control of invasive non-native plants indicated that non-chemical alternatives are ineffective for large-scale vegetation management projects. (see Appendix H of the Plan for additional information on these studies).[7] The Plan contains guidelines and best management practices that would reduce potential adverse impacts related to chemical use to a less-than-significant level. The No Chemical Use alternative would, however, remove from consideration chemical treatments approved by the State and currently used by EBRPD to treat vegetation in an economic and environmentally sustainable manner, resulting in additional, potentially more-costly treatments being used. This change, over time, could result in some treatment actions being delayed or removed from consideration due to lack of funding, which in turn would result in increased wildfire hazards as areas are left untreated. Additionally, because chemical use is found in this EIR to result in a less-than-significant impact, this alternative would not avoid or reduce any of the significant impacts associated with the Plan related to biological resources, slope instability, cultural resources, noise, and visual resources. Since the significant impacts of the project are primarily related to ground-disturbing activities (including vegetation removal) and not chemical use, the alternative would not result in significant environmental gains. In particular, the alternative has the potential to adversely affect aquatic habitats and nesting raptors and songbirds, and could conflict with policies that protect biological resources, as weedy species would continue to expand and replace native species and habitat. These aforementioned impacts are those associated with ground disturbance (including the installation of culverts) and vegetation removal. In addition, the alternative could introduce non-native species to the area (the alternative could exacerbate this impact because it would not allow for the use of herbicides, which are a proven tool in managing non-native species). Similarly, because this alternative would require more heavy equipment use than the proposed project, the alternative could contribute to soil compaction, destabilization or landslide hazards that

[6] Kent, Jerry, Previous EBRPD Assistant Manager. 2010. Personal communication with EBRPD. March 10.

[7] ~~The MMWD Board of Directors suspended the use of herbicides on their lands in August 2005. Since that time, the watershed staff has been "losing the battle against these non-native plants that exacerbate wildfire risk." MMWD estimates that 1,000 acres representing 5 percent of their watershed is seriously infested with invasive plants, primarily broom (www.marinwater.org). The other alternative methods tested by MMWD include: mechanical removal, hand removal, controlled burning, grazing, high intensity heat/flame, biological control, and water or foam (soap-based).~~

would be more severe than the proposed project. Ground-disturbing activities could also result in greater adverse effects to buried archaeological resources than the proposed project. Mechanical equipment operated as part of these ground-disturbing activities, including vegetation management activities, also has the potential to increase ambient noise and vibration levels compared to the proposed project. Lastly, the removal of vegetation associated with the alternative would change the scenic character of the area and its surroundings. Because this alternative would not reduce any significant impacts, would not achieve the basic goals and objectives of the project and would not result in the creation of a vegetation management plan which is cost-effective and financially and environmentally sustainable to EBRPD on an on-going basis, it was removed from further consideration.

B. ALTERNATIVES TO THE PLAN

This section analyzes the following ~~two~~ three alternatives:

- The CEQA-required **No Project alternative** assumes that the Plan would not be adopted or implemented and that existing conditions would remain.
- The **Mitigated alternative** assumes that the Plan would be revised to include additional guidelines and mitigation measures to mitigate the potential significant impacts identified in this EIR.
- The **Modified No Tree Removal and No Chemical Use alternative** assumes that the principal treatment for the approximately 1,370 acres of eucalyptus and 150 acres of Monterey pines in the Recommended Treatment Areas is to remove all understory fuels to bare ground (including leaf litter, all shrubs, and trees with a diameter at breast height (dbh) of less than 12 inches), remove diseased trees, and limb up all remaining trees to a minimum of 8 feet in height. In addition, no chemicals would be used to manage non-native vegetation.

For each alternative, a brief discussion of its principal characteristic(s) is followed by an analysis of the alternative. The emphasis of the analysis is on the alternative's relative adverse effects compared to the proposed project and a determination of whether or not the alternative would reduce, eliminate, or create new significant impacts.

1. No Project Alternative

The following provides a brief description and analysis of the CEQA-required No Project alternative.

a. Principal Characteristics. The No Project alternative assumes that the Plan would neither be adopted nor implemented and that existing conditions would remain in effect throughout the Study Area. Only those fuel reduction or vegetation management actions covered under the existing FEMA Environmental Assessment and ongoing maintenance activities would be conducted (i.e., no actions identified as Initial Treatments in Table III-1 of the Project Description would occur.)

b. Analysis of No Project Alternative. Under this alternative, none of the potential impacts identified in Chapter IV of this EIR would occur because no additional fuel treatment or vegetation management activities would occur outside those already covered under the FEMA Environmental Assessment or already being conducted as maintenance activities. While some potential impacts

would be avoided, the goals and objectives of the proposed project would not be achieved. Additionally, mitigation measures have been identified for all but one of the potential impacts associated with implementation of the Plan. The potential for increased catastrophic wildfire hazards within the Study Area and, specifically, within the wildland-urban interface would increase substantially over time under this alternative, which would be a new significant impact. The increasing rate in home losses in California from wildfires makes it clear that a dramatic change in fire-safe construction, combined with improved vegetation management practices to reduce available fuels for wildfires, should be made to protect human health and property from wildfire risks. East Bay communities have made some improvements since 2001 in residential and neighborhood safety and fire fighting capability; however the continued increase in development along the wildland-urban interface, sustained encroachment of communities into wildland areas, and the effects of global climate change put an ever-increasing number of people at risk from wildfires. In spite of concerted efforts at wildland vegetation management on public lands, fuel loads remain high and the most cost-effective ways for dealing with severe Diablo wind-related wildfires remains elusive. Under this alternative, the beneficial impacts of the Plan would not occur, including management programs undertaken in concert with fuel reduction actions that are focused on restoring and maintaining wildlife habitat and native plant communities would not be conducted, and invasive and non-native species would continue to spread into native plant communities and increase wildfire hazards.

2. Mitigated Alternative

The following provides a brief description of the Mitigated alternative and potential impacts associated with its implementation.

a. Principal Characteristics. The focus of the Mitigated alternative is to revise the Plan to include the additional mitigation measures identified in this EIR.

b. Analysis of Mitigated Alternative. Under this alternative, only the significant and unavoidable impact associated with short-term adverse impacts to the visual character of the Study Area would occur, and none of the other potentially significant impacts identified in Chapter IV of this EIR would occur because the mitigation measures proposed in this EIR would be included as required mitigations in the Plan. This alternative would enable the goals and objectives of the Plan to be achieved, and would further support implementation of the identified fuel treatment and vegetation management activities included in the Plan.

3. Modified No Tree Removal and No Chemical Use Alternative

The following provides a brief description of the Modified No Tree Removal and No Chemical Use alternative and potential impacts associated with its implementation.

a. Principal Characteristics. Under the Modified No Tree Removal and No Chemical Use alternative the principal treatment for the approximately 1,370 acres of eucalyptus and 150 acres of Monterey Pines in the Recommended Treatment Areas is to remove all understory fuels to bare ground (including leaf litter, all shrubs, and trees with a diameter at breast height (dbh) of less than 2 inches), remove diseased trees, and limb up all remaining trees to a minimum of 8 feet in height creating managed monoculture groves of primarily eucalyptus trees similar to Kennedy Grove or the eucalyptus grove on the main UC Berkeley campus. Additionally, under this alternative no herbicides could be used to keep any cut eucalyptus (those with a dbh of less than 6 inches) from resprouting or

incursions of broom or other invasive plant species from colonizing the disturbed area of approximately 1,520 acres.

b. Analysis Modified No Tree Removal and No Chemical Use Alternative. This alternative differs from the proposed project in that the removal of eucalyptus and Monterey Pine trees is further limited, no herbicides can be used to maintain the groves of trees in a low fire hazard state and stop the colonization of invasive understory plants, and all understory fuels would be removed to forestall the regeneration of native habitats (e.g., oak bay woodlands or native grasslands). As stated above, under the proposed Plan, selective thinning, pruning and removal of ground and ladder fuels are the recommended actions for the majority of eucalyptus stands, and complete removal of trees is the recommended action in a select number of circumstances determined necessary to meet the goal of protecting the public's health and welfare from wildfire hazard.

This alternative would not reduce to a less-than-significant level or avoid any of the potentially significant impacts associated with the Project (note that all these impacts except for one would be reduced to a less-than-significant level with identified mitigation measures), and could create new significant impacts associated with the removal of understory vegetation that could impact special-status plants and animals and their habitats. Biological resource impacts associated with the replacement of culverts, disturbance to nesting birds, construction of a new strategic fire route, and conflict with other policies and regulations would still continue to occur (although these impacts would be reduced with the implementation of identified mitigation measures). However, impacts to nesting birds and conflicts with policies and regulations protecting biological resources would likely be substantially lessened under the Modified No Tree Removal and No Chemical Use alternative because removal of mature trees that contain nesting sites for birds and other protected animals would be avoided. The small trees that would be removed are less likely to contain important bird nesting sites. However birds, including raptors, could use younger and smaller vegetation and thus could be adversely affected by the alternative. Therefore, associated impacts would not be completely avoided. It should be noted that the alternative would not realize long-term benefits to bird habitat (and wildlife habitat in general) associated with the restoration of native plant communities. In addition, the alternative could result in greater impacts to wildlife associated with understory vegetation since such vegetation would be removed en masse in the treatment areas and not in the customized way that would be made possible through judicious use of herbicides. The spot treatment of vegetation through herbicide application, which would occur as part of the project, is expected to be more protective of wildlife than total removal of understory vegetation.

The types of slope instability impacts would be similar to the proposed project under this alternative as would significant impacts associated with cultural resources and short-term noise, because other fuel reduction activities would occur. However, the severity of these impacts would also be substantially lessened compared to the proposed project (although not to a less-than-significant level) because major ground disturbance associated with removal of large trees would not occur. Slope stability would not be compromised to the extent of the proposed project. Similarly, because less ground disturbance would occur, potential impacts to unidentified cultural resources would be reduced and management activities would likely generate less noise. Under this alternative, the significant and unavoidable impact associated with short-term adverse impacts to the visual character of the Study Area would also occur related to fuel reduction activities that are similar to the project and would occur under this alternative. Removal of large amounts of vegetation – even if mature trees are retained – would substantially change the aesthetic character of the Study Area. Again, since

mature trees would be retained as part of the alternative, the visual character of the area would be less altered than under the project. However, it should also be noted that this alternative would not be as successful in restoring native landscapes to the site, which is considered a beneficial impact to visual resources. Other beneficial impacts that would not be realized by this alternative include the restoration of scrub and grassland communities, which provide improved foraging habitat for raptors.

The primary goal of reducing fire hazards on District-owned land to an acceptable level would be somewhat met under this alternative because ground and ladder fuels would be removed. However, significant fire hazards associated with eucalyptus and Monterey pine trees located along a ridgeline close to homes would still occur and ember production and distribution during a wildfire under Diablo wind conditions would not be minimized under this alternative.

In summary, the Modified No Tree Removal and No Chemical Use alternative would reduce impacts to biological resources, slope instability, cultural resources, noise, and scenic character, but would not significantly reduce (to a less-than-significant level) or avoid these impacts, and might cause new significant impacts related to removal of special-status plants and animal species. This alternative also would only partially meet the primary goals and objectives of the proposed project.

C. ENVIRONMENTALLY-SUPERIOR ALTERNATIVE

CEQA requires that an environmentally-superior alternative be identified in the EIR. Based on the analysis provided above, the Mitigated alternative is considered the environmentally-superior alternative because it would incorporate into the Plan the additional mitigation measures included in this EIR to reduce impacts to a less-than-significant level, except for the one significant and unavoidable impact related to visual resources.

Both the proposed project and the Mitigated alternative would provide the least amount of potentially-significant impacts resulting from fuel treatment and vegetation management activities within the Study Area. Both the proposed project and the Mitigated alternative would also provide sufficient guidelines, recommendations, and mitigation measures necessary to reduce potential impacts. Therefore, the Mitigated alternative is the environmentally-superior alternative.

Table V-1, below, is a matrix that compares the impacts of the project to the impacts of alternatives evaluated in detail and alternatives rejected from detailed analysis. The comparison evaluates project and alternative impacts prior to mitigation. This matrix summarizes the impact analysis contained in this chapter. Please refer to the previous discussion for additional detail.

Table V-1: Comparison of Project Alternatives Evaluated in Detail

	Proposed Project		Alternatives Analyzed in Detail[1]			Alternatives Rejected From Detailed Analysis[1]				
Environmental Topics	Significant Impact	Level of Significance Without/ With Mitigation	No Project Alternative	Mitigated Alternative	No Tree Removal and No Chemical Use Alternative	No Action	Maximum Fuel Reduction	No Tree Removal	Wildland-Urban Interface Management Only	No Chemical Use
Biological Resources	BIO-1 (disturbance to aquatic habitats)	S/LTS	<	<	=	<	=	>	=	=
	BIO-2 (disturbance to nesting raptors and songbirds)	S/LTS	<	<	<[2]	<	>	<	<	>
	BIO-3 (serve as conduit for non-native plants)	S/LTS	<	<	=	<	=	=	=	=
	BIO-4 (conflict with local policies/ordinances/regulations)	S/LTS	<	<	<	<	>	=	<	=
Geology, Soils, and Seismicity	GEO-1 (increased slope stability)	S/LTS	<	<	<	<	>	<	<	>
Cultural and Paleontological Resources	CULT-1 (impacts to human remains)	S/LTS	<	<	<	<	>	<	<	=
	CULT-2 (impacts to unique paleontological resources)	S/LTS	<	<	<	<	>	<	<	>
	CULT-3 (exclusion of cultural resources from long-range planning)	S/LTS	<	<	<	<	>	<	<	=
Noise	NOI-1 (short-term generation of noise and vibration)	S/LTS	<	<	<	<	>	<	=	>
Visual Resources	VIS-1 (impacts to scenic character)	S/SU	<	=	<	<	>	<	<	=

Notes:
SU = Significant and Unavoidable impact(s)
LTS = Less Than Significant impact(s)

= the impact is similar to the proposed project
< the impact is less than proposed project
> the impact is greater than proposed project

[1] These impact findings represent a comparison of the (unmitigated) impacts associated with each alternative to the (unmitigated/mitigated) impacts of the project.
[2] While this alternative would result in slightly reduced impacts to nesting raptors and songbirds because removal of mature trees would be avoided, this alternative would potentially result in a new significant impact related to removal of special-status plant and animal species because understory vegetation would not be removed in the customized way that would be made possible through the judicious use of herbicides.

Source: LSA Associates, Inc, 2010.

VI. CEQA-REQUIRED ASSESSMENT CONCLUSIONS *(REVISED FROM DRAFT EIR)*

As required by CEQA, this chapter discusses the following types of impacts that could result from implementation of the proposed project: growth-inducing impacts; significant irreversible changes; cumulative impacts; effects found not to be significant; and unavoidable significant effects.

A. GROWTH-INDUCING IMPACTS

A project is considered growth-inducing if it would directly or indirectly foster economic or population growth or the construction of additional housing.[1] Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand or the development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped.

The purpose of the East Bay Regional Park District's (EBRPD's) Wildfire Hazard Reduction and Resource Management Plan (Plan) is to reduce the risk of a wildfire in identified high hazard areas on EBRPD parklands through fuel reduction actions that are conducted in a manner that reduces adverse environmental effects and implements resource and habitat management goals. The Plan is not intended to be used as a technical manual for habitat restoration, but rather provides basic guidelines for protecting environmental values, enhancing habitat and restoring native vegetation while reducing wildfire hazards. The Plan provides specific goals, objectives, guidelines, and best management practices (BMPs) to guide wildfire hazard reduction and resource management activities that will be carried out by EBRPD and its contractors over time and in a manner that blends ecological and resource considerations with current fire science methodology and practices to achieve the desired results.

The Plan does not include, nor would its implementation require, the expansion of infrastructure (e.g., construction of new public roads or sewer lines) or the construction of new facilities which would directly or indirectly foster economic or population growth in the vicinity of the Plan's Study Area; therefore, implementation of the Plan would not induce unanticipated growth.

B. SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could result from the implementation of a proposed project. These may include current or future uses of non-renewable resources and secondary or growth-inducing impacts that commit future generations to similar uses. CEQA dictates that irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.[2] The *CEQA Guidelines* describe three distinct categories of signifi-

[1] *CEQA Guidelines*, 2008, Section 15126.2(d).

[2] *CEQA Guidelines*, 2008, Section 15126.2(c).

cant irreversible changes: 1) changes in land use which would commit future generations; 2) irreversible changes from environmental actions; and 3) consumption of non-renewable resources.

1. Changes in Land Use Which Would Commit Future Generations

The Study Area comprises 13 hillside and 7 shoreline parks under the jurisdiction of EBRPD. These parks are individually classified according to park type and land use designations to indicate various levels of resource protection and recreational intensity in each park. EBRPD also identifies areas needing special protection or management as Special Protection Features or Special Management Features, respectively. In addition to this internal classification, EBRPD has also adopted specific Land Use Development Plans for a number of parks to direct future park land development by outlining expected levels of use and development, delineating general park land character, planning access points and circulation systems, and dividing the park land into zoning units which will preserve the natural resources of the specified park land.

The recommendations, guidelines, and fuel treatment actions identified in the Plan are consistent with the intent of EBRPD's park type and land use designations, and are horizontally consistent with the existing Land Use Development Plans for those parks where these plans have been adopted. Further, the Plan includes recommendations, guidelines, and BMPs designed to reduce wildfire hazards and conduct resource management activities at the parks included in the Study Area; no development is included that would require the additional use of non-renewable resources or the commitment of future generations to their use. Because all activities included as part of the Plan's implementation would be consistent with existing land uses, future generations would not be committed to a substantial change in land uses.

2. Irreversible Changes from Environmental Actions

Implementation of the Plan would reduce the risk of a wildfire in identified high hazard areas on EBRPD parklands through fuel reduction actions that are conducted in a manner that reduces adverse environmental effects and implements resource and habitat management goals.

Treatment methods included for consideration as part of the Plan include the thinning or removal of selected trees and shrubs determined to be non-native or highly flammable in the event of a wildfire, prescribed burning to reduce total fuel loads in areas where otherwise an excessive amount of available fuels would exist, chemical applications, and the use of grazing animals to reduce the amount of vegetation in treatment areas to low-hazard levels. While each of these actions would affect the amounts and types of vegetation within treatment areas, their application would not result in permanent or irreversible changes to the treated areas. Because only minimal use of herbicides is anticipated within the Study Area and then only through focused, highly-controlled, and regulated application of approved herbicides, and the Plan includes guidelines and best management practices associated with the use of chemicals, irreversible changes to the physical environment from the accidental release of hazardous materials associated with herbicide application to meet fuel reduction goals is extremely unlikely. Additionally, concerns regarding the use of forestry herbicides and their risk to water quality and other environmental impacts that might occur can be allayed by published environmental fate studies. These studies demonstrate that these chemicals do not leach through soils, but instead degrade rapidly by interaction with sunlight, water, and soil microorganisms into carbon

dioxide and water. These herbicides do not volatize, and the directed spot application method eliminates the potential for drift to non-targeted plants.[3]

Because this Plan is a maintenance plan, it addresses vegetation management within the Study Area to reduce the risk of wildfires and to improve resources and habitat. Where feasible, the District would seek to improve, not degrade, environmental conditions in the Study Area during the performance of any fuel treatment actions included as part of the Plan. The intent of the Plan is to reduce or "thin" fuel to a sustainable, low-hazard condition. Further, the nature of vegetation is such that its continued re-growth despite initial treatments necessitates the continued maintenance of vegetation and other fuels after initial treatments have occurred. As a result, no irreversible changes are expected to result from the adoption and implementation of the Plan.

3. Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes the conversion of agricultural lands to urban uses, lost access to mineral reserves, and use of non-renewable energy sources. The Plan does not include the conversion of any land to other uses, nor does it impact access to mineral reserves.

Implementation of the Plan would include the limited use of petroleum products as needed for the operation and maintenance of mechanical equipment used to treat vegetation. The amount of non-renewable resources used, however, would be significantly less than those required for consumption were a major wildfire and firefighting response to occur within the Study Area. As a result, implementation of the Plan would not result in the inefficient use of non-renewable energy resources.

C. CUMULATIVE IMPACTS

CEQA defines cumulative impacts as "two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. These impacts could result from the proposed project alone or together with other projects.

1. Methodology

When evaluating cumulative impacts, CEQA envisions the use of either a list of past, present, and probable future projects, including projects outside the control of the lead agency, or a summary of projections in an adopted planning document. This cumulative analysis uses the summary of treatment considerations and recommended treatment areas in the Plan, as well as those projects identified in related wildfire and planning documents pertaining to lands in the vicinity of the Study Area. In addition to the Land Use Development Plans prepared for specific EBRPD parks as identified in Section IV.A, Land Use and Planning Policy, the following summarizes other projects or adopted planning documents used to determine cumulative impacts from implementation of the Plan:

- *Annual Vegetation Management Plan for the Wildfire Prevention Assessment District, 2006.* City of Oakland, Oakland Fire Department, Fire Prevention Bureau.

[3] Brownfield, Nancy. IPM Specialist, East Bay Regional Park District. 2009. Personal Communication with LSA Associates Inc. February 6.

- *2020 Hill Area Fire Fuel Management Program, 2003.* University of California, Berkeley.
- *2006 Long Range Development Plan.* Lawrence Berkeley National Laboratory.
- *East Bay Watershed Master Plan, 1996.* East Bay Municipal Utility District.
- *Fire Management Plan, 2000.* East Bay Municipal Utility District.
- *Low Effect East Bay Habitat Conservation Plan, 2008*. East Bay Municipal Utility District.
- *2003 Final Environmental Assessment for the East Bay Regional Park District Vegetation Management Projects*. East Bay Regional Park District.

The City of Oakland's *Annual Vegetation Management Plan for the Wildfire Prevention Assessment District* includes vegetation management activities utilizing similar treatment methods and considerations as those described in the Plan. This document also includes standards for achieving compliance with applicable land use and environmental regulations when conducting vegetation management activities.

The *2020 Hill Area Fire Fuel Management Program* describes fire fuel risk management objectives, strategies for implementation, and methodologies for treatment and compliance that include mitigations for reducing potential environmental effects. This document provides treatment prescriptions by vegetation type and addresses similar concerns to those identified in the Plan. Also included in this document are projects for consideration, which include:

- Creating a 100-foot sheltered fuel break along the border of the Panoramic residential area.
- Removing all eucalyptus trees that are not in areas of erosion concern.
- Removing all Monterey pine, cypress, and other plantation trees as they become senescent.
- Creating a ridgetop fuel break along the entire reach of Grizzly Peak, connecting with fuel breaks of the other major property holders such as the East Bay Regional Park District and East Bay Municipal Utility District.
- Removing or thinning trees and shrubs to a distance of 200 feet from either side of the roadway.
- Re-introducing domestic grazing animals for short-term controlled grazing over the larger tracts of scrub.
- As air quality permits, re-introducing broadcast prescribed burning into the ecosystem.
- Continuing annual work along Priority 1 and 2 areas.[4]
- Continuing working with local interest groups, such as the Claremont Canyon Conservancy, that share a common vision.

Subsequent to the preparation of the *2020 Hill Area Fire Fuel Management Program,* the Regents of the University of California have applied for a funding grant (PDMC-PJ-09-CA-2005-011) from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to implement

[4] The University of California, Berkeley's *2020 Hill Area Fire Fuel Management Program* defines Priority 1 areas as those requiring fuel reduction actions within 30 feet of the walls or property line of any neighboring private properties or structures to create defensible space. Priority 2 areas are those requiring fuel reduction actions within 30 feet of the walls or edges of Campus-owned public facilities and hardscape to create defensible space.

a fire mitigation project at UC Berkeley on a 58-acre parcel in Strawberry Canyon that is at high risk to produce or conduct a devastating wildfire. UC believes that action is needed to reduce the risk of fire to the campus, nearby residents and the City of Berkeley. FEMA requested consultation with the U.S. Fish and Wildlife Service for this project which resulted in a Biological Opinion dated August 3, 2007 (1-1-07-F-0259). FEMA has prepared a Draft Environmental Assessment (DEA) for this project pursuant to the National Environmental Policy Act (NEPA). Two other UC projects that are continuing in the planning, review and funding processes are the Claremont Canyon Fuel Management Project (PDMC-PJ-09-CA-2005-003) a eucalyptus tree removal project on 45-acres; and the FEMA 2006 PDM Grant Program: UC Subcontract to the City of Oakland for the Frowning Ridge Polygon, a vegetation reduction project on 84 acres.

The *2006 Long Range Development Plan* for the Lawrence Berkeley National Laboratory includes vegetation management activities consistent with the Laboratory's fire-safe vegetation management measures. These actions include annually removing tree limbs a minimum of 6~~six~~ to 8~~eight~~ feet from the ground, mowing or allowing grazing of grasses, removing brush from most vegetated areas of the site, and planting ornamental species near buildings for fire safety. This document's landscape management approach is consistent with urban forestry practices that ensure long-term health of trees and tree stands, and encourages native plants and removal of invasive exotic species, including French broom, artichoke thistle, Cape ivy, and pampas grass. Eucalyptus and other non-native tree stands across the site would continue to be removed or thinned. A Draft EIR was prepared on the *Long Range Development Plan* and was published in January of 2007.

The East Bay Municipal Utility District (EBMUD) adopted the *East Bay Watershed Master Plan* (WMP) in 1996 to define long-term management of the approximately 28,200 acres of EBMUD lands. The WMP was prepared to establish long-term management direction for District-owned lands and reservoirs that will ensure the protection of the District's water resources and preserve environmental resources on those lands. To ensure regional coordination in fire and fuels management planning, the WMP incorporates those elements of the 1995 *Fire Hazard Mitigation Program & Fuel Management Plan for the East Bay Hills* (a document upon which the proposed project – the draft Wildfire Hazard Reduction and Resource Management Plan – builds and implements) that are consistent with EBMUD's water quality and natural resource management goals.

EBMUD's *Fire Management Plan (2000),* an implementation document for the EBMUD WMP, includes activities conducted to protect human life and property, provide for public safety, and protect and enhance water quality and other natural resources including watershed land uses on EBMUD land and adjacent properties. This document summarizes environmental protections and stipulates BMPs to be included during construction and management of fuel treatment areas and fuel breaks. EBMUD's *Fire Management Plan* includes actions to reduce wildfire hazards through prescribed burning, maintaining fire roads, and encouraging native vegetation on EBMUD lands.

EBMUD subsequently prepared the *Low Effect East Bay Habitat Conservation Plan,* (HCP) published in April of 2008 to implement the WMP. Specific WMP programs addressed in the HCP include water quality, forestry, livestock grazing, fire and fuels management and recreation and developed trails. The Habitat Conservation Plan was prepared in support of the pursuit of an Incidental Take Permit under Section 10(a)(1)(B) of the federal Endangered Species Act.

The 2003 *Final Environmental Assessment for the East Bay Regional Park District Vegetation Management Projects* (2003 EA) is another document that has been taken into account as part of the ongoing fuel management projects being proposed or undertaken. As stated previously in this EIR, over the past several years, the EBRPD Fire Department has been planning for and undertaking individual fuel reduction activities in specific areas within the hillside parks under an annual Fuels Treatment Plan. These ongoing fuel reduction activities have been primarily funded by FEMA grants, and were identified and evaluated for environmental effects under the National Environmental Policy Act (NEPA) in the 2003 EA.

An important agency that is involved in the consideration and coordination of regional fire management planning is the East Bay Hills Emergency Forum (HEF), which was created following the Oakland-Berkeley Firestorm of 1991. The HEF coordinates the collection, assessment, and sharing of information on East Bay Hills fire hazards, and provides a forum for building interagency consensus on developing fire safety standards and codes, incident response and management protocols, public education programs, multi-jurisdictional training, and fuel reduction strategies. The HEF currently includes members from the Cities of Berkeley, El Cerrito, and Oakland; the California Department of Forestry and Fire Protection; the Moraga Orinda Fire District; EBRPD; the East Bay Municipal Utility District; Lawrence Berkeley National Laboratory; and the University of California, Berkeley. The HEF created the Vegetation Management Consortium (VMC) that developed the 1995 *Fire Hazard Mitigation Program & Fuel Management Plan for the East Bay Hills.* After a full review and considerable public debate, the EBRPD board accepted the principles described in the VMC Plan in 1996.

2. Cumulative Effects of the Proposed Wildfire Hazard Reduction and Resource Management Plan

The following analysis examines the cumulative effects of the Plan and other proposed wildfire fuel management plans for the East Bay Hills, as described above. The potential cumulative effects of the Plan and plans for adjacent wildlands are summarized below for each of the topics analyzed in Chapter IV of this EIR.

a. Land Use. Implementation of all of the vegetation management plans to reduce wildfire risks within and in the vicinity of the Study Area would not change land uses within the parks or within the East Bay from current uses. All lands within the Study Area are currently used as open space and recreation areas consistent with each park's designation by EBRPD as a regional park, regional preserve, regional recreation area, or regional shoreline. Further, the Plan is consistent with and supports the objectives and policies of the District's Master Plan and existing land use plans for the Study Area parks. Therefore, no cumulative adverse effect on land use would occur as a result of implementing the Plan. No mitigation would be required.

b. Biological Resources. The East Bay Hills, which encompass the Plan Area and cumulative projects, are a mosaic of plant communities, including grassland, chaparral, and woodland communities. These communities have been substantially altered over time due to human activity, including the suppression of fires and the introduction of non-native species. Fire suppression in particular has adversely affected the ecological health of communities dominated by native shrubs, many of which cannot reproduce without fire. The exclusion of fire has reduced the biodiversity of chaparral and north coastal scrub communities, and has diminished the diversity of plant

communities, as grasslands (including native coastal prairie) have been invaded by coyote brush and other species.

Sensitive plant communities in the East Bay Hills include coastal prairie, which is a remnant of the original native perennial grasslands that covered the hills and valleys in much of the coastal zone in central and northern California. Coastal prairie has been largely displaced by non-native annual grassland due to the introduction of non-native grasses, heavy livestock grazing, fire suppression, and other factors. Many wildlife species forage in grasslands, such as gopher snake (*Pituophis catenifer*) and red-tailed hawk (*Bueto jamaicensis*). North coastal scrub supports a high level of diversity because of a complex structure and an abundance of food sources for wildlife. Species found in this community include California quail (*Callipepla californicia*), dusky-footed woodrat (*Neotoma fuscipes)*, and California slender salamander (*Batrachoseps attenuatus*). Riparian woodland occurs along streams and on the edges of seeps, ponds, and freshwater marshes. Riparian woodlands that form corridors along stream courses in open environments like grasslands are especially attractive to wildlife due to the presence of perch sites, shelter, foraging, or dispersal habitat. Other sensitive communities, such as serpentine bunchgrass grassland, are rare in the East Bay Hills due to the spread of non-native species and other factors. In the region, many of the communities listed above are threatened by the spread of annual grassland, eucalyptus woodland, and other communities dominated by non-native species. The cumulative projects listed above are generally intended to protect native plant communities, and in some cases to restore native plant communities, where feasible.

Implementation of the vegetation management plans identified above would reduce the risk of a wildfire in identified high hazard areas within the East Bay Hills and especially along the wildland-urban interface. The fuel reduction actions identified in these plans would include the treatment of vegetation at defined treatment areas, including the thinning or removal of selected trees and tree stands, thinning or removal of shrubs and understory vegetation, mowing or grazing of grasses and shrubs, and clearing excessive residual dry matter to reduce ladder fuels and total fuel loads within treatment areas.

The impacts to biological resources associated with each of the cumulative projects are summarized as follows. However, it should be noted that these projects are generally programmatic in nature, and specific impacts – including the acreage of affected plant and animal communities – and specific timing of management activities have not been identified in most cases.

- *Annual Vegetation Management Plan for the Wildfire Prevention Assessment District, 2006.* Specific impacts to plant and animal communities are not quantified, but adverse effects to vegetation, wildlife, and special-status species would be mitigated by the preparation of pre-construction surveys and adherence to timing/avoidance measures, best management practices, and post-treatment monitoring, maintenance, and vegetation management.
- *2020 Hill Area Fire Fuel Management Program, 2003.* Fuel management activities would be focused on approximately 10 percent of the Hill Area wildlands (comprising a total of approximately 70 acres). Short-term impacts to critical biological resources would be mitigated to a less-than-significant level through the use of treatment methods that avoid protected plant and wildlife species (e.g., reducing fuel volume without eliminating individuals), maintaining open grasslands, speeding succession towards woodland communities, and implementing protection measures for specific species. According to the 2020 Hill Area Fuel Management Program: "Because the Program would remove predominantly exotic, high-hazard vegetation and

encourage lower-fire hazard, native plant species composition, long-term impacts to Program area vegetation and wildlife would be beneficial." No known wetlands, marshes, riparian habitat, or vernal pools are identified in the 2020 Hill Area Fire Fuel Management Program for fuel management activities. Therefore, no significant impacts to these communities are anticipated.

- *2006 Long Range Development Plan*. According to the EIR for the Long Range Development Plan (LRDP), all of the impacts of the LRDP on biological resources would be reduced to a less-than-significant level through implementation of mitigation measures. These mitigation measures include:
  - Avoidance of raptor and special-status bird species nests using the findings of pre-construction surveys;
  - Avoidance of special-status bat roosts using the findings of pre-construction surveys;
  - Changes to the schedule, setting, and design of specific projects or management plans using a habitat assessment;
  - Implementation of the Campus Specimen Tree Program;
  - Replacement of lost trees, as specified in the Landscape Master Plan and other existing policy documents;
  - Stewardship of existing landscaping and use of native vegetation;
  - Continued revision and implementation of the Strawberry Creek Management Plan; and
  - Design of specific projects to avoid wetlands, riparian zones, and wildlife corridors.
- *East Bay Watershed Master Plan, 1996.* A key goal of the East Bay Watershed Master Plan is to "[m]aintain and enhance biological resource values on District lands through active management and careful coordination with other resource management programs." The East Bay Watershed Master Plan contains guidelines that to reduce impacts to biological resources to a less-than-significant level including: enhancement of habitat for threatened and endangered species; designing management activities to limit habitat fragmentation; and coordinating with other agencies to improve biodiversity.
- *Fire Management Plan, 2000*. This plan covers approximately 28,000 acres of land and water surface in the Bay Area. Specific impacts to biological resources associated with the Fire Management Plan are expected to be minimized through compliance with EBMUD's "Biodiversity Guidelines," which were developed by EBMUD Fisheries and Wildlife staff. The Biodiversity Guidelines provide strategies to ensure the following activities are protective of biological values (including, in particular, effects to native bird species and biodiversity hotspots): bulldozer use; application of retardants; prescribed burning; disking; mowing; plowing; brush rake use; and logging.
- *Low Effect East Bay Habitat Conservation Plan, 2008*. The Low Effect East Bay Habitat Conservation Plan could result in the clearing of creek channels (up to 30 acres over the term of the permit); the management of spillways such that California red-legged frog habitat (0.62 acre) and 0.62 acre of western pond turtle habitat would be adversely affected; and other activities that would adversely affect protected species and could result in the introduction of non-native species. However, the implementation of avoidance and minimization measures identified in Section 5 of the plan would reduce impacts to protected species and other biological resources to a less-than-significant level.

- 2003 *Final Environmental Assessment for the East Bay Regional Park District Vegetation Management Projects*. The Vegetation Management Projects comprise approximately 831 acres; eucalyptus forest comprises 298 acres, or 36 percent of this area. The Environmental Assessment prepared for the project does not quantify impacts to specific plant and animal communities. However, the Environmental Assessment states that the project could adversely affect vegetation, wildlife, and special status species. These impacts would be avoided or minimized through the implementation of management activities according to "well-defined, site-specific plans" and follow-up with "maintenance, monitoring, and revegetation."

As summarized above, d~~D~~ue to the presence of special-status plant and animal species within the region, implementation of treatment actions has the potential to negatively impact these species. To comply with federal, State and local laws and to ensure the Plan does not result in significant biological impacts, all of the vegetation management plans contain specific BMPs and treatment guidelines to minimize potential impacts on special-status species. In general, these BMPs and treatment guidelines would require resources to be treated in a customized way so that impacts are reduced. For instance, the 2006 LRDP would impose a series of mitigation measures on future development activities, including measures that require pre-construction surveys to be conducted for protected animal species, and modification of disturbance patterns associated with specific projects to avoid these animals. In general, the other cumulative projects include similar resource protection measures, including the use of low-disturbance vegetation removal methods (e.g., the removal by hand of individual tree specimens) such that wildlife would be protected. Incorporation of these BMPs in treatment actions, implementation of the mitigation measures identified in required environmental documents prepared under CEQA and NEPA associated with these regional programs, meeting the requirement that these programs receive necessary permits and approvals, and regional coordination (primarily through the HEF) regarding wildfire management planning and projects would reduce potential impacts to biological resources to a less-than-significant level. Taking into account that each of the cumulative projects would include stringent resource protection measures, the vegetation management projects, when considered together, would not result in cumulative biological impacts. Moreover, the environmental effect of the EBRPD Plan, when viewed in connection with the other vegetation management plan, is not significant, and the Plan would not be expected to make a significant contribution to cumulative adverse impacts to biological resources, as summarized below:

- *Grasslands*. A relatively small portion of total grassland vegetation in the Study Area would be subject to treatment (415 acres out of a total of 2,652 total acres of grassland vegetation). Adverse impacts to this natural community would be reduced through the implementation of guidelines, best management practices, and other considerations outlined in the Plan, including: the incorporation of performance standards into grazing leases and management plans that address considerations such as sensitive areas (e.g., riparian zones); invasive plants; and carrying capacity of livestock; identification, flagging, and avoidance of special-status plant species; and timing of treatment to avoid breeding periods of protected species. In addition, certain non-native communities would likely be converted to native grasslands as part of the Plan (resulting in a net gain of grassland habitat). Because in the long-term the Plan would be likely to increase grassland coverage, the Plan would make a less-than-significant contribution to cumulative grassland loss.
- *Maritime Chaparral*. The Plan would affect approximately 7.7 acres of maritime chaparral habitat. However, adverse impacts to this community would be minimized through the implementation of measures such as: the retention of a minimum percentage of shrub cover; the

use of low-impact, site-specific treatments such as hand-cutting; and treating flammable vegetation after seed set, so that native species can continue to reproduce. The adverse impacts of the Plan on maritime chaparral would be confined to the Study Area and would be short-term in nature (native species would replace removed non-native species over time). Therefore, the Plan would make a less-than-significant contribution to the cumulative loss of maritime chaparral.

- *North Coast Scrub and Coyote Brush Scrub*. The Plan would affect approximately 312.6 acres of north coast scrub and approximately 309.7 acres of coyote brush scrub. However, adverse impacts to these communities would be reduced through the implementation of guidelines, best management practices, and other considerations from the Plan, including: the identification of Alameda whipsnake habitat and the implementation of avoidance measures, and monitoring of activities that may result in disturbance to the habitat of protected species. Similar to the other cumulative projects, the Plan would not be expected to result in a significant decline in the population of Alameda whipsnake or other protected species associated with north coast scrub and coyote brush scrub. Therefore, impacts to protected species associated with north coast scrub and coyote brush scrub would be minimized and the Plan's potential impacts would not be cumulatively considerable.
- *Oak-Bay Woodland*. The Plan would affect approximately 399.7 acres of oak-bay woodland habitat. However, adverse impacts to this community would be reduced through the implementation of guidelines, best management practices, and other considerations from the Plan, such as using pre-treatment surveys to identify protected species, and felling trees in a way that reduces the spread of sudden oak death (SOD). In addition, the Plan envisions the conversion of non-native habitat types to oak-bay woodland; thus, the habitat type could expand in size and quality with implementation of the Plan. Because adverse impacts to oak-bay woodland would be short-term and the Plan would likely increase the coverage of the habitat type in the region, the Plan would make a less-than-significant contribution to the cumulative loss of oak-bay woodland.
- *Riparian Woodland and Aquatic Habitat*. The Plan would result in direct impacts to approximately 19 acres of willow riparian habitat and would indirectly affect aquatic habitat. Adverse impacts to these communities would be reduced through the implementation of guidelines, best management practices, other considerations, and mitigation measures, including avoiding management activities in healthy stands of riparian forest and extremely limited use of pesticides in areas with California red-legged frog habitat. Culverts would be replaced such that erosion and other adverse effects to aquatic habitat would be minimized. Because the impacts to these communities would be short-term (i.e., they would only include temporary impacts such as erosion and pesticide application), they would not combine with similar impacts associated with other projects to create a cumulatively considerable impact.
- *Nesting Birds*. As required by Mitigation Measure BIO-2, nest surveys would be conducted within 15 days of treatment activities and protected nesting birds would be avoided. Other cumulative projects would be required to implement similar measures. Therefore, the impact of the Plan on nesting birds would not be cumulatively considerable.
- *Non-native Plant Species*. The new strategic fire road could introduce exotic plants into the area. However, such introduction would be minimized through implementation of Mitigation Measure BIO-3, which would require revegetation of the road shoulders with a native grass seed mix and the monitoring of non-native species. Therefore, non-native species would not be expected to spread to adjacent areas and the Plan's contribution to the cumulative spread of invasive species would be less than significant.

- *Endangered Species Act*. Mitigation Measure BIO-4 would require EBRPD to coordinate with the USFWS to ensure that the Plan would meet Endangered Species Act requirements. Complying with all terms of incidental take permits granted by USFWS, together with the implementation of the measures described above, would ensure that the Plan's impacts to endangered species would not be cumulatively considerable. ~~, and no significant cumulative impacts relative to biological resources are expected to result.~~

c. Geology, Soils, and Seismicity. The analysis of geology, soils, and seismicity (Section IV.C of this EIR) addresses cumulative impacts that could result from implementation of the Plan and other wildfire risk reduction programs. Impacts related to geotechnical issues tend to be relatively site specific and mitigated on a case-by-case basis. As noted in that section, implementation of the Plan would not expose an increased number of people or structures to seismic hazards because the project would not build new structures or draw more people to the seismically-active East Bay region. The project would not affect, or be affected by, expansive soils because no new structures or infrastructure would be constructed that could be affected by these soils. The proposed project would not include construction of new on-site waste water disposal systems, and therefore potential impacts related to soil capability to support septic systems would not be applicable. Where vegetation is removed to reduce wildfire hazards, these fuel reduction activities could result in increased slope instability. However, slope instabilities would be localized in that they would not combine with instabilities associated with the cumulative projects. Implementation of the BMPs identified in the Plan for vegetation treatments as well as mitigation measure GEO-1 included in Section IV.C would reduce these site-specific impacts to a less-than-significant level. As a result, no cumulative impacts to geology, soils, and seismicity would result from implementation of the Plan.

d. Hydrology and Water Quality. The analysis of hydrology and water quality in Section IV.D addresses the potential cumulative impacts that could result from vegetation treatment actions where erosion and sedimentation into creeks and other water bodies could occur. Cumulative projects outside the Study Area would result in similar types of impacts. Implementation of the Plan would not deplete groundwater supplies or place housing within a 100-year flood hazard area because no new development is included as part of the Plan. The Plan also does not propose construction of any facilities in the shoreline parks that would be at risk for coastal hazards such as a tsunami, seiche, or mudflow or sea level rise and extreme high tide.

The vegetation management programs for fuel reduction considered in this cumulative analysis include different treatment options to reduce fuel loads. Some of the treatment options involve actions that will result in ground disturbance, and therefore there may be localized effects to hydrological features and water quality as a result of these treatment actions. Localized effects, such as erosion would likely be reduced both spatially (as sediments and other pollutants travel away from the source) and over time (as areas are revegetated and sediment release is reduced). Maintaining the hydrologic and water quality conditions that distinguish EBRPD lands was a consideration, however, and each program and subsequent environmental analysis document, includes goals, objectives, BMPs and mitigation measures designed to avoid or minimize potential impacts to hydrology and water quality resources. The inclusion of these policies and BMPs would ensure the Plan does not have a significant contribution to any ~~reduce~~ cumulative hydrology and water quality impacts ~~to a less-than-significant level~~.

The treatment approaches included in the Plan and as part of the cumulative projects could entail the use, where necessary, of carefully-controlled quantities of herbicides. Chemical use would be subject to the stringent controls listed under "Best Management Practices for Chemical Treatment" (see page 203), including the reporting and monitoring of chemical use data; performance of chemical treatment in accordance with EBRPD integrated pest management policies; and adhering to State rules regarding application of herbicides near waterways. Because the Plan and the cumulative projects would use limited quantities of chemicals, and any chemicals would be applied judiciously in accordance with best management practices aimed at preventing contamination of waterways, the Plan's cumulative contribution to water pollution associated with chemical use would be less than significant. In addition, all chemicals used to manage vegetation would be expected to bio-remediate over time.

It should be noted that wildfire accelerates erosion rates to the degree that post-fire erosion is considered a major factor in overall sediment production.[5] If these vegetation management plans were not implemented to prevent and/or minimize wildfires, overall erosion rates could increase due to accelerated post-fire erosion and sedimentation. Therefore, the cumulative effects of the Plan would also be less than that which could potentially occur in the event of significant wildfires in the Study Area.

e. Hazards and Hazardous Substances. Section IV.H, Hazards and Hazardous Substances, evaluates cumulative effects of the use, storage, and disposal of hazardous materials (including pesticides) in the Study Area. Vegetation management activities identified in other adopted planning documents applicable to lands in the vicinity of the Study Area contain similar guidelines and recommendations regarding the storage, use, and disposal of pesticides to those contained in the Plan, as required by State law. If not properly used, stored, and disposed, these chemicals can have potentially harmful effects on flora, fauna, and aquatic resources in the area. Therefore, the Plan includes policies and BMPs regarding pesticide storage, use, and disposal, including requirements designed to protect worker health and safety. Coupled with EBRPD's Integrated Pest Management Program, the policies and BMPs included in the Plan and other planning documents would reduce potential cumulative impacts from pesticide use to a less-than-significant level. Any spills that occur in the Plan Area would likely be minor and contained by best management practices identified in the Plan such that they would not combine with spills in other areas and would not be cumulatively considerable.

Section IV.H also addresses potential hazards from wildfires in the Study Area. The purpose of the plans ~~as~~ considered for their cumulative effect on reducing the risk of a wildfire in identified high hazard areas through fuel reduction actions. Therefore, the beneficial cumulative impact of the Plan would be to reduce wildfire risks. Potential risks from wildfires would only increase if the Plan were not implemented, due to the nature of the vegetation types found in the Study Area and the current high hazard conditions found throughout the Study Area. Therefore, implementation of the Plan and other planning programs aimed at reducing wildfire threats would not contribute to any significant cumulative hazards and hazardous substances impacts.

[5] Forrest, C.L., Harding, M.V., 1996. Erosion and Sediment Control: Preventing Additional Disasters after the Southern California Fires, in US Environmental Protection Agency Proceedings, Watershed 96.

f. Cultural and Paleontological Resources. Analysis of cultural and paleontological resources identified in Chapter IV.F, Cultural and Paleontological Resources, considers the potential impacts to these resources that could result from implementation of the Plan and other wildfire management plans. The programs considered for cumulative effects include different treatment options for fuels reduction and vegetation management. Some of the treatment options involve actions that will result in a greater level of ground disturbance than others. Archaeological deposits, built environment buildings and structures, human remains, or paleontological resources may be adversely impacted as a result of treatment actions. Examples of such impacts could include destruction of archaeological deposits, damage to buildings or structures, displacement of fossil resources, or the disturbance of human remains. Identifying and protecting cultural resources is required by State law during implementation of a project as defined by CEQA. Accordingly, the programs and plans and their associated environmental assessment documents contain policies and mitigation measures for avoiding or minimizing potential impacts to cultural and paleontological resources. Resource identification and avoidance is the preferred approach for determining potential treatment options for the Plan's recommended treatment areas. The selection of recommended treatment areas includes a cross-check for possible conflicts with cultural resources in the EBRPD database. The BMPs are implemented in concert with the cross-check to provide for the identification and protection of cultural resources.

Because potentially-significant impacts to cultural and paleontological resource could occur as a result of treatment actions, this EIR includes mitigation measures intended to reduce the Plan's incremental contribution to any such ~~these~~ impacts to a less-than-significant level. The inclusion of these mitigation measures, coupled with the BMPs and guidelines included in the Plan (such as requirements to exclude cultural resources from treatment areas), would reduce any adverse effect on cultural and paleontological resources within the Study Area. Similar adopted planning documents for vegetation management and their environmental analysis documents include similar provisions for the protection of cultural and paleontological resources consistent with applicable regulations. Implementation of the plans and programs are expected to yield long-term beneficial effects to cultural resources as the potential for destructive wildfire is reduced. Therefore, cumulative impacts to these resources resulting from implementation of vegetation management plans would not be significant.

g. Noise. Certain vegetation management treatment methods, such as the use of mechanical treatments and hand-operated machinery, could contribute to noise levels in the vicinity of those treatments. Treatment actions would be short term (i.e., they would typically only last for a few days or a week) and ~~would need to comply with the noise standards and ordinances of the jurisdictions associated with the location of the activities~~ would generally occur at a sufficient distance away from residential zones such that sensitive receptors would not be exposed to unacceptable noise levels. Users of open space could also be intermittently exposed to high noise levels when heavy equipment is being used. However, EBRPD has established protocols for diverting foot traffic away from areas subject to vegetation removal activities that would reduce the exposure of open space users to high noise levels (including associated cumulative effects associated with high noise levels.) In addition, the East Bay Hills Emergency Forum is an organization that allows for the coordination and sharing of information of agencies that conduct vegetation management activities in the East Bay Hills. The coordination of noise-producing activities would reduce short-term noise levels by allowing for the staggering of high noise-generating operations. Guidelines and BMPs are generally included in the programs and/or CEQA/NEPA documents of the cumulative projects to limit the operational periods

in which such activities would take place. ~~Similarly, short-term vibration impacts could occur during the operation of heavy equipment to conduct vegetation treatment activities.~~ The Plan and all the cumulative projects would intermittently generate high levels of noise when vegetation treatment activities require the use of motorized equipment. However, such activities would be short-term in nature, would occur at different times, and would be isolated over the landscape; thus they would not combine to create significant long-term increases in ambient noise levels. T~~However, th~~ese effects would be short-term and localized in nature (because they would generally not combine with other nearby vegetation management activities to create high noise levels) and would not cumulatively contribute significantly to the ambient noise level of the East Bay.

No additional construction is included as part of the Plan. Therefore, noise impacts associated with construction activities would not occur. Cumulatively, only the Lawrence Berkeley National Laboratory's *Long-Range Development Plan* includes proposed construction activities; implementation of the vegetation management programs would not contribute any additional cumulative noise impacts beyond that which has already been accounted for and mitigated in the *Long-Range Development Plan* and its associated EIR. As a result, implementation of the Plan would not contribute to any cumulative adverse noise effects related to construction.

h. Air Quality ~~and Global Climate Change~~. According to guidelines published by the Bay Area Air Quality Management District (BAAQMD), the determination of a significant cumulative air quality impact should be based on an evaluation of the consistency of the project with the local general plan, and of the general plan with the regional air quality plan.[6] Vegetation management activities associated with the Plan and the cumulative projects could result in significant impacts to air quality resulting from prescribed burning, specifically the generation of suspended particulate matter (PM_{10}) over a 24-hour period and the exposure of sensitive receptors to substantial pollutant concentrations.

While certain vegetation management activities, such as prescribed burning and mechanical treatments to reduce wildfire risks, are likely to produce short-term elevations in regional pollutant levels the BAAQMD requires planning and management protocols for prescribed burning activities be implemented prior to, during, or following execution of prescribed burning to reduce the potential ~~for~~ elevated levels of pollution that may result from these activities and ensure the Plan does not significantly contribute to any cumulative air quality impacts associated with prescribed burns (see section IV.F in this EIR). These protocols include the following:

- Preparation of a smoke management plan that includes information such as: location and specific objectives of each burn; volume and arrangement of vegetation to be burned; fuel conditions; specifications for disseminating information to the public; particulate matter estimates; and certification by a qualified resource professional that the proposed burning is necessary to achieve the specific management objectives of the plan.
- Receive written approval of a smoke management plan.
- Conduct burns only on a permitted burn day.
- Notification on day of burn.
- Provide a written post-burn evaluation.

[6] BAAQMD *CEQA Guidelines*, December 1999

In addition, the potential for conducting prescribed burns in the Plan Area is severely limited by safety, ecological, and air quality considerations. Because burns are only permitted when climatological conditions are appropriate (and when protected plant and animal species would not be harmed), they would likely occur infrequently in the Plan Area. As noted by the UC Office of Emergency Preparedness on their website, "Additionally, prescribed fire is also available as a tool that may be used as conditions warrant."[7] In addition, the potential pollution levels produced by such activities are significantly less, and are of a shorter duration, than the levels of pollution likely to be created in the event of a wildfire. The vegetation management activity selection process identified in the Plan further reduces the potential for elevated levels of pollution to occur when such activities are conducted by requiring EBRPD to undergo a rigorous selection process that takes into consideration the potential air pollution created by the various vegetation management and fuel reduction activities available for selection at each recommended treatment area. To further reduce these potential effects, EBRPD and any other agency, must only conduct certain activities, such as prescribed burns, according to stringent guidelines set forth by BAAQMD to ensure minimal creation of and exposure to any pollution generated by these activities.

Based on the above discussion, the potential for an individual plan or project to significantly deteriorate regional air quality or contribute to a significant health risk is small, even if the emission thresholds are exceeded. Because of the overall improvement trend on air quality in the air basin, it is unlikely the regional air quality or health risk would worsen from the current condition due to emissions from an individual vegetation management or fuel reduction activity conducted as part of implementing the Plan. Cumulatively, these vegetation management and fuel reduction activities will be dispersed across the calendar year according to the required conditions of the targeted vegetation, surrounding habitat requirements, and BAAQMD requirements, and as such would not substantially contribute to a net increase in any criteria pollutant in the region. As a result, any potential cumulative impacts on air quality ~~and global climate change~~ would be considered less-than-significant. The Draft EIR includes a discussion of cumulative air quality impacts on page 262.

i. Global Climate Change. The Forest sector is unique in that forests both emit greenhouse gases and uptake carbon dioxide (CO_2) to sequester it over the short and long term. [8] Carbon sequestration is the process by which atmospheric carbon dioxide is absorbed by trees through photosynthesis and stored as carbon in trunks, branches, foliage, roots and soils. Several factors, such as large wildfires and forest land conversion, may cause a decline in the amount of carbon removed from the atmosphere.[9]

Accounting for changes in forest carbon is still a matter of some debate. Impacts of global climate change can worsen existing wildfire and insect disturbances in the Forest sector, creating new uncertainties in reducing emissions and maintaining sequestration levels over the long-term.[10] In addition, the diversity of forest types and widespread disputes over the carbon consequences of various practices make it difficult to generalize about the opportunities to mitigate global climate

[7] UC Berkeley, Office of Emergency Preparedness Website: http://oep.berkeley.edu/programs/fire_mitigation/index.html

[8] California Air Resources Board. 2008. *Climate Change Scoping Plan: a framework for change*. December.

[9] Ibid.

[10] Ibid.

change through forest carbon sequestration.[11] For example, foresters often cut vegetation to enhance growth of desired trees, which would store more carbon. However, cut vegetation releases CO_2, and the net effect depends on many factors, such as subsequent growth rates and the quantity and disposal of cut vegetation.[12]

Forestry is based on a biological system which may respond slowly to management measures. Trees store carbon at the fastest rates from around 10 to between 40 and 80 years of age, at which point they continue to store carbon but at a slower rate. The ARB Scoping Plan strategy to assist the State in meeting the goals of AB 32 is a "No Net Loss" strategy, which would maintain the 5 million metric tons (MMT) of CO_2eq emissions of sequestration through sustainable management practices, potentially including reducing the risk of catastrophic wildfire, and the avoidance or mitigation of land-use changes that reduce carbon storage.[13] According to a study prepared by ICF Jones & Stokes for EBRPD evaluating the carbon sequestration potential on EBRPD lands, the average amount of CO_2 sequestered annually by the EBRPD's lands is estimated to be 91,157 metric tons.[14] By preserving natural land in perpetuity, the natural communities on EBRPD lands represent an important permanent carbon stock of 2.76 MMT of carbon.[15]

The potential occurrence of wildfire is probably the largest risk to any carbon sequestration activity in California.[16] Fires are a natural part of the California landscape, yet there has been an increase in the extent of forest fires across the State in recent years. The rolling five year average for acres burned by wildfires on all jurisdictions increased in the past two decades from 250,000 to 350,000 acres (1987 to 1996) to 400,000 to 600,000 acres (1997 to 2006).[17] An increase in wildfire frequency may mean an increase in GHG emissions.[18] Fuel management activities leading to reductions in the potential for or risk of catastrophic wildfires would therefore reduce carbon and non-CO_2 GHG emissions from burning.[19]

Quantification of the specific GHG benefits associated with avoiding wildfire is difficult because of the unpredictable nature of fire and uncertainties concerning the future implementation of various fuel treatment methods and recommendations in the Plan. For example, the Plan is a long-term program for the reduction of fuels using different treatment methods depending on the vegetation types and habitats to be treated on over 3,000 acres of differing topography and other geographic, and environmental resource features. A key part of Draft Plan program, including fuel and biomass reduction to address wildfire risk, is the concept of adaptive management, which includes monitoring

[11] Congressional Research Service, 2007. Carbon Sequestration in Forests. RL31432. March 29.

[12] Ibid.

[13] California Air Resources Board. 2008. *Climate Change Scoping Plan: a framework for change*. December.

[14] ICF Jones & Stokes, 2008. Final Draft. East Bay Regional Park District Carbon Sequestration Evaluation. December.

[15] Ibid.

[16] California Energy Commission, 2004. Carbon Supply from Changes in Management of Forest, Range, and Agricultural Lands in California. CE-500-04-068F. March.

[17] California, State of. Department of Forestry and Fire Protection. 2008. An Adaptation Plan for California's Forest Sector and Rangelands. December 11.

[18] Ibid.

[19] California Energy Commission, 2004. Carbon Supply from Changes in Management of Forest, Range, and Agricultural Lands in California. CE-500-04-068F. March.

outcomes related to implementation of measures and programs in the Plan. Regardless of vegetation type, each treatment area must be assessed by a team of qualified personnel before finalizing prescriptions for specific treatment areas.[20] The treatment cycle continues with the monitoring phase and repetition of the process until the vegetation management goals identified in the fuel treatment plan for the treatment area have been met.

The Plan provides policies, guidelines and recommendations to manage fuels and protect lands in a manner consistent with State strategies and long-term climate goals. The activities identified in the Plan are intended to reduce the frequency and severity of wildfires, and as a result, reduce related CO_2 emissions in the cumulative condition. The effects of fire on carbon stocks are dependent on the intensity of the fire. An intense fire will destroy biomass (and anything else in its path including homes) and release a great proportion of the carbon to the atmosphere, while a less intense fire will fail to kill the majority of the trees.[21] Carbon has several potential destinations during and after a fire: (1) surviving the fire to continue as live vegetation, (2) being volatilized during the fire and immediately released to the atmosphere, and (3) being divided between the pools of dead wood, soot, and charcoal. Soot and charcoal are stable forms of carbon and can remain unchanged for many years, while dead wood will decompose over time.[22] The proportion of carbon volatilized versus surviving as vegetation varies with the fire intensity (see Table VI-1). For example, following intense fires, 60 percent of the affected carbon volatilizes and 15 percent survives as vegetation. For low intensity fires, 20 percent of the affected carbon volatilizes and 72 percent survives as vegetation.[23]

Table VI.-1: Carbon Destination Assumptions for Various Fire Intensities

Destination	High (Percent)	Mid (Percent)	Low (Percent)
Volatilized	60	40	20
Not Volatilized	25	15	08
Charcoal	*06*	*03*	*02*
Soot	*11*	*07*	*04*
Dead wood	*08*	*05*	*03*
Surviving vegetation	15	45	72

Source: CEC, 2004. Baseline Greenhouse Gas Emissions for Forest, Range, Agricultural Lands in California. March.

Future wildfire frequency and size is unknown over the life of the Plan. Exact details of the treatment prescriptions and vegetation management goals for each treatment area will be determined with the pre-treatment site assessment to meet the Plan's goals, objectives, guidelines and performance standards in the Vegetation Management Program (Chapter V of the Plan). As the Plan is a long-term management tool, the specific timing of vegetation removal, including the size, dimension, and number of trees, is not available at this time. Vegetation growth and vegetation type changes would

[20] LSA Associates, Inc., 2009. Wildfire Hazard Reduction and Resource Management Plan. July.

[21] California Energy Commission, 2004. Baseline Greenhouse Gas Emissions for Forest, Range, Agricultural Lands in California. CE-500-04-069. March.

[22] Ibid.

[23] ARB, 2009. Technical Support Document for California's 1990-2004 Greenhouse Gas Emissions Inventory and 1990 Emissions Level. April 21.

also occur over the lifetime of the Plan in a manner that is difficult to predict. Therefore, specific calculations of the loss in carbon sequestration and related GHG emission calculations require a number of assumptions. Carbon sequestration and GHG estimates are provided herein for informational purposes only, as there is not yet an established quantified GHG emissions threshold.[24]

(1) Existing Conditions. Table VI-2 shows the existing carbon storage and sequestration for the recommended treatment areas (RTA) in the Plan. These estimates are based on the methodology from the 2008 carbon sequestration study for 98,600 acres of EBRPD lands (which overlaps with but does not correspond exactly with the Study Area for the Plan).[25] The area for each vegetation type within the RTAs is measured in acres. "Current mean flux density" is the amount of carbon sequestered by each acre per year (measured in megagrams of carbon [Mg C]). "Current flux" is the average amount of carbon sequestered on an annual basis by each vegetation type calculated by multiplying the number of acres by the "current mean flux density". "Mean carbon stocks" is the average amount of carbon (metric tons of carbon [MT C]) stored in the biomass of each vegetation type per acre. "Carbon stocks" is the average amount of carbon "permanently" stored in the biomass of each vegetation type.

Table VI-2: Existing Carbon Storage by Vegetation Type in the Recommended Treatment Areas

Vegetation Type	Area (acres)	Current Mean Flux Density (Mg C per acre per year)	Current Flux (MT C per year)	Mean Carbon Stocks (MT C per acre)	Carbon Stocks (MT C)
Non-native Coniferous Forest	144.1	0.7	101	123	17,720
Redwood Forest	17.9	1.0	18	223	3,987
Oak-Bay Woodland/Forest	325.2	0.4	130	61	19,838
Scrub	593.7	0.1	59	15	8,906
Grassland	424.7	0.1	42	1	425
Aquatic/Open Water	0.1	0	0	0	-
Freshwater Marsh	0.2	0.1	0	15	3
Eucalyptus Forest/Plantation	1,367.9	0.4	547	63	86,178
Riparian Woodland	16.0	0.1	2	15	240
Total	**2,889.8**	**2.9**	**899**	**516**	**137,296**

Source: LSA Associates, Inc., February 2010.
Notes: Mg C = Megagrams of carbon
MT C = Metric Tons of carbon

The RTAs include approximately 3,000 acres of which 2,890 acres are covered with a vegetation type (the remaining acres are covered by landscaped plants, impervious surfaces, or structures), or 2.9 percent of the total EBRPD lands evaluated in the ICF Jones & Stokes 2008 study.[26] Vegetation types within the RTAs sequester approximately 899 metric tons of carbon per year and have approximately 137,296 metric tons in carbon stocks. Carbon sequestration can be expressed in terms of CO_2

[24] While BAAQMD is currently in development of specific quantified thresholds for various project- and plan-level analyses, those thresholds would not be applicable to an analysis of forest management activities (e.g., prescribed burns), wildfires, and carbon sequestration.

[25] ICF Jones & Stokes, 2008. Final Draft. East Bay Regional Park District Carbon Sequestration Evaluation. December.

[26] For the purpose of this analysis, the acreage total for the RTAs presented in this section does not include approximately 63 acres of developed or landscaped areas.

emissions by converting each metric ton of carbon to CO_2 by a factor of 3.66. Therefore, the total annual sequestration of CO_2 is approximately 3,292 metric tons. This factor does not account for any loss by disturbance to vegetation, such as wildfire or severe infestation.

(2) Current Maintenance Activities. According to District staff,[27] on an annual basis, EBRPD treats fuels on 400 to 700 acres. Within the EBRPD lands, approximately 100 to 500 acres are treated each year by hand labor or mechanical treatment techniques, including the use of contractors, handcrews and neighborhood volunteer groups. These treatment efforts include tree removal on 50 to 250 acres through clearcutting of all trees, heavy thinning/selective removal, light thinning/selective removal, occasional selective tree removal, and stump-sprout maintenance removal. The sizes of trees removed vary dramatically and are largely dependent on the type of treatment activities. For example, heavy thinning would typically remove 300 to 700 trees per acre with sizes that vary from 2 to 24 inches diameter at breast height (dbh). During stump-sprout removal, approximately 20 to 200 trees per acre that vary from 1 to 3 inches dbh would be removed. Another 200 to 250 acres of EBRPD lands are treated by goat grazing to reduce fuels.

Prescribed and controlled burns reduce the volume of fuel through combustion; fires are conducted under specific regulations when air quality and climate conditions permit both adequate combustion and proper control. This technique can be used to burn piles of cut brush or trees (pile burns), or over a designated prepared area (broadcast burn). Both broadcast and pile burning are often used in conjunction with hand labor and mechanical treatment methods as a means of removing excess debris. Approximately 50 to 100 acres of EBRPD lands have the fuels piled, then the piles are burned under favorable weather and air quality conditions. EBRPD burns about 150 brush piles per year with each pile containing 6 to 8 cubic yards of brush; this totals 1,200 cubic yards, or 324 tons per year. Methane (CH_4) emission factors for burning are based on the vegetation type and can range from 3.7 to 12.2 pounds per ton of material burned.[28] Using the most conservative estimates of 12.2 pounds per ton for temperate forests, current brush pile activities result in 1.8 metric tons of CH_4 emissions per year. EBRPD "broadcast burns" another 15 to 70 acres for resource management purposes.

(3) Potential Plan Cumulative Effects. Existing and future disturbances, such as wildfire, create uncertainties in reducing emissions and maintaining carbon sequestration levels over the long-term, requiring more creative strategies for adapting to these changes. As mentioned in the Plan, there were a total of 11 Diablo wind-driven fires during the 75-year period between 1923 and 1998 that burned a total of 9,840 acres. On a cumulative basis, fuel management strategies conducted by EBRPD and the other open space land managers identified above (e.g., UC Berkeley, EBMUD, the City of Oakland) have the potential to reduce the risk of catastrophic wildfires and associated carbon emissions.[29]

While not all areas will experience the same or maximum reduction of vegetation as evaluated in this EIR on the Plan, this analysis focuses on the Plan's effect on carbon sequestration and storage associated with the reduction in Monterey pine and eucalyptus trees. As indicated in Table VI-3, the annual sequestration and carbon stocks with removal of vegetation would initially be lower than the

[27] Swanson, John. Assistant Fire Chief, EBRPD. 2010. Personal communication with LSA Associates, Inc. March.

[28] Environmental Protection Agency. 1996. AP-42. Chapter 13: Miscellaneous Sources. Wildfires and Prescribed Burning. October.

[29] California Air Resources Board. 2008. *Climate Change Scoping Plan: a framework for change*. December.

existing conditions in the RTAs. Annual sequestration and carbon storage were estimated by calculating the percent reduction that would occur in Monterey pine and eucalyptus trees as a result of thinning tree stocks to 25 foot spacing per the performance standards contained in Plan Chapter V, Vegetation Management Program. This percent reduction was applied to the total acreage of each vegetation type to calculate the revised amounts of carbon sequestration and storage in the RTAs. Table VI-3 shows that the annual sequestration could be reduced from 3,295 metric tons of CO_2 to 1,113 metric tons of CO_2. Overall carbon storage could also be reduced from 137,411 metric tons of carbon to 41,825 metric tons.

Table VI-3: Future Carbon Storage and Sequestration in the Recommended Treatment Areas

	Acres	Annual Sequestration (MT CO_2)	Carbon Stock (MT C)
Total EBRPD Lands in ICF 2008 Study	98,600	91,157	2,759,206
RTAs – No Treatment	2,897	3,295	137,411
Percent of Total	2.94	3.61	4.98
RTAs - Plan	1,506	1,113	41,825
Percent of Total	1.53	1.22	1.52

Source: LSA Associates, Inc., 2010. and ICF Jones & Stokes, 2008. Final Draft. East Bay Regional Park District Carbon Sequestration Evaluation. December.

Notes: MT = Metric Tons

However, simply considering the loss in vegetation does not present a complete picture of the impacts of the Plan. Therefore, this analysis (and the premise and goals of the Wildfire Hazard Reduction and Resource Management Plan) also assumes that a reduction in fuels (i.e., high hazard vegetation) will result in a reduction of fire intensity and the risk of a wildfire being uncontrollable. As discussed earlier, the effects of fire on carbon stocks are dependent on the intensity of the fire. Table VI-4 compares the anticipated changes in sequestration and carbon stocks assuming that a high intensity fire will affect the RTAs with existing vegetation patterns, but reduced fuel loads from implementation of the Plan would result in a low-intensity fire affecting the RTAs.

The estimated loss in surviving vegetation and net remaining carbon stock after high- and low-intensity wildfires indicate that reduction in fuels associated with the Plan would result in lower initial carbon stocks; carbon storage would decrease to approximately 33,457 metric tons. However, the amount of surviving vegetation after a wildfire would be higher with implementation of the fuel treatments recommended in the Plan. This analysis and these estimates do not include improvements to vegetation health after treatments, including the potential for an increase in growth of remaining vegetation or regrowth of new vegetation that could occur as a result of the fuel reduction strategies (e.g., growth of oak/bay woodland trees after thinning of Monterey pine and eucalyptus trees), which would further increase carbon sequestration and storage.

Table VI-4: Carbon Stocks after Wildfire Scenario

	Carbon Stock (MT C)	Loss in Carbon Stock from Wildfire (MT C)	Net Remaining Carbon Stock (MT C)	Carbon in Surviving Vegetation (MT C)
RTAs – No Treatment	137,411	82,474	54,937	20,612
RTAs – Implementation of Plan	41,825	8,368	33,457	30,114

Source: LSA Associates, Inc., 2010.

Notes: Assumes High Intensity Fire affects "Existing" conditions and Low-Intensity Fire affects "Plan" conditions with reduction in fuel loads. Carbon loss includes volatilized carbon and carbon loss from decay of dead wood. Carbon will continue to be stored in charcoal and soot. MT C = Metric Tons of carbon

(4) Future Maintenance Activities. As discussed above, the EBRPD annually treats fuels on 400 to 700 acres, including hand labor or mechanical treatment techniques, goat grazing to reduce fuels, and prescribed burning. According to District staff,[30] because no additional funding or staffing has been identified in association with implementation of the Plan, the District expects that the current level and intensity of the fuel reduction activities currently taking place on an average annual basis will continue during Plan implementation. EBRPD estimates that the number of planned burns will continue at approximately 150 brush piles per year. Emission factors for burning do not change over time; therefore, estimated CH_4 emissions will continue to be 1.8 metric tons per year over the life of the Plan. GHG emissions from ongoing project operations and maintenance for the District and the other open space land managers are unlikely to be significantly different from existing levels, and would therefore not be cumulatively significant.

On December 30, 2009, the California Natural Resources Agency adopted CEQA Guidelines Amendments related to Climate Change. These amendments become effective on March 18, 2010, and state that the "lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project…and/or (2) Rely on a qualitative analysis or performance based standards." The qualitative analysis here considers the Plan's consistency with the State goals and plans, including fuel reduction, to minimize the frequency and magnitude of catastrophic fires and associated GHG emissions.

In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection (CAL FIRE). CAL FIRE has identified five forestry strategies for reducing or mitigating greenhouse gas emissions:[31]

- Reforestation to sequester more carbon,
- Forestland conservation to avoid forest loss to development,

[30] Wiese, Brian. 2010. Chief of Stewardship and Planning, EBRPD. Personal communication with LSA Associates, Inc. March.

[31] California, State of. Department of Forestry and Fire Protection. CAL FIRE Climate Change Program. Available at http://www.fire.ca.gov/resource_mgt/resource_mgt_EPRP_Climate/climate_change.php.

- *Fuels reduction to reduce wildfire emissions and utilization of those materials for renewable energy,*
- Urban forestry to reduce energy demand through shading, increase sequestration, and contribute biomass for energy generation, and
- *Improved management to increase carbon sequestration benefits and protect forest health.*

Climate change may modify the natural fire regimes in ways that could have social, economic and ecological consequences. The size, severity, duration, and frequency of fires are greatly influenced by climate. Due to decades of fire suppression activities, sustained drought, and increasing pest infestations, large, episodic, and unnaturally hot fires are an increasing trend on California's wildlands.[32] Reduced winter precipitation and earlier spring snowmelt deplete the moisture in soils and vegetation, leading to longer growing seasons and drought. These increasingly dry conditions create more favorable conditions for ignition and are believed to be the main reason for the increased trend in wildfire risk. Higher temperatures also increase evaporative water loss from vegetation, increasing the risk of rapidly spreading and large fires.[33]

There is an emerging view among scientists that fire hazard mitigation (e.g., through vegetation treatments or prescribed fire) may be able to play a beneficial role in long-term forest carbon sequestration, emissions reductions, and climate change mitigation. For example, recent studies have concluded that widespread prescribed burns can reduce fire emissions of carbon dioxide in the West by an average of 18 to 25 percent.[34] However, the specifics of where and how this can achieve the greatest effect are still open questions. The CAL FIRE strategies were recognized by the Governor's Climate Action Team reports and by the Air Resources Board in the AB 32 Scoping Plan. The Plan is consistent with CAL FIRE Forestry strategies and will reduce greenhouse gases in the long term consistent with AB32. The Plan would not conflict with any applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Therefore, the Plan's contribution to cumulative GHG emissions would be less than significant.

j. Visual Resources. The purpose of the vegetation management programs considered in this analysis is to reduce the risk of a wildfire in the East Bay region. These fuel reduction actions would include the treatment of vegetation at defined treatment areas, including the thinning or removal of selected trees and tree stands, thinning or removal of shrubs and understory vegetation, mowing or grazing of grasses and shrubs, and clearing excessive residual dry matter to reduce ladder fuels and total fuel loads within treatment areas.

The majority of the landscape in the recommended treatment areas is composed of large stands of blue and red gum eucalyptus trees and Monterey pines, limiting the overall visual variety of those specific areas and often blocking scenic vistas. The vegetation management activities likely to occur

[32] California Environmental Protection Agency. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

[33] California Energy Commission. 2008. *The Future Is Now. An Update on Climate Change Science, Impacts, and Response Options for California.* September.

[34] University Corporation for Atmospheric Research, 2009. *Prescribed burns may help reduce U.S. carbon footprint.* March 16. Available at http://www2.ucar.edu/news/prescribed-burns-may-help-reduce-us-carbon-footprint.

at recommended treatment areas within the Study Area would consist of a number of various treatment methods, including hand labor, mechanical, and chemical treatment as well as grazing of selected areas by livestock or the prescribed burning of brush or leaf litter. Because the vegetative cover of the hillside within the East Bay Hills and shoreline parks varies significantly across hillsides, within canyons, and along the shore, the likelihood of any one vegetation management activity occurring over a sufficiently large area to substantially adversely affect a scenic vista is minimal. For example, prescribed burns have the potential to temporarily but adversely impact the visual quality or character of a large expanse of area, but also have the potential to substantially improve the visual quality of a scenic vista by removing the younger specimens within the understory and thinning the overall density of tree stands and brush-laden areas. Prescribed burns also provide the beneficial impacts of promoting new growth, particularly native grass, forbs and wildflowers.

While there will be short term visual changes related to vegetation management to reduce wildfire risks, and especially changes related to tree clearing, wildland landscapes are dynamic, and the open space within each planning entity's jurisdiction (e.g., UC Regents EBMUD, City of Oakland) will be managed according to the stated goals and objectives of that particular agency after treatment to support a low fire hazard mix of vegetation types. Additionally, there are potential beneficial effects from vegetation removal related to opening up scenic views and vistas to viewers both within and outside the Study Area. Considered alongside vegetation treatment actions included in the adopted planning documents described above, cumulative, permanent, adverse visual effects of treatment actions diffused across the entirety of the East Bay hills would be less-than-significant given the total size and expanse of the area that might actually be treated at any one time.

D. EFFECTS FOUND NOT TO BE SIGNIFICANT

Meetings among EBRPD staff and the project team involved in the development and processing of the Plan determined the preliminary scope of this EIR. In addition to these meetings, a Notice of Preparation (NOP) was circulated on April 16, 2008, and a public scoping meeting was held on May 7, 2008, to solicit comments from the public about the scope of this EIR. Written comments received on the NOP are provided in Appendix A and were considered in the preparation of the final scope for this document and evaluation of the Plan throughout this EIR.

The environmental topics analyzed in Chapter IV, Setting, Impacts, and Mitigation Measures, represent those topics which generated the greatest potential controversy and expectation of adverse impacts among the project team and members of the public, even though it was determined that many would not experience significant adverse impacts. The following topics were excluded from further analysis because it was determined during the scoping phase and through preparation of an Initial Study contained in Appendix A of this EIR that these impacts would be less-than-significant: Agricultural Resources, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation, and Utilities. ~~Each of these topics scoped out of this EIR is discussed in more detail in Chapter I, Introduction.~~

<u>The Plan and cumulative projects would result in a temporary disruption to recreational facilities, including trails in the East Bay Hills open space network. For instance, users may be diverted from certain trail segments when hazardous vegetation removal activities (such as prescribed burns) are conducted, or when herbicides have been applied. Cumulatively, impacts to recreational facilities would be less than significant for the following reasons: 1) closure of recreational facilities would be</u>

temporary and would occur for short durations (generally a few days to 1 week); 2) EBRPD and other land management agencies are adept at undertaking vegetation management activities in a way that avoids or minimizes disruption to recreational users; and 3) the area offers a wealth of recreational opportunities, and if a particular trail or park zone is temporarily closed, a nearby area will likely function as a reasonable substitute.

The Plan and cumulative projects could also result in indirect impacts to recreational opportunities, including the introduction of smoke to open space areas and reduced shade (if eucalyptus and pine trees are removed in favor of native vegetation). Indirect impacts associated with smoke would be infrequent and geographically dispersed, and would likely not result in park-wide closures. Therefore, such indirect effects would not be considered significant. Although Plan implementation would result in the removal of trees (potentially resulting in less shade in some areas), this would not be considered an adverse effect on recreational opportunities. The open space in the Plan Area would continue to offer many opportunities to enjoy shade, and recreation would likely be enhanced by the restoration of native vegetation, which has the potential to create new views and better expose landscape contours.

Please refer to the Initial Study included in Appendix A for additional detail about the other topics scoped out of detailed analysis in this EIR.

E. SIGNIFICANT UNAVOIDABLE IMPACTS

As discussed in Chapter IV of this EIR, the proposed project would result in one significant unavoidable impact, as follows:

- Implementation of activities under the proposed Plan (such as vegetation clearing or thinning or prescribed burning) could result in temporary substantial adverse visual effects on the scenic character of the Study Area and its surroundings.

APPENDIX E

MEASURE CC AND SUPPORTING INFORMATION

FULL TEXT OF MEASURE CC

RESOLUTION NO. 2004-7-157

July 20, 2004

APPROVAL OF RESOLUTION IMPOSING A 15-YEAR PARCEL TAX IN ZONE 1 FOR PUBLIC SAFETY AND ENVIRONMENTAL MAINTENANCE SUBJECT TO VOTER APPROVAL

BE IT RESOLVED by the Board of Directors of the East Bay Regional Park District, Oakland, California, as follows:

Section 1. Findings.

A. The East Bay Regional Park District ("District") includes all of Alameda County and all of Contra Costa County. The District operates 65 regional parks on more than 96,000 acres of parkland and over 1,100 miles of trails.

B. In 1988, more than two-thirds of the local voters approved a $225 million bond initiative, Measure AA, that made it possible for the District to purchase select properties and initiate specific programs that are aimed at enhancing the quality of life for residents throughout both Alameda and Contra Costa Counties. Through a combination of careful planning and attracting matching funds from both the public and private sectors, the District has been able to:

- Acquire 30,000 acres of new parklands, expanding the Regional Park District from 66,000 acres in 1988 to 96,000 acres today.
- Expand the District from 48 to 65 parks, and double the size of a dozen existing parks.
- Add more than 100 miles of new trails for walking, riding, and biking.

C. The District's revenue for operations and maintenance comes entirely from property taxes, assessments, user fees, interest, and rental/lease revenues. The District does not have the authority to impose a sales tax, nor does the District receive sufficient revenue from the State to undertake necessary operations and maintenance.

D. The boundary of the area referred to as "Zone 1" encompasses the cities of Alameda, Oakland, Piedmont, Albany, Richmond, San Pablo, El Sobrante, Kensington, Berkeley, Emeryville and El Cerrito. If approved by the voters of Zone 1, monies will be used to fund projects in the following areas/parks: Alameda Point, Anthony Chabot, Crown Beach, Eastshore State Park, Huckleberry, Kennedy Grove, Lake Chabot, Martin Luther King, Jr. Shoreline, Miller/Knox, Pt. Isabel, Pt. Pinole, Redwood, Roberts, Temescal, Tilden, Tilden Nature Area, Wildcat Canyon, Leona, Brooks Island, Claremont Canyon, Sibley, and Alvarado, and such new parks or properties that may be purchased and/or annexed to parks within this zone.

E. The Board of Directors ("Board") of the District does hereby determine that the cost to provide maintenance and operations of the District's parks and trails located within Zone 1 exceeds the amount of funds and revenues generated from all other sources of income available for such purpose. The Board does further determine that the imposition of a Public Safety and Environmental Maintenance tax on occupants of residential real property within Zone 1, for a 15-year period, as more fully set forth below, is necessary to maintain safe and usable parks and trails for recreational uses of residents within the District, to open new parks and trails for recreational use, to provide resource projects, and to enhance public access and safety.

F. The imposition of a Public Safety and Environmental Maintenance tax in Zone 1 will allow the District to provide essential services to occupants of residential real property within Zone 1 of the District for the next fifteen years, such as critically needed maintenance of the District's infrastructure; resource projects, and public safety and access projects.

G. The Board also recognizes that occupants of both residential and non-residential property use the parks and trails. However, the Board has determined that the use of the parks and trails by occupants of residential properties within Zone 1 greatly outweighs the use of parks and trails by occupants of non-residential properties. The most recent Association of Bay Area Government data indicates that 66.6% of residents of Alameda and Contra Costa Counties work in one of the two counties. It would be unfair to tax such persons twice; accordingly, the tax will be on the occupants of residential properties in Zone 1 only, and not on occupants of non-residential properties.

H. The tax on occupants of multiple family units is approximately 69% of the tax on occupants of single-family units for two reasons: (1) multiple family units in Alameda County and Contra Costa County have lower occupant densities than single-family units (2.86 persons/unit single family; 2.22 persons/unit multiple family); and (2) surveys conducted by the District indicate that actual usage by residents of single-family units is three times higher than similar use by residents of multiple-family units. The District therefore finds it is appropriate to tax multiple family units in Zone 1 at approximately 69% of the tax on a single family unit, reflecting the lower occupant densities of multiple family units and the survey data showing the parks and trails are used more by single family unit occupants than by multiple family occupants.

I. The tax rates established in this resolution are intended to be proportional to and based on estimates of typical use of and benefit from such facilities by occupants of different residential parcels within the Zone. The rates are not tailored to individual use both because such tailoring is not administratively feasible and because the District must make parks and trails available to all occupants of property equally.

J. One or more of the District's parks and/or trails is within ten (10) miles of virtually all occupants of residential properties within Zone 1.

K. Each occupant of property derives value from the availability of parks and trails within Zone 1. The value of such facilities is in their availability to all residents,

and it would be unfair to charge their costs only to those persons who actually use the services. Even if such facilities are not presently used by an occupant, they may be used in the future and, in any event, their availability benefits each occupant. The District's parks and trails in Zone 1 enhance the health, safety, and welfare of all occupants of property in Zone 1 and improve their quality of life both directly and indirectly. The recreational opportunities which the parks and trails make available to occupants of property within Zone 1 are vitally important to the health, safety, and welfare of the occupants.

L. Parcels which are unimproved contain no occupants who may avail themselves of park and trail facilities. Accordingly, the Board has determined that owners of unimproved parcels are not subject to the tax.

M. Parcels which are improved but vacant contain no occupants who may avail themselves of park and trail facilities. Accordingly, the Board has determined that owners of vacant improved parcels may receive a refund of the tax if they can prove that the parcel was vacant for more than six months during the year in which the tax was imposed.

N. Approximately 46% of the residential units in Zone 1 are owner-occupied. Because this percentage is so high, the overall tax impact is not significantly different if the tax is imposed on occupants as opposed to owners, but the owner is required to collect it. However, nothing in this resolution is intended to preclude owners from recovering the tax from the occupant. Whether the occupant is charged depends on the occupancy agreement and the requirements of any local rent control board.

O. It is not feasible for the District to collect the tax from the non-owner occupants on whom it is imposed because the records available to the District do not include the names of non-owner occupants. Therefore, the only practical way to collect a tax imposed on occupants is to collect it from the owners of the occupied properties. If the District contracts with the Counties for collection of the tax on the regular tax bill, as a convenience for property owners who would be required to submit the tax on behalf of property occupants, the Counties would be authorized to use all methods for enforcing collection pursuant to Government Code Section 50077, including placing a lien on the property.

P. The tax imposed by this resolution is an excise tax on the privilege of using and the use of property for residential purposes which generates the need for park and trail facilities. It is not a tax on real property, nor is it any other kind of tax on property or the ownership of property. It is not a transaction or sales tax on the sale of real property. Finally, because the tax proceeds are deposited in a special account and the account is restricted for operations and maintenance of park and trail facilities, the tax is a special tax.

Section 2. Definitions.

As used herein, the following definitions shall apply:

A. "Multi-family residential parcel" shall mean all parcels which are improved with more than one residential unit.

B. "Park and trail facilities" shall mean the parks located within Zone 1, i.e., Alameda Point, Anthony Chabot, Crown Beach, Eastshore State Park, Huckleberry, Kennedy Grove, Lake Chabot, Martin Luther King, Jr. Shoreline, Miller/Knox, Pt. Isabel, Pt. Pinole, Redwood, Roberts, Temescal, Tilden, Tilden Nature Area, Wildcat Canyon, Leona, Brooks Island, Claremont Canyon, Sibley, and Alvarado and such new parks or properties that may be purchased and/or annexed to parks within this zone.

C. "Occupant" shall mean the person or persons who rent, lease, reside in, or otherwise occupy the real property to which park and trail facilities are available.

D. "Operations and maintenance" shall mean all expenses, both direct and indirect, for personnel, services, equipment, and contracts incurred by the District, including salaries, benefits, and overhead, required to operate and maintain the District's parks and trails.

E. "Owner" shall mean the owner or owners of the real property to which park and trail facilities within Zone 1 are available as shown on Alameda County's and Contra Costa County's most recent assessment rolls.

F. "Single-family residential parcel" shall mean all parcels which are improved with only one residential unit.

G. "Year" shall mean the period from July 1 to the following June 30.

Section 3. Tax Imposed.

An annual park and operations maintenance tax ("tax") in the amounts set forth in Section 4 is hereby imposed on every occupant of real property used for residential purposes within Zone 1 in the District. Where there is more than one person who is an occupant, the tax shall not exceed the amounts set forth in Section 4 for the occupants of any parcel or unit.

The tax is an excise tax imposed on the occupant as of July 1 of each year; provided, however, that if any building or structure on any parcel is unoccupied on that date, the tax is imposed on the first occupant occupying the building or structure during the year.

Notwithstanding the tax liability of the occupant, the owner of each parcel giving rise to tax liability under this resolution shall be responsible for the collection and/or remittance of the tax due and payable hereunder. The tax required to be collected by the owner constitutes a debt owed by the owner to the District.

Section 4. Amount of Tax.

The amount of the tax shall be $12.00 per year on the occupant of all single-family residential parcels; $8.28 per year on the occupant of a unit located on a multi-family residential parcel with two or more units; and $12.00 per year on the occupant of all agricultural or ranch parcels (if a residence is located on the parcel).

There shall be a 50% discount available for an occupant who is a senior citizen (age 65 and over) whose annual

income is below the State-defined poverty level.

Where there is more than one person who is an occupant, the tax on each parcel or unit shall not exceed the amounts set forth above.

Section 5. Use of Tax Proceeds.

All proceeds of the tax levied and imposed hereunder shall be accounted for and paid into a special account designated for use of operations and maintenance of park and trail facilities only. Monies in such special account may only be used in the following manner:

A. Park Access, Infrastructure and Safety Improvements	57%
B. Resource-Related Projects	33%
C. Reserve for Unknown Events and Opportunities	10%
TOTAL:	100%

The overall commitment to natural resources shall be no less than 30 percent of the revenue raised by the entire measure.

The specific projects for which the proceeds of the tax have been deemed necessary will be described in the Spending Plan to be considered by the Board of Directors on August 3, 2004. Each listed project will legally require separate review and approval by the Board of Directors. Approval of the tax is not the equivalent of approval of any specific project listed and is not a guarantee that every project listed therein will be undertaken and completed in the time frame provided. However, the Board of Directors hereby commits, to the extent allowed by CEQA and similar environmental review laws, to pursuing completion of the listed projects.

The Board of Directors will hold annual public hearings on project selections and allocations funded by the Measure. Each year there will be a public accounting of the use of funds during the past year, as required by Government Code Section 50075.3, and approval of the use of funds for the next year, including review by the Board Finance Committee. The Board may hold public forums from time-to-time, whenever questions and/or issues arise that merit additional input from the general public, including stakeholder groups and organizations.

Section 6. Determination of Occupancy Uses.

The records of the County Assessor of the County of Alameda and the County of Contra Costa as of January 1 of each year and the records of the District and cities located within Zone 1 shall be used to determine the actual use of each parcel of real property and, for multi-family residential parcels, the number of units, for purposes of determining the tax hereunder.

Section 7. Collection.

The tax levied and imposed by this resolution shall be due on July 1 of each year, but it may be paid in two installments due no later than December 10 and April 10. The tax shall be delinquent if not received on or before the delinquency date set forth in the notice mailed to the owner's address as shown on the most current assessment role of the Alameda County or Contra Costa County Tax Collector and shall be collected from the owner in such a manner and at such times as the Board may provide. The tax due may, at the option of the Board and as a convenience for owners who are responsible for collection, be collected from the owner by Alameda County or Contra Costa County in conjunction with, at the same time, in the same manner, and subject to the same penalties as each county's collection of property taxes, as provided by Government Code Section 50077.

Section 8. Exemptions

The owner of real property that is unimproved is exempt from collection and payment of the tax.

The tax imposed hereby shall not apply to the occupant of any property who, for any reason, is legally exempt therefrom.

Section 9. Refunds–Improved Parcels.

The occupant or owner of an improved parcel which is unoccupied for at least six months of the year shall receive a refund of any tax paid, provided an application in a form satisfactory to the District's General Manager is filed no later than August 1 for the preceding year for which a refund is sought.

Section 10. Refunds–Claim Required.

Any person claiming a refund of the tax for any reason not provided herein shall first file a written claim with the Clerk of the Board of the East Bay Regional Park District on a form specified by the Clerk. Such claim must be filed no later than 100 days after payment of the tax. All claims must be filed by the person who paid the tax or his or her guardian, conservator, or the executor of his or her estate. No claim may be filed on behalf of other taxpayers or a class of taxpayers. Filing of a claim shall be a condition precedent to legal action against the District for a refund of the tax.

Section 11. Untimely or Unpaid Taxes.

A one-time penalty of ten percent (10%) of the tax due is hereby imposed on all taxpayers who fail to pay the tax provided by this resolution when due. The penalty shall become a part of the tax debt herein required to be paid. In addition, if the tax remains unpaid as of July 1 of the following year, an additional penalty of one and one-half percent per month shall accrue on all amounts unpaid. If collected by the Counties, the provisions of the Revenue and Taxation Code shall be applicable.

The amount of any tax or penalty imposed under the provisions of this resolution shall be deemed a debt to the District. Any person owing money under the provisions of this resolution shall be personally liable for such amount in any action brought in the name of the District for the recovery of the amount owed. The District will be entitled to recover from the person against whom such an action is brought its costs incurred in connection with such action including its reasonable attorney's fees.

Section 12. Appropriations Limitation.

In no case shall the revenues generated by the tax levied and imposed by this resolution exceed the limitation established by Article XIIIB of the Constitution of the State of California.

Section 13. Administrative Interpretation.

The Board may, by resolution, adopt guidelines for administrative matters related to the interpretation and enforcement of this resolution. Such guidelines may establish new uses or may modify uses listed in Section 5 provided that the maximum for any use can be no more than $12.00 per year.

Section 14. Savings Clause.

If any provision, sentence, clause, section or part of this resolution is found to be unconstitutional, illegal or invalid, such finding shall affect only such provision, sentence, clause, section or part, and shall not affect or impair any of the remaining parts of the resolution.

Section 15. Authority for Resolution.

This resolution is enacted pursuant to the authority of Public Resources Code Section 5566, Government Code Section 50077 and Article XIIID, Section 3(a) of the California Constitution.

Section 16. Challenge to Tax.

Any action to challenge the tax imposed by this resolution shall be brought pursuant to Government Code Section 50077.5 and Code of Civil Procedure Section 860 et seq.

Section 17. Election Required for Tax to be Effective.

This resolution shall take effect immediately. Notwithstanding the effective date of this resolution, the tax imposed pursuant to this resolution shall not become effective until submitted to a vote of the electorate at the November 2, 2004 election and approved by two-thirds of the voters voting at the election.

Section 18. Effective Date of Tax and 15-Year Sunset.

If this resolution is approved by two-thirds of the voters, the tax shall become effective on July 1, 2005 and shall terminate on June 30, 2020.

Moved by Director Sutter, seconded by Director Siri, and adopted this 20th day of July, 2004, by the following vote:

FOR:	Directors Beverly Lane, Ted Radke, Carol Severin, Doug Siden, Jean Siri, John Sutter, Ayn Wieskamp
AGAINST:	None
ABSENT:	None
ABSTAIN:	None

RESOLUTION NO. 2004-7-171

August 3, 2004

APPROVAL OF SPENDING PLAN
FOR ZONE 1 PARCEL TAX PROCEEDS

WHEREAS, over the past 14 years, the East Bay Regional Park District has increased in acreage by 45.5%, and during this same period funds for maintenance and operation of District facilities have grown slowly in constant dollars, and

WHEREAS, the Park District has taken steps to improve efficiencies in all areas, however, continued efficiencies are unlikely to provide sufficient savings to continue developing and opening land-banked properties, and

WHEREAS, the Zone 1 area contains the oldest parks in the system, some dating back to the 1930s, and the highest population density and park use in the District by the urban communities lining the eastern shoreline of the San Francisco Bay, and

WHEREAS, the parks and trails in Zone 1 are identified as having un-funded projects in excess of $85 million in capital projects and over $5 million per year in needed ongoing operational expenses, and

WHEREAS, the Board of Directors has determined that a parcel tax measure is necessary as a means to seek necessary revenues, and

WHEREAS, District Staff has recommended the proposed Spending Plan, which includes the necessary and optimal uses of the revenue from the proposed tax, and

WHEREAS, this Spending Plan has been reviewed by the Board Legislative Committee, and was recommended by the Committee for favorable consideration by the Full Board at their meeting of July 9, 2004,

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the East Bay Regional Park District hereby approve the Spending Plan for the Zone 1 Parcel Tax, as attached and made a part of this resolution, and

BE IT FURTHER RESOLVED that the percentages of the proceeds committed to projects is as follows:

A. Park Access, Infrastructure and Safety Improvements	57%
B. Resource-Related Projects	33%
C. Reserve for Unknown Events and Opportunities	10%
TOTAL	100%

BE IT FURTHER RESOLVED that approval of the Zone 1 parcel tax by the voters will assure funding for the projects listed in the Spending Plan, but will not constitute approval of any particular project, and

BE IT FURTHER RESOLVED that the Board of Directors will review and approve each project individually, and

BE IT FURTHER RESOLVED that approval of the Spending Plan itself does not guarantee that each and every project listed will be completed or undertaken in the time frame proposed, and within the overall percentage allocations listed above, the Board may make adjustments reflecting opportunities that arise over the life of the tax that are found to be beneficial resource and enhancement, or public access and safety projects within the zone but that are not necessarily identified on the current project list, and

BE IT FURTHER RESOLVED, that the Board of Directors hereby includes as an eligible project support for the operation and maintenance of the Oakland Zoo, not to exceed $100,000/year, which amount may be granted on an annual basis pursuant to terms and conditions of a Local Agency Grant contract to be established between the East Bay Regional Park District and the Oakland Zoo, and

BE IT FURTHER RESOLVED that the Board of Directors will hold annual public hearings on project selections and allocations funded by the Zone 1 Parcel Tax, and that each year there will be a public accounting of the use of funds during the past year and approval of the use of funds for the next year, including review by the Board Finance Committee, and

BE IT FURTHER RESOLVED that the Board of Directors may hold public forums from time-to-time, whenever questions and/or issues arise that merit additional input from the general public, including stakeholder groups and organizations, and

BE IT FURTHER RESOLVED that park facilities in Zone 1, in common with the majority of District facilities, are currently supported by General Fund monies derived from property tax revenues, grants, revenues from fees and charges, and other miscellaneous funding sources, and it is the specific intention of the Board of Directors that new funds raised by the parcel tax by these communities will augment existing funding sources, and

BE IT FURTHER RESOLVED that despite the Park District's commitment to the projects listed in the Spending Plan and the potential funding for them represented by the proposed tax, because approval of the necessary resolutions will not directly or indirectly lead to any identifiable work that could affect the environment, approving the proposed tax does not constitute a "project" as defined by CEQA, and

BE IT FURTHER RESOLVED that since the tax is a special tax, the District must identify the uses to which it will put the tax proceeds, however, approval of a tax for funding of those categories of work is not a commitment to a specific project that will affect the environment, and for those reasons, the action proposed is not a "project" requiring CEQA compliance, and

BE IT FURTHER RESOLVED that the Board of Directors of the East Bay Regional Park District hereby authorize the General Manager and Clerk of the Board to formally request the Alameda County Registrar of Voters and Contra Costa County Elections Office to print this resolution and full project list in the Voter Information Pamphlet, and

BE IT FURTHER RESOLVED that the General Manager is hereby authorized and directed, on behalf of the District and in its name, to execute and deliver such documents and to do such acts as may be deemed necessary or appropriate to accomplish the intentions of this resolution.

Moved by Director Radke, seconded by Director Sutter, and adopted this 3rd day of August, 2004, by the following vote:

FOR:	Directors Jean Siri, John Sutter, Carol Severin, Ted Radke, Ayn Wieskamp
AGAINST:	None
ABSENT:	Directors Doug Siden, Beverly Lane
ABSTAIN:	None

Adopted August 3, 2004

East Bay Regional Park District
Project List for 2004 Measure CC Parcel Tax -- Oakland to Richmond

Project List Subject to Annual Review Updating and Approval by Board of Directors

LINE NO	Park & Trail	Project Description	August 3 Version: Total Capital Project Cost	Ongoing Annual Cost	Years of Operation	Total Project and Operations Cost
		Improvements, Access, Safety				
1	Alameda Point	Operate two miles of Bay Trail at Alameda Point when completed as part of the base conversion process.	0	67,700	7	473,900
2	Alameda Point	Operate Triangle Park if received from the Naval Air Station redevelopment project.		75,000	7	525,000
3	Anthony Chabot Regional Park	Replace 4 Bort Meadows chemical toilets with vault disabled accessible toilets to reduce maintenance costs in improve customer convenience	50,000	0	15	50,000
4	Anthony Chabot Regional Park	Connect Chabot Stable to nearby municipal sewer to eliminate pumpouts	124,320	0	15	124,320
5	Anthony Chabot Regional Park	Replace 10 chem toilets (excludes Bort Meadows toilets in another project) with vault toilets- to reduce pumping cost improve visitor convenience	150,000	0	15	150,000
6	Claremont Canyon Regional Preserve	Complete trail system- with North to South and East to West connections in a route that is comparible with protection of rare species Maintain until stable	28,860	27,800	14	418,060
7	Robert Crown Memorial State Beach	Replace 94 deteriorating wood tables with tables that can withstand the salty environment	100,000	0	15	100,000
8	Robert Crown Memorial State Beach	Repave McKay Street	700,000	0	15	700,000
9	Robert Crown Memorial State Beach	Open and operate Crab Cove Visitor Center for added 3 months each year to provide year-round service.	0	97,200	15	1,458,000
10	Eastshore State Park	Construct the Bay Trail Extension around Golden Gate Fields.	100,000		10	100,000
11	Eastshore State Park	Initial operation of landbank properties, policing, fire response, resource protection, trail patrol, trash pickup, and maintenance. Includes operation following completion of resource restorations and careful debris removal. No constructed facilities except trail circulation. Negotiate joint operating and funding agreement with State Parks to cover operating costs. The project will require the use of $50,000 in annual revenue from concessions, interest and trust fund principal.	0	400,500	15	6,007,500
12	Kennedy Grove Recreation Area	Repair and repave pathways within the recreation area	39,960	0	15	39,960
13	Kennedy Grove Recreation Area	Renovate family and group picnic tables, barbecues, and drinking fountains	62,160	0	15	62,160
14	Martin Luther King Jr. Regional Shoreline	Fence the boundary of the Oakland Sports Field to control cars	13,320	1,000	16	29,320
15	Martin Luther King Jr. Regional Shoreline	Retrofit Boat launch ramp at Doolittle for disabled access	44,400	0		44,400
16	Martin Luther King Jr. Regional Shoreline	Undertake Phase II and III public access improvements and operate the Tidewater use area in concert with the Oakland Strokes Boathouse. Includes parking, staging, picnic, meadow, trail and access components.	2,900,000	233,010	12	5,896,120
17	Martin Luther King Jr. Regional Shoreline	Undertake a study to seek information on the permitting, environmental compliance and design options for construction of the trail around the west shore of San Leandro Bay along Doolittle Drive. Operate if constructed.	200,000	50,000	5	450,000
18	Miller/Knox Regional Shoreline	Implement a pavement management program for all park roads, paved trails, and parking lots	39,960	0	15	39,960
19	Miller/Knox Regional Shoreline	Renovate restrooms at Railroad Museum and install lift for disabled access to main museum floor	150,000	0	15	150,000
20	Miller/Knox Regional Shoreline	Renovate family and group picnic tables (78), barbecues, and drinking fountains	50,000	0	15	50,000
21	Miller/Knox Regional Shoreline	Add four more flush restrooms in main park area to eliminate long lines	181,453	5,000	13	256,453
22	Miller/Knox Regional Shoreline	Remove tracks, fencing and re-grade railroad right of way to provide public access from park to the bay and to Keller Beach. Implement a major renovation of meadow areas- vertical, topdress, seed, and extend irrigation	1,222,000	87,000	11	2,179,000
23	Oakland Zoo	Support operations of the Zoo, a regional facility that operates openspace contiguous to Anthony Chabot Regional Park.	0	100,000	15	1,500,000
24	Point Molate	Bay Trail – Extend and operate the Bay Trail north to Point Molate and Point San Pablo		50,000	10	500,000
25	Point Pinole Regional Shoreline	Bay Trail - Extend and operate the Bay Trail from Manways Steel north one mile to the Zone Boundary along the shoreline. Includes installation of one pedestrian bridge.	600,000	12,650	10	726,500
26	Pt. Isabel Regional Shoreline	Implement preventative maintenance program for shoreline path and both parking lots	39,960	0	15	39,960
27	Pt. Isabel Regional Shoreline	Convert 3 chemical toilets to vault toilets	100,000	0	15	100,000
28	Pt. Pinole Regional Shoreline	Replace old playground structure with new, safer ADA structure	140,000	0	15	140,000
29	Redwood Regional Park	Solve problem of at-surface waterline - Stream Trail between Tres Sendas & the main line vault at Old Fern Hut.	26,640	0	15	26,640
30	Redwood Regional Park	Paint Piedmont Stables	33,300	0	15	33,300
31	Redwood Regional Park	Regrade/re-route old fire roads to eliminate soil erosion and continuing winter damage	100,000	31,600	14	542,400
32	Redwood Regional Park	Renovate Piedmont Stables Residence	50,000	0	15	50,000
33	Roberts Regional Recreation Area	Renovate ballfield-upgrade irrigation and correct drainage	31,080	0	15	31,080
34	Roberts Regional Recreation Area	Renovate family and group picnic tables, barbecues, and drinking fountains	33,300	0	15	33,300
35	Roberts Regional Recreation Area	Repair and overlay pavement on internal paths and service trails	46,886	0	15	46,886
36	Roberts Regional Recreation Area	Implement preventative maintenance program on all paved trails and parking areas	63,936	0	15	63,936
37	Robert Sibley Volcanic Regional Preserve	Open and operate the landbanked former Stone Property. Install interpretive panels, construct a small staging area at Fish Ranch Road and trail links to existing Sibley trails.	250,000	25,000	14	600,000
38	Temescal Recreation Area	Sealcoat All Parking Lots	12,787	0	15	12,787
39	Temescal Recreation Area	Add 2 new picnic sites at the North end to add group picnics from overloaded south end	35,000	0	15	35,000
40	Tilden Regional Park	Install disabled accessible ramp to Pony Ride Restroom and Picnic area	5,550	0	15	5,550
41	Tilden Regional Park	Renovate the Brooks and Buckeye LUP/EIR picnic area rehabilitation plan	40,000	0	15	40,000
42	Tilden Regional Park	Construct Merry-Go-Round weather-tight enclosure.	200,000	0	15	200,000
43	Tilden Regional Park	Install automatic fire sprinkler system to protect historic merry-go-round	66,600	0	15	66,600
44	Tilden Regional Park	Replace 14 chemical toilets with vault toilets	199,800	0	15	199,800
45	Tilden Nature Area	Upgrade electrical service at the Little Farm	55,674	0	15	55,674
46	Tilden Nature Area	Roof two barn buildings.	16,650	0	15	16,650
47	Tilden Nature Area	Retrofit to make Disabled Accessible Exhibits in EEC	30,000	0	15	30,000
48	Tilden Nature Area	Finish exhibits and lighting at the EEC	70,000	0	15	70,000
49	Tilden Nature Area	Sewer for EEC	575,000	0	15	575,000
50	Wildcat Canyon Regional Park	Extend waterline to Staging Area for drinking fountain and fire hydrant	6,660	1,000	10	16,660
51	Wildcat Canyon Regional Park	Install emergency phone at Staging Area	6,660	500	10	11,660

Adopted August 3, 2004

East Bay Regional Park District
Project List for 2004 Measure CC Parcel Tax -- Oakland to Richmond

Project List Subject to Annual Review Updating and Approval by Board of Directors

LINE NO	Park & Trail	Project Description	August 3 Version: Total Capital Project Cost	August 3 Version: Ongoing Annual Cost	Years of Operation	Total Project and Operations Cost
52	Wildcat Canyon Regional Park	Gravel 2.5 miles of trail for all season use	100,000	3,500	10	135,000
53	Wildcat Canyon Regional Park	Install 3 flush toilets, install lift station to connect to replaced sewer line	400,000	10,000	10	500,000
54	Wildcat Canyon Regional Park	Clark-Boas Access -- Restore trailhead area, improve access from El Sobrante and Richmond.	100,000		15	100,000
55	Wildcat Canyon to Point Pinole Trail	Bay Trail - New trail segment around West County Wastewater facility connecting Wildcat Creek Trail to San Pablo Creek and Point Pinole to the Richmond Parkway. Approximately 1 mile.	400,000	53,950	9	885,550
56		**Subtotal Improvements, Access, Safety**	**10,001,916**	**1,332,410**		**26,488,086**
57						

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58		**Resources**				
59	Anthony Chabot Vegetation Management	Thin trees /or remove excessive fuels within 250 acres of eucalyptus groves- following EB Hills CEQA.	450,000	40,910	15	1,063,650
60	Anthony Chabot and Lake Chabot Regional Parks	Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.	200,000	85,000	15	1,475,000
61	Brooks Island Regional Preserve	Enhance Caspian Tern nesting area. Includes placement of public access landing on the island.	200,000	18,200	12	418,400
62	Claremont Canyon Regional Preserve	Implement four-year research project for Alameda Whipsnake habitat enhancement.	120,000	0	15	120,000
63	Claremont Canyon and Sibley Volcanic Regional Preserves	Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.	200,000	65,000	15	1,175,000
64	East Bay Hills Fire Hazard Reduction Plan EIR	Retain consultant(s) to work with staff and the Hills Emergency Forum to prepare the required environmental documents necessary to comply with the Natural Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA) to complete the Fire Hazard Reduction Plan for the East Bay Hills.	650,000	35,000	15	1,175,000
65	Wildcat Canyon/Alvarado &Tilden Regional Parks	Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.	400,000	90,000	14	1,660,000
66	Martin Luther King Jr. Regional Shoreline	Damon Slough/San Leandro Bay marsh cleanup, Clapper Rail habitat enhancement, and spartina control.	0	5,000	14	70,000
67	Miller/Knox Regional Shoreline	Remove 16,000 cu/yds. of silt and vegetation to keep the park's lagoon healthy	372,991	0	15	372,991
68	Point Molate	Richmond Shoreline Restoration -- Removal of industrial debris, cleanup and enhancement of shoreline habitat north of Miller Knox Regional Shoreline to Point San Pablo.	900,000	50,000	9	1,350,000
69	Point Pinole Regional Shoreline	Giant Marsh Restoration -- cleanup, monitoring and management of the marsh at the south end of Point Pinole. Provide matching funds for future grant opportunities.	600,000	25,000	7	775,000
70	Point Pinole Regional Shoreline	Enhance wetland areas for black rail habitat (remove iceplant)	25,530	12,600	14	201,930
71	Point Pinole Regional Shoreline	Continue park-wide eucalyptus grove thinning and sprout control program	139,860	30,000	14	559,860
72	Point Pinole Regional Shoreline	Restore 100 acres of grasslands and sensitive plant species habitat	111,000	5,910	14	193,740
73	Redwood Regional Park, Leona Regional Open Space	Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.	230,000	60,900	14	1,082,600
74	Richmond Wetlands	Richmond Wetlands -- Habitat enhancement and shoreline restoration of wetlands in the vicinity of Point Pinole and other shoreline areas.	800,000	21,750	8	974,000
75	Robert Sibley Volcanic Regional Preserve	Rehabilitate 2 ponds on the Stone property to re-establish habitat values	46,620		15	46,620
76	Robert Sibley Volcanic Regional Preserve	Remove redgum and freeze damaged eucalyptus along the western boundary South of the Staging Area	55,500	5,860	13	131,680
77	Robert Sibley Volcanic Regional Preserve	Complete removal of non-native eucalyptus suckers, pine seedlings, and broom in the Sibley Triangle	104,895	11,025	14	259,245
78	Tilden Regional Park	Assess and remove hazardous trees, promote native tree regeneration	200,000	0	15	200,000
79	Tilden Nature Area	Remove Debris and Silt Between Dam and Bridge, and Rebuild Silt Dam	132,090	0	15	132,090
80	Wildcat Canyon Regional Park	Watershed sediment study	150,000	28,200	12	488,400
81	Wildcat Canyon Regional Park	Manage vegetation for fuels reduction in coordination with the protection and enhancement of wildlife habitat in fuel break areas to provide defensible space near structures and meet the Hills Emergency Forum 8' flame length standard. Manage exotic plant species and promote fire resistant natives to reduce the risk of wildfires.	382,950	88,545	14	1,622,580
82		**Subtotal Resources**	6,471,406	678,900		15,547,756

Adopted August 3, 2004

East Bay Regional Park District
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LINE NO	Park & Trail	Project Description		August 3 Version: Total Capital Project Cost	Ongoing Annual Cost	Years of Operation	Total Project and Operations Cost
83		Zone Proposed Projects:					
84			Improvements, Access, Safety	10,001,916	1,332,410		26,488,086
85			Resources	6,471,406	678,900		15,547,756
86			Total	16,473,322	2,011,310		42,035,842
87							
88		Totals, Operating and Capital for 15 years		Capital	Annual		
89			Improvements, Access, Safety	10,001,916	16,486,170		
90			Resources	6,471,406	9,076,350		
91			15 Year Totals	16,473,322	25,562,520		
92							
93		Combined Totals, Capital Expenses and Operating Expenses for up to15 years		Total Operating and Capital			
94			Improvements, Access, Safety	26,488,086			
95			Resources	15,547,756			
96			10% contingency	4,696,300			
97			Total for the measure	46,732,142			
98							
99		Percentages by Category, Over 15 Years					
100			Improvements, Access, Safety	57%			
101			Resources	33%			
102			10% contingency	10%			
103				100%			

East Bay Regional Park District

Background Report: The East Bay Hills Wildfire Problem Statement

(Prepared in 2001 by the Hills Wildfire Working Group)

Introduction

The District's Fire Hazard Reduction EIR/NEPA Working Group developed this consensus Problem Statement, during its meetings in 2001, as a summary of the complex issues and concerns that the consultant teams responding to the Park District's request for proposals for a Vegetation Management Plan and Environmental Document would need to be aware of. Back to top

Background on Wildfire Risks

The East Bay Hills have lost more than 3,542 homes to major wildfires...almost as many as all of the high risk Southern California Counties combined at the turn of this century, three years before the catastrophic fires that occurred in Southern California in 2003. The 1991 Oakland/Berkeley fire ranked first as the state's largest home loss from wildfire, and the 1923 Berkeley fire ranked fourth. Thirty-nine percent (39%) of the residences destroyed in California's' 30 major wildfires, taking more than 50 structures were lost in the East Bay Hills. The LA basin was second with 21% and Santa Barbara County was third with 11%. The $1.7 billion Oakland/Berkeley wildfire was this nation's fifth most costly catastrophe. The 1991 Oakland/Berkeley wildfire disaster was preceded only by hurricanes Andrew, Hugo, the 1993 East Coast floods, and the Northridge earthquake. In terms of direct threat to residences, it is now clear that the East Bay Hills are one of the most severe fire risk areas in the state and nation.

State residential losses changed drastically after the disastrous 2003 Wildfire Siege in Southern California. In a 15-day period in late October, 3,710 homes were destroyed, 750,043 acres were burned, 24 lives were lost, and with a 1.2 billion dollar cost when 14 major fires occurred at the same time. Losses from the State's largest residential wildfires now place San Diego County at 27%, Alameda County at 26%, Los Angeles Area at 14%, and San Bernardino County at 11%.

Equally ominous is the number of homes lost in major wildfires in California during the past thirteen years. For the 80-year period between 1923 and 2003, major fires resulted in the loss of 13,600 homes. For the thirteen-year period between 1990 and 2003, 11,055 homes were destroyed (73% of the homes that were lost in the entire 80 year period). This increasing rate in home losses make it clear that a dramatic change in fire-safe construction for existing and new residences combined with fire-safe clearances should be required and inspected annually in all high-risk wildfire areas throughout the State. It may also mean that the State of California needs a more strategic and powerful fire fighting approach for confronting extreme wind driven wildfires as they approach residential areas.

East Bay communities have made some improvements over the past 7 years in residential and neighborhood safety and fire fighting capability. However, the fire prevention efforts in many of the hill neighborhoods appear to have fallen well short of optimum. Also, in spite of sincere efforts at wildland vegetation management on public lands, fuel loads remain high and the most cost-effective ways for dealing with severe Diablo wind wildfires remains elusive. The reasons why the 1991 fire could not be stopped still exist today in many locations throughout the East Bay Hills.

- Residential developments in the Hills have occurred, over the past 70 years, in areas at risk from major Diablo wind-driven wildfires.
- Major increases in flammable vegetation, over the past 70 years, have significantly increased the wildfire risk. Steep hillsides have been converted from grazed grasslands to brush with hillside and ridge top homes, surrounded with flammable vegetation, often under or adjacent to groves of unmaintained pine or eucalyptus.
- Neighborhoods currently exist with large numbers of homes with wood shingle roofs and excessive levels of flammable vegetation on the lot. Some homes have been placed in locations that are undefendable today, given the wildfire characteristics of unmanaged vegetation on steep hillside slopes.
- Narrow roads, overhead power lines, variable water pressure and volume at Hill fire hydrants all make fire fighting difficult under the best of conditions in the Hills, and impossible under the worst of conditions.
- Unmaintained eucalyptus and pine groves, on both private and public lands, represent a serious crown fire and spotting threat to adjacent residential areas.
- Unmaintained native brush and invasive exotics that cover, without interruption, several canyon areas and slopes above, in, and below many Hill residential neighborhoods.
- Diablo wind fires under the worst conditions of high wind speed, low humidity, and high temperature, move so quickly that positioning fire crews and obtaining air support for rapid containment and control may not be possible given current fuel levels.
- With Redflag, Diablo winds blowing across ridge tops and down steep hillsides, fire fighters, given today's fuels, may not be able to directly control an early morning, wind driven wildfire ... until the late afternoon when our typical weather patterns change in the East Bay Hills and the winds slow.
- Urban fire departments may be called upon to fight a rapidly expanding East Bay Hills Diablo wind fire once every 10, 20 or 40 years, and therefore cannot have the same level of experience, resources, and equipment equivalent to their more traditional structural fire fighting mission.

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Fire History

Fire records for the East Bay Hills are sketchy, yet newspaper clips and old fire planning studies document an active and dangerous fire history. During the 75-year period between 1923 and 1998, eleven Diablo wind fires alone burned 9,840 acres, destroyed 3,542 homes, and took 26 lives, with over 2 billion dollars in financial loss. During the same period, three large west wind fires burned 1,230 acres of grass, brush,

trees, and 4 homes.

News reports document the major fires that have threatened the East Bay Hills:

1923 Berkeley- A Diablo wind fire that started East of the Main ridge at 12 noon on a Monday in September destroyed 584 homes North of the U.C. Campus. "No conflagration was ever more out of control. None ever demonstrated more vividly its power to defy all defensive resources once it gained headway. It was extinguished only by an act of providence."

1931 Leona- 5 homes were lost and 1,800 acres burned by a Diablo wind fire that started at 7 a.m. on a Monday morning in November. "Splitting of the fire into two huge infernos left the hundreds of fire fighters almost helpless to combat the double conflagration."

1933 Redwood/Joaquin Miller- 1 life and 5 homes were lost with 1,000 acres burned by a Diablo wind fire that started on the ridge at 7 a.m. on a Monday morning in November. "The fire traveled along the tops of the thick groves of trees for great distances, never reaching the ground until after the main blaze had passed."

1937 Broadway Terrace- 4 homes were lost and 1,000 acres burned by a West wind fire that started at 3 p.m. on a hot Saturday afternoon in September. "Lack of water caused by exhaustion of reservoirs in the hills hampered fire fighters. The fire at times crept slowly through the brush and at other times leaped from treetop to treetop."

1946 Buckingham/Norfolk- 1,000 acres were burned by a rekindled ridge top Diablo wind fire at 5 a.m. on a Monday morning in September. "Sheer-walled canyons were quickly raging infernos. Flames raced so fast in the stiff wind they formed a fiery canopy over stands of pine and eucalyptus." In the ten years following this fire, at least 2 other large fires occurred in Claremont Canyon (Claremont above water tank to stonewall) and Panoramic Hill (South of Panoramic to fire road) that did not involve structures because few existed at the time.

1960 Leona- 2 homes were lost and 1200 acres were burned by a Diablo wind fire that started at 11 a.m. on Saturday morning in October. "The 84-degree temperature and low humidity aided the flames which roared with express train speed up steep slopes. Flames roared 50 ft. into the air."

1970 Buckingham/Norfolk- 37 homes lost, 36 damaged, and 204 acres burned in a Diablo wind fire that started near the ridge at 10 a.m. on a Tuesday morning in September. "The wind was swirling in every direction. The heat was so great that some houses were exploding before the fire actually reached them."

1980 Berkeley/Wildcat- 5 ridge top homes were lost in a Diablo wind fire that started at 2 p.m. on a Saturday afternoon in December. "The blaze, fed by thick underbrush and tree (eucalyptus) debris, was so hot and fast that homes literally exploded."

1991 Oakland/Berkeley- The fire was rekindled at 10:45 a.m. below Buckingham/Norfolk roads, on a Sunday morning in October by a ridge top Diablo wind. "The firestorm burned over three square miles...killed 25 people, gutted 2,900 homes and caused $1.68 billion in damage. It was the most destructive wildfire in California history."

1994 Castro Valley- 3 homes were lost in a windy October afternoon near Lake Chabot Road when fireworks ignited a grass fire in a horse pasture below homes that provided no defendable space behind their residences. Back to top

Diablo Wind, the Key Environmental Factor

Under normal conditions, fires that start in the East Bay hills are efficiently controlled by firefighters, with no loss of homes. During most of the year, temperatures are moderate and vegetation is relatively moist and fire-safe. Summers bring overnight and morning fog along the hills until noon, with moist mid-day winds blowing westerly in from the coast. However, there are a few days each year when all of the high fire danger conditions are extreme with low humidity, high temperatures, and hot dry Diablo winds blowing in from the east. These high fire danger conditions are labeled Red Flag days, and usually occur in the September to November fall months.

Diablo Winds turn everything around. They blow from the east, often in the early morning, when we least expect a major fire. They can fan the flames of the smallest spark into a wildfire that can move down from the ridge in 30 minutes, expand to one square mile in one hour, and consume hundreds of residences in one hot, dry, windy, fall day.

We now know that firefighters may not be able to stop all Diablo Wind fires, and that several areas in the East Bay Hills can produce flame fronts that can't be controlled with water from hydrants, fire truck hoses, helicopter buckets, or with retardant drops from air tankers.....until the wind slows in the late afternoon.

Quotes from two key fire-planning documents describe the wind-weather factor:

March 1936- General Fire Plan for the Proposed East Bay Regional Park by Mr. L.E. Gray, Fire Weather Official of the U.S. Weather Bureau. "The East Bay Hills are in a predominantly transitional marine environment on the average, but which are subject, especially during the fall months, to occasional continental influences which transfer, in effect, the interior climate to the coastal belt. Hence, from a fire viewpoint, the zone represents on the average a region of low to very low climatic hazard, with occasional very serious danger, especially in the fall months of September, October, and sometimes November. "The normal fire business in the zone is small. However, during the prevalence of upper air winds of north to east directions, dynamic heating and drying of air descending from the mountains to the north and east creates exceptionally critical conditions in the zone, especially near the toes of leeward slopes. Such winds are occasionally very strong, reaching velocities as high as 80 miles per hour at two to three thousand feet above sea level. All such air movement is associated with and caused by high pressure over the Northern and Central Great Basin region, and materially lower pressure to the south, southwest and west, over and to westward of California." "It may be pointed out that the largest fires affecting California have all occurred with dangerous winds from north to east, and in the transitional coastal zone. Northeast winds from altitudes of 7000 feet or more in the Sierra and Siskiyou mountains are heated 1 degree F, by compression, for every 183 feet of descent. If the air starts over the Sierra at a temperature of 30 and a humidity of 50%, by the time it reaches the Grizzly Peak region the humidity would become as low as 6% to 8%, with a temperature of over 90 degrees."

October 20, 1991-The Oakland/Berkeley Hills Fire, National Wildland/Urban Interface Fire Protection Initiative Report "Weather contributes as much to the life of a wildfire as the fuels do. Temperature, lack of precipitation, and humidity provide the conditions for a fire to start, and the wind nourishes the blaze. Relative humidity and temperature are interrelated. As the temperature rises, relative humidity drops. If the temperature rises by 20 F, the relative humidity will drop by about 50 percent. Relative humidity controls the moisture content of fuels, and therefore their susceptibility to fire. Fuels with 20 percent moisture can catch fire; light fuels with 2 percent moisture can burn like gasoline." "So-called Diablo winds in the East Bay occur in May and October. These winds occur when an inversion layer builds up in the Bay area and forces air moving west from the San Joaquin Valley to speed up as it moves down the west, or lee, side of the hills. When it can go no farther laterally, it moves up and over the ridges and then down. As it flows downward it increases in temperature. The Diablo winds are foehn winds that force the convection currents

down against the natural flow that normally blows up the hills. The phenomenon represents a swirling effect much like a tornado, picking up embers from one place and depositing them in another. Another phenomenon that led to the rapid spread of the 1991 fire was development of a thermal inversion layer. The thermal inversion layer during the Oakland Hills fire was at 3,500 feet. The layer trapped heat from the fire and spread it out, adding to the preheating of vegetation and structures in the area." Back to top

Style of Development Significantly Increased Fire Risks

By the 1930s residential development began to replace grazed grasslands by creeping up the slopes of the hills to take advantage of the spectacular views of the Bay. Narrow and winding road systems were laid out for pre-W.W.II residential developments. During the next 60 years, thousands of new homes were placed on the ridges and steep hillsides, with no real access behind homes for fire crews to quickly attack fires moving through the flammable and unmaintained grass, brush lands, pine, and eucalyptus groves. Wood shingle or shake-roofed houses with wood siding were constructed in great numbers throughout the hills, often surrounded by junipers and native brush under dense tree canopies. Wood roofs, siding, decks, stairs, outbuildings, and fences represent some of the most flammable fuels in the hills. Power lines were hung on wooden poles, often under tall trees. Hill water and fire hydrant systems evolved over a 60-year period with numerous areas of low pressure, low water flows, and limited 2-hour reserves of water for fire fighting. Landscapers and homeowners planted the ever-popular juniper in great quantities. Some homes are literally wrapped with junipers and other flammable ornamental plantings, some covering the wood siding and reaching up to the wooden eves. Back to top

Unmaintained, Aging Plantations Significantly Increase Fire Risks

The East Bay's eucalyptus and pine plantations were established in the early 1900s. Eucalyptus was planted for hardwood production, and Monterey pines were planted to forest the barren hills in preparation for coming real estate developments. Many of the older pines are now showing the effects of time. Eighty-year old pine trees are beginning to fail as they become senescent, with beetle damage and pine pitch canker taking increasing numbers of trees. The Tasmanian blue gum eucalyptus has produced unusually dense and flammable woodlands with up to 400 trees per acre 12 inches or larger in diameter far exceeding the 30 to 50 trees per acre found in maintained fire-safe groves in a few locations in the hills. Large unmaintained groves of blue gum eucalyptus are recognized worldwide as high fire risk trees with their habit of producing large quantities of flammable bark, branches and oily leaves that can provide fuel ladders to the crown, potentially carrying burning embers miles ahead of a fire front. Litter under dense Eucalyptus groves often exceeds 50 tons of combustible material per acre, far above a fire safe standard of 5 tons per acre. Excessive fuel loads on the forest floor and fuel ladders to their high crown mean that these groves would be extremely flammable under any summer or fall high wind condition with control of a moving flame front in the groves almost impossible and with serious ember spotting into adjacent neighborhoods. Back to top

The 1995 Fire Hazard Mitigation Program and Fuel Management Plan

Following the disastrous Oakland/Berkeley fire of 1991, the East Bay Hills Emergency Forum was formed to coordinate emergency planning and to develop a new fire hazard mitigation program and plan for the Hills. The Hills Emergency Forum's members currently include Oakland, Berkeley, East Bay Regional Park District, East Bay Municipal Utility District, Lawrence Berkeley Laboratory, and University of California at Berkeley. The Hills Forum created a Vegetation Management Consortium (VMC) that was commissioned to develop a new fire hazard mitigation program and plan for the hills. A draft of the new VMC Plan was completed in the summer of 1995 and was reviewed and approved by the East Bay Hills Emergency Forum at their October 19, 1995 meeting. After a full review and considerable public debate, the East Bay Regional Park District Board accepted the principles described in the VMC Plan at their

October 15, 1996 meeting.

The new VMC Plan uses up-to-date fire science concepts and recommends a unified approach for public agencies and homeowners to follow in reducing the considerable fire risks present in hill residential areas, and wildlands that threaten "values at risk."

- Summary of Residential Area Hazards and Mitigation Proposals
  Approximately 50% of the planning area is classified as residential for which four different products were developed to address mitigating fire hazards on private property. A geographic information system (GIS) was used to rate residential areas by structural roofing and siding, vegetation fuels, defensible space, wildland threat, and road condition.
  These ratings classified residential areas of similar characteristics in the following manner:
  - 4,747 acres (33%) as having extreme fire hazard potential,
  - 6,158 acres (43%) as having high hazard potential,
  - 3,024 acres (21%) as having moderate hazard potential, and
  - 359 acres (3%) as having low hazard potential.
- Summary of GIS Products and Derivatives
  The Fire Study Area GIS is an interactive computer program that includes a number of factors used in fire hazard assessment for both wildlands and residential areas. The Study Area GIS is composed of layers of digital information displayable in map form with relevant data attributes spatially connected. The GIS data set is available in CD format, making extensive inventory and research data available to public agencies, homeowners, and others interested in mitigating wildfire risks. The GIS was used to produce a technical chart that identifies all of the Vegetation polygons, charting attributes for vegetation type, acres, fuel model, development stage, crowning potential, slope class, flame lengths, rate of spread, heat per area and ignition potential rating.
- Summary of Wildland Hazards and Mitigation Proposals
  The Eastern 50% of the 15 mile long and 3 mile wide planning area is classified as wildlands for which a number of products were prepared to identify wildland fire hazards. The VMC Plan recommend tools for managing vegetation, and proposes strategies for creating defensible zones at the residential/wildland interface to mitigate the risks of wildfires moving from wildland areas into residential communities. Wildland vegetation was modeled for fire conditions set at a 90% worst-case condition under a Diablo Wind. Flame lengths greater than 8' are considered "out of control" and are possible on 10,500 acres of wildland areas within the study area with 8,000 acres having less than 8' flame lengths. The VMC Plan recommends that fuelbreaks should be created at the residential/urban interface and along evacuation routes and maintained to keep flame lengths below 8' in the areas where firefighters are most likely to attempt to protect residences and other "values at risk."

There is ongoing debate about how to achieve the 8' flame standard. Some believe that the full 500' wide and 3,200-acre planning zone must be managed, and some believe that it is possible and preferable to manage a smaller 125' zone that achieves the 8' flame length with fewer environmental impacts and long-term maintenance costs.

Also, the findings of the VMC Plan have not met with full acceptance by all those involved with the report, nor all who have reviewed it. Valuable information is acknowledged to be contained within the Plan and its technical appendix. However, there is concern among some in the environmental community that the VMC Plan was formulated mainly along wildfire control lines, did not use a 100% Diablo Wind fire weather condition in its computer modeling, and inadequately reflected environmental and aesthetic concerns. Given these and other circumstances, some suggest that the Plan's recommendations need reevaluation during this EIR review process to determine their relative usefulness. Back to top

The Role of the East Bay Regional Park District

The District, since its creation in 1934, has been a major property owner in the East Bay Hills, and has long been concerned with the risks of uncontrolled wildfire. Under current State Law, the State Department of Forestry (CDF) is the primary fire fighting agency in the unincorporated wildland, watershed areas of the East Bay Hills, and the Cities of Oakland, Berkeley, El Cerrito, and Kensington Fire District have primary responsibilities within their boundaries. The District has secondary fire fighting responsibilities within its parklands and has its own Fire Department that cooperates and coordinates with both State and Local Departments. Back to top

Park District Resource Management and Fire Mitigation Policies

The Park District has conducted numerous vegetation management programs to reduce wildfire risks, and has created and maintains 20 miles of fuelbreak as a mosaic of grassland, thinned brush, and well spaced trees along the western boundary of its East Bay Hill parks. The original fuelbreak was a joint agency project and was created in 1974 as a 300' wide clearance of freeze damaged eucalyptus trees on Park District, City of Oakland, Water District and UC property. Renewed interest in fire safety and fuelbreak maintenance resurfaced in 1980 following the Berkeley fire that destroyed 5 ridge top homes. At the request of the mayor of El Cerrito and the mayors of several East Bay cities, the District formed a multi-agency Blue Ribbon Fire Safety Committee to prepare an updated fire safety plan for the East Bay Hills. The Blue Ribbon Report recommended that cities take steps to make hill residential areas fire-safe, and also recommended continued maintenance of the original fuelbreak with additions in several locations to provide defensible space for ridge top residences that were not protected by the 1974 fuelbreak. The new fuelbreaks generally involved vegetation other than eucalyptus and are defined as a 125' vegetation management zone below homes along the ridge. Homeowners were responsible for removing flammable vegetation to their property line with the District and other public agency landowners to maintain vegetation on public lands to achieve the 125-foot defensible zone. The 1982 Blue Ribbon Fire Hazard Reduction Report was completed and adopted by all of the participating agencies.

The District's Board of Directors also has adopted a number of policies that guide the District in responding to the risk of wildfire. Two of the most recent and relevant policies are the "Fire Weather Operating Plan for Park Closures" and the "Fire Hazard Mitigation Program and Fuel Management Plan for the East Bay Hills." The District's Master Plan, the Wildlands Manual, and the Integrated Pest Management (IPM) Manual also provide direction for staff in protecting wildlife, special features, important habitat, and the use of IPM strategy (including minimizing and careful use of chemicals) for managing pest species. The District's Board of Directors, in adopted Park Plans and Environmental Impact Reports, has authorized fuelbreaks and wildland fire hazard reduction efforts at Anthony Chabot, Redwood, Huckleberry, Sibley, Claremont Canyon, Tilden, Temescal, and Wildcat Parks. Board-adopted park plans also include a number of specific policies for managing eucalyptus, pine, brush lands, grasslands, and other resources to maintain desired native plant ecosystems, and to meet other park objectives. There is ongoing concern and disagreement within the environmental community about specific aspects of vegetation management expressed in the adopted park LUPD/EIR's which need to be addressed in the proposed new EIR.

Management of "natural" park resources may seem an inappropriate concept. However, vegetation in the East Bay Hills has always been managed. Native plant communities adapted to the use of fire by Ohlones and animal grazing, until native people, fire, and native herds were removed from the land or eliminated in the early 1800s. Introductions of European grasses, logging of redwood forests, and plantings of extensive eucalyptus and pine plantations had significantly impacted future park plant communities by the early 1900s. These impacts, along with large scale tree plantings, invasion of broom, thistle, and densely overgrown brush lands have contributed to making some plant communities less native, more dense and

unnatural, and more flammable.

Fortunately, some East Bay Hill park plant communities have resisted many of the impacts of human introductions and are rebounding to become healthy and relatively fire safe ecosystems that are sustainable into the future. Second growth redwoods, bay-oak woodlands, riparian woodlands, and many native brush land and grassland areas, with a reasonable level of care and attention can form excellent natural environments in hill park wildlands.

The District has formulated vegetation management policies in adopted LUDP/EIR's for the East Bay Hill parks using the following principles:

- Oak/Bay woodlands, riparian, and redwood plant communities are natural, relatively fire safe, and should not generally be managed except that substitutes for naturally occurring process, i.e. cool fires, and light hand crew thinning, may be carefully used to recreate a more open and natural-like plant ecosystem.
- North/East facing slopes should be allowed to progress naturally from grassland to brush land to Oak/Bay woodland.
- Interior park vegetation should not generally be managed except for the purpose of encouraging more native and natural plant communities.
- Grassland areas should be preserved and in some cases re-established to retain this important plant community in East Bay Hill parks. Ridge tops and south/west slopes are appropriate as grasslands, and in most cases will require ongoing grazing, mechanical, or other IPM strategy to control brush invasion.
- Eucalyptus and pine conversion to native species is a long-term goal with economics and public acceptance being the main factors in determining the pace of this transition. Management of eucalyptus and pine plantations to reduce fire risks is necessary and appropriate. Conversion from eucalyptus or pine will not be accomplished easily, with transition to a grassland/brush mix, oak/bay woodland, or other appropriate native, plant community a long-term goal.
- Management of natural park vegetation is currently limited to designated fuelbreaks along the ridge top or residential boundary, and to the management of eucalyptus and pine plantations by thinning, removal, or use of prescribed fire to reduce fuel volume and the threat of crown fire.

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Property Owner Responsibilities

Property owners who choose to live next to wildland areas or in especially high-risk environments must assume primary responsibility for ensuring that their homes are sufficiently fire hardened to survive the heat and embers that can be expected in a Diablo Wind wildfire. In hill areas of the East Bay, it is prudent to maintain a minimum 100-foot defensible zone around residences with all structures having a class A roof and fire resistant siding. In many areas urban developments have encroached into wildland settings without adequate consideration given to fire risks and fire protection. Property owners who have placed themselves in this situation will need to maintain expanded defendable clearings around their structures and possibly add additional protective measures like automatic or manual foam systems to protect their structures. The spread of wildfire across property boundaries will occur given the steep slopes and vegetation found in most Hill wildland areas. However, the fire risk can be minimized through cooperative fire hazard reduction planning and implementation involving all landowners and fire fighting agencies. Protecting life and property at the residential interface requires coordinated resource management, careful site planning, public education, strategic fuel management, and aggressive fire fighting capabilities. Back to top

The Controversy About Fire Hazard Reduction

It is surprising that hill residents and officials have yet to develop a real consensus about the actions required of them for improved Diablo Wind wildfire safety ...especially after the October '91 firestorm. The multitude of divergent opinions by hill residents, environmental groups, public officials, and the general public will need to be focused before it will be possible to implementing more forceful and effective programs of fire hazard reduction and to achieve funding for required programs.

Also, the controversy among some scientists, environmentalists, and concerned citizens about how to achieve a reasonable level of fire safety in the wildland areas of the hills must be addressed and hopefully resolved. All of the ramifications of that controversy cannot be briefly summarized in this short Problem Statement. Fortunately, complete and chronologically organized records of all communications and position papers that were offered by a wide range of individuals during the development of the VMC Plan and its acceptance by the District. It is believed that these records contain many ideas and views important to understanding the details and depth of this controversy, and they will be made available for review by the EIR consultant.

All of the individuals that have participated in the debate about wildland fire safety and environmental protection have unique knowledge, expertise and opinions about the region's plants, animals, geology, fire behavior, and a wide range of other disciplines. Their views must be considered during the process of sorting out the elements of this very complex problem. The Park District and its selected consultant will obviously need to develop a clear process for enlisting this talent during the preparation of the final Plan and EIR. Back to top

Public Officials and Residents Must Work Together

The magnitude of the East Bay Hills fire hazard problem calls out for a new public consensus about what must be done to be reasonably safe. While public and media interest during each fire is high, real progress in creating and maintaining a fire safe condition in the hills is lagging seriously.

The 1991 Oakland/Berkeley fire aptly demonstrated that blame can't successfully be placed at the feet of a single "culprit," a single property owner, unsafe neighborhoods, unsafe wildlands, or unsuccessfully executed emergency actions. The 1991 wildfire was an unfortunate, but predictable, chain-like combination of all of the above. The chain is still weak and strengthening one or two links will not be sufficient. Solutions must address each of the multiple elements of the problem. To be effective, long term commitments of resources by the 28,000 landowners, and 6 Hills Emergency Forum member agencies who own property and provide fire fighting services will be essential if we are to reduce the significant residential and wildland wildfire risks that exist today in the East Bay Hills. Back to top

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Source URL:
http://www.ebparks.org/stewardship/fireplan/bg_report

CLAREMONT CANYON CONSERVANCY

A COMMUNITY BASED ORGANIZATION FORMED IN 2001
TO SUPPORT LONG TERM STEWARDSHIP OF CLAREMONT CANYON
www.ClaremontCanyon.Org

Q&A FOR OUR MEMBERS AND THE PUBLIC

By the Board of Directors (revised April 28, 2009)

The Claremont Canyon Conservancy is dedicated to the preservation and restoration of Claremont Canyon's natural landscape and to the promotion of fire safety throughout the canyon and in adjacent residential neighborhoods. The Conservancy works closely with public and private property owners and various government agencies to ensure the best possible stewardship of the canyon as a whole. We support educational programs designed to improve fire safety and seek out the most effective measures that private property owners can take to protect their own properties from wildfire. Using a frequently asked question-and-answer format, the Conservancy board offers the following information to residents who live in or near the canyon, and to the public agencies that own property in the canyon.

LIVING SAFELY AND UNDERSTANDING NATURAL CYCLES

Those of us who live in Claremont Canyon and surrounding areas know that this is a spectacular location for a residence, and one of the best areas in the hills to raise a family. We are fortunate to be in this natural setting close to parks and open spaces with all of the urban conveniences nearby.

Natural cycles are a fact of life in the East Bay Hills, so residents must quickly learn that homeowner preparation or lack of preparation can be directly related to the amount and extent of damage that both natural and human aided events can cause. Our weather is usually comfortable and mild with only a few months of rain and winter weather extremes. However, natural cycles of extreme fire-weather occur regularly in the late summer and fall when hot, dry, blustery winds rush in from the east. These winds are called "Diablo Winds", and they can be very dangerous if a fire were to ignite at such a time. We must pay attention to these conditions and be ready to respond appropriately and sometimes quickly because it will be impossible to predict the exact location, source, and timing of an ignition that can transform high winds into a raging wildfire.

Predictions about what might happen in the way of weather extremes, climate change, and wildfire during this century should be included in neighborhood and agency discussions to ensure appropriate preparation for wildfire and appropriate planning for wise management of natural resources. As an example, the events of the past hundred years suggest that in this century; there are likely to be three Diablo wind mega-fires, seven "normal" Diablo wind fires, possibly as many as 150 "normal" west wind fires, hundreds of small fires that are quickly controlled, four El Nino events, four extended freezes, and four drought cycles that will all impact wildland vegetation and residential areas. Fortunately, there are reasonable steps that can be taken to be safe and to protect one's property with good family emergency planning, appropriate home and property preparation, and defensible space landscape maintenance.

WHAT SHOULD HOMEOWNERS IN THE CANYON BE DOING?

Creating and maintaining defensible space is one of the most important ways to protect your home from wildfire. Defensible space will allow an ember resistant house to have a chance to survive on its own, and greatly improving the odds for firefighters who will attempt to defend your home. Defensible space can be a designed landscape or area of

maintained plants surrounding your home with fuel management of 100 feet as required by state law or by city code. The Claremont Canyon Conservancy supports and is in complete concurrence with the recent, excellent state and local guidelines. For further details please refer to the Oakland Wildfire Protection District web page at: http://www.Oakland WPD.org

Preparing your home to resist burning embers is the next most important thing to do. New building codes are creating more fire-safe homes and communities, but all structures are vulnerable to wildfire and many older structures are especially vulnerable. All of Claremont Canyon is a high fire-risk area, and some homes need to be retrofitted as soon as possible. Embers can travel a mile or more and ignite a home surrounded by unlimited green landscape.

Staying behind in a major wildfire is serious business and must not be attempted when the order to evacuate is given or you determine on your own to leave early. Evacuation is essential to save lives, knowing that property will be covered by homeowners insurance that is essential for those who choose to live in our beautiful canyons and hills.

WHAT SHOULD AGENCIES THAT OWN LAND IN THE CANYON BE DOING?

Public agencies should create and maintain ridgetop fuelbreaks in planned locations along the west boundary of regional parks and along Grizzly Peak Boulevard on city or other agency lands. Ridgetop fuelbreaks are a zones of managed vegetation where firefighters could attempt to stop a fire before it raced over the ridge into residential areas. Residential edge fuelbreaks should also be created and maintained to provide a minimum of 100 feet and sometimes up to 200 feet of managed vegetation (including what the homeowner is required to do for defensible space) at the wildland/urban edge where firefighters could safely work to protect homes.

- We urge the East Bay Municipal Utility District to complete its Grizzly Peak Blvd. ridgetop fuelbreak and address the risks created by eucalyptus trees overhanging a powerline between the road and ridgetop.
- We urge the East Bay Regional Park District to complete its fuelbreak (with neighbors doing their portion) along the residential edge of Gwin Canyon, and in a similar fashion for a fuelbreak behind residences along the North side of Claremont Avenue, and in the shrubland east of the eucalyptus grove above the Clark Kerr Campus.
- We urge public agencies to eliminate the potential for eucalyptus and pine on their lands to produce dramatic flame fronts and throw embers that could quickly overcome firefighters and significantly reduce evacuation time for homeowners.
- We support the University's efforts to remove all of the eucalyptus trees on its property in Claremont Canyon.
- We urge the Park District to determine, in its Fire/Resouce Plan and EIR, whether or not the Stonewall eucalyptus grove will aid or hinder firefighters in stopping a wildfire that might come down through the Canyon before it can ignite residential areas along the Canyon bottom.

THE 1991 FIRE WAS THE WORST DISASTER IN OUR HILLS. HOW DID IT START, AND WHAT WAS ITS IMPACT?

Javier Trelles, and Patrick J. Pagni, both distinguished UC Berkeley professors with funding from a FEMA grant, analyzed the role of early "Diablo" winds and burning embers during the first hour of the 1991 rapid fire spread. They also analyzed and modeled the very different spread rates from fire generated winds during the fire's next nine-hours. In their report, they described the Sunday morning fire start and the environmental conditions at the start as follows:

"On October 20, at 6:00 a.m., the normal weather pattern was interrupted as winds in excess on 10/ms arose from N 35 degrees E and the relative humidity dropped below 10%. This strong, dry convective current began to dramatically lower the moisture level of the previously soaked burn area of the Saturday fire. The ambient temperature climbed to 90 degrees. The few embers that remained buried overnight were by 10:45 a.m. spotting to new areas of dry fuel. Between 11:15 and 11:30 a.m., extremely rapid fire spread in windward direction overwhelmed fire crews called in to help. The initial brand material came primarily from Monterey pine, Pinus radiata. About 650 meters from the fire origin, the fire engaged a 35-meter high stand of Eucalyptus globules that quickly became an inferno releasing copious brands. Once structures became involved, the shakes and shingles they liberated further exacerbated the flaming brand problem."

Of the 11,055 people living in the 1,500 acre fire area, 25 were killed, 150 injured, and most residents were left homeless. The average price of the 3,354 single-family dwellings destroyed was $350,000 for a total cost of $1,200,000,000. Four hundred forty-six apartment units were destroyed. In addition, 2,000 automobiles were destroyed. 10,000 people were evacuated from the area, the Red Cross answered 3,000 inquiries from concerned family members, and non-profit groups served 100,000 meals. 4,407 families registered for assistance, 1,221 temporary housing grants were issued, 842 individual family grants were issued, and 3,921 Small Business Administration loan applications were filed. The total estimated cost of the fire was more than 1.5 billion dollars.

WHAT FACTORS MAKE SOME HILL FIRES SO DIFFICULT TO CONTROL?

Wildland/urban interface fires are often complex and fast moving fires that have multiple causes. The Hills Emergency Forum and the Park District have often used the following narrative to describe the East Bay Hills wildfire problem.

" •Residential developments in the Hills have occurred, over the past 70 years, in areas at risk from major Diablo wind-driven wildfires.

•Major increases in flammable vegetation, over the past 70 years, have significantly increased the wildfire risk. Steep hillsides have been converted from grazed grasslands to brush with hillside and ridge top homes, surrounded with flammable vegetation, often under or adjacent to groves of unmaintained pine or eucalyptus.

•Neighborhoods currently exist with large numbers of homes with wood shingle roofs, wood siding and decks, and excessive levels of flammable vegetation on the lot. Some homes have been placed in locations that are indefensible today, given the wildfire characteristics of unmanaged vegetation on steep hillside slopes.

•Narrow roads, overhead power lines, variable water pressure and volume at Hill fire hydrants all make fire fighting difficult under the best of conditions in the Hills, and impossible under the worst of conditions.

•Un-maintained eucalyptus and pine groves, on both private and public lands, represent a serious crown fire and spotting threat to adjacent residential areas.

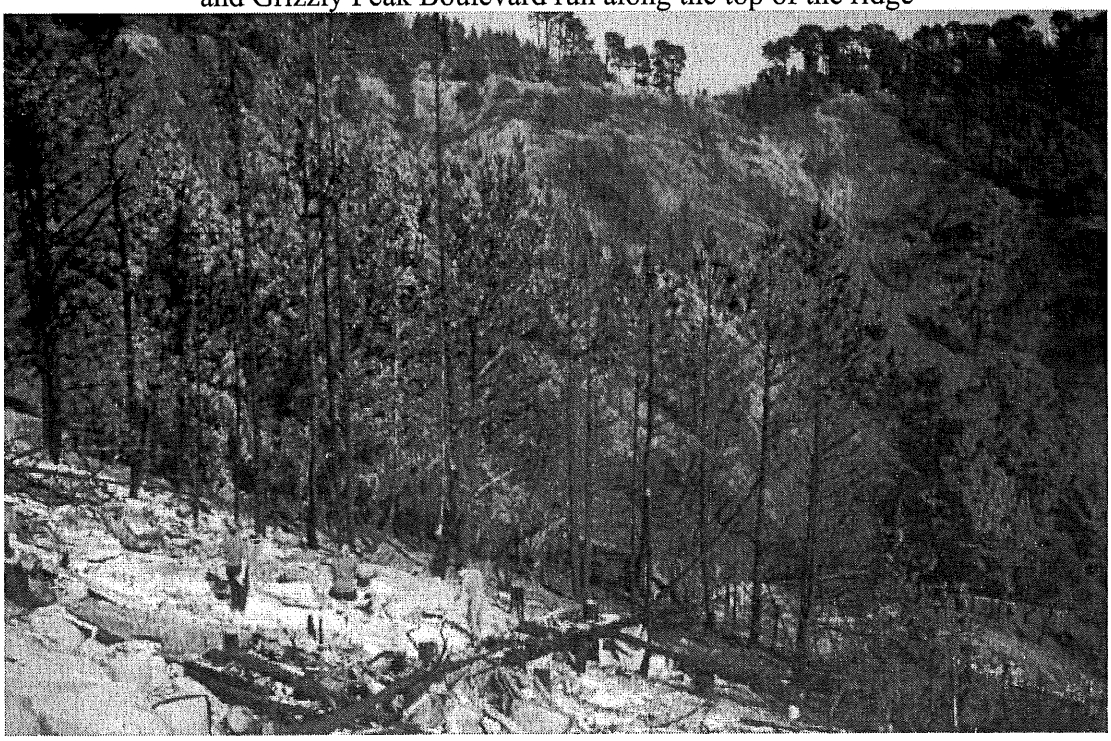
•Diablo wind fires under the worst conditions of high wind speed, low humidity, and high temperature, move so quickly that positioning fire crews and obtaining air support for rapid containment and control may not be possible given current fuel levels.

•Urban fire departments may be called upon to fight a rapidly expanding East Bay Hills Diablo wind fire once every 10, 20 or 40 years, and therefore cannot have the same level of experience, resources, and equipment equivalent to their more traditional structural fire fighting mission."

WHAT DID THE AREA LOOK LIKE BEFORE AND AFTER THE 1991 FIRE?
Public memory about what existed in the 1991 fire area fades quickly after dead trees and destroyed homes are demolished and building sites are prepared for new home construction. The first photo shows the area where the fire started, and the next four show examples of what the vegetation and structures looked like the week after the fire.

(see next page)

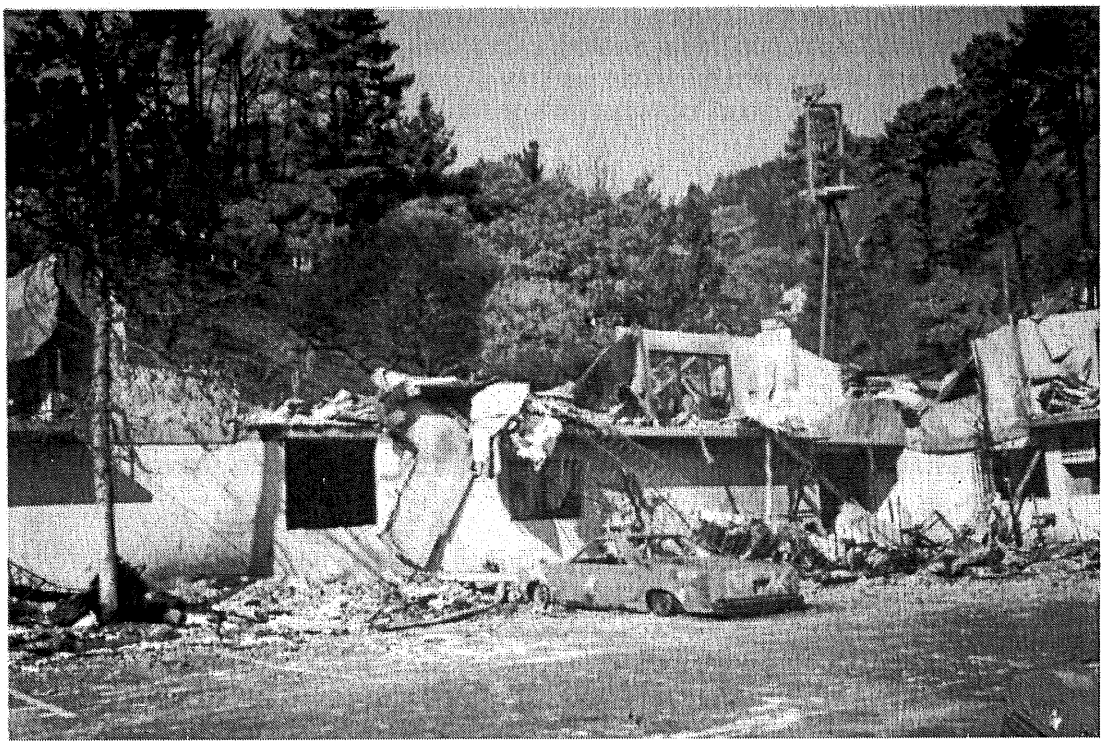
Steep slope above Buckingham Boulevard where the 4-acre Saturday West Wind fire occurred, followed by the 1,500 acre Sunday Diablo Wind fire. Marlborough Terrace and Grizzly Peak Boulevard run along the top of the ridge



View, looking toward the area of fire origin. The left flank of the fire spread laterally behind the homes on Buckingham Boulevard and up toward the area in the foreground.

Buckled steel beams and burned trees, that appear to be seedlings from the 1970 fire, mark the location of a home on Buckingham Boulevard.

View across the upper portion of the Hiller Highlands complex.



These ruins are the remains of the 4-story Parkwoods Apartments. The ruins and surrounding vegetation were soon removed to make way for new construction

ARE EUCALYPTUS TREES BEING SCAPEGOATED BECAUSE OF THE 1991 FIRE?

There has not been an effort to scapegoat this or any other tree species for their role in the 1991 fire. But, we should not forget what burned and the acreages that were involved in the 1,500-acre wildfire that are summarized below. (Source: Comparison of Fuel Load, Structural Characteristics and Infrastructure Before and After the Oakland Hills "Tunnel Fire". USDA forest Service Gen. Tech. Rep. PSW-GTR-158. 1995)

40% of the acres involved 3,355 structures
21% of the acres involved Eucalyptus trees
18% of the acres involved Northern coast scrub
9% of the acres involved Monterey pine
5% of the acres involved Coastal scrub, grassland mosaic
3% of the acres involved Coast live oak & coastal scrub mosaic
3% of the acres involved highways
.5% of the acres involved Grassland
.4% of the acres involved Monterey pine and coastal scrub mosaic

After the acreage attributable to structures, eucalyptus trees occupied the largest percentage of acreage involved in the fire. Vegetation was involved in 57% of the acres throughout the fire area and structures 40% of the acres. This was a classic wildland/urban interface fire that did its damage in one terrible afternoon. Wildfire does not usually distinguish between plants and houses, so both were fuel during the fire.

The FEMA report about the 1991 fire, produced in its immediate aftermath said:

"Eucalyptus and Monterey Pine have been identified as fire hazards and their spread should be controlled... It should be stressed that these target species are not the only vegetation threat existing in this area. Acres of coyote brush, scotch and French broom, and the vast inventory of ornamental shrubs that are now thirty to forty years old all constitute a significant fire hazard."

The more complete and definitive 1991 fire report is titled The East Bay Hills Oakland-Berkeley Fire that was investigated by J. Gordon Outlay. His report was conducted under contract to the United States Fire Administration, Federal Emergency Management Agency. The following quotes are taken from this report.

"Fire has been a part of the history of the Oakland-Berkeley Hills area throughout its history. As with many other marine climates, fuel moistures are such that during most periods, fires do not cause dramatic damage but rather help maintain a balance of fuel types and reduce fuel loads. The native flora and fauna had adapted correspondingly with the natural occurrence of fire in the area.

In modem times, the natural fire pattern in the area has been substantially changed. Fire suppression has reduced the natural cycle of fires, which normally would have occurred in the area. Without prescribed burning or some other type of fuel reduction, the native vegetation has caused an increased fuel load through the area.

Additionally, the introduction of vegetative species that are not native to the area has dramatically impacted fuel loading. This is particularly true of the introduction of eucalyptus. Fuel accumulations in some areas under eucalyptus plantations have been estimated between 30 and 40 tons per acre. Monterey Pine was also introduced into the area and contributed significantly to the fuel loading.

Eucalyptus was first introduced to the East Bay Hills with extensive planting in the early 1900s. The eucalyptus has a tremendous production of both leaf and bark litter, which is not readily consumed or broken down in the normal decomposition process and leads to the presence of high volumes of fuel.

Additionally, eucalyptus is susceptible to freeze damage, as occurred in 1972, when large numbers of eucalyptus were killed due to an extended period of below freezing temperatures, and again in December of 1990. The dead trees and limbs added a significant amount of dry fuel in the area. Also, eucalyptus sprouts back from the stump and this sprouting after freezing or after logging operations have also increased fuels in some areas.

Between 1986 and 1991 most of California experienced drought conditions. This situation was recognized as creating more and more critical fire risk conditions each year. The unprecedented drought was accompanied by an unusual period of freezing weather, in December of 1990, which killed massive quantities of the lighter brush and eucalyptus.

Dead fuel accumulated on the ground in many areas and combined with dropped pine needles and other natural debris to create a highly combustible blanket. Due to the fiscal cutbacks, governmental programs to thin these fuels and create fuel breaks were severely curtailed, so the fuel load was much greater than normal by the second half of 1991. In addition, no measurable rainfall was recorded during the summer and early fall of 1991.

HOW DID THE LARGE GROVES OF EUCALYPTUS AND PINE GET HERE?

Most of the eucalyptus and pine groves in the hills are today's remnants of the tree planting efforts of two Oakland businessmen between 1895 and 1913. They planted the hills with pine, eucalyptus, and cypress for future residential developments and blue gum eucalyptus for hardwood lumber production. Both enterprises would not be repeatable today, and have created increasingly significant environmental and cost impacts, as trees become decadent and unsafe, that today's residents and agencies must increasingly address. We use the common term of "non-native" as the appropriate description for blue gum and red gum eucalyptus trees from Australia, and for describing pines and cypress trees from the coastal regions of central California.

SINCE DENSE EUCALYPTUS AND PINE GROVES ON PUBLIC LANDS IN CLAREMONT CANYON ARE A HAZARD, WHAT ARE THE OPTIONS?

Virtually every professional involved with fire suppression, wildland management or the study of fire science/fire ecology who has studied Claremont Canyon cites the high fuel load that eucalyptus and pine trees contribute to the Canyon and the surrounding area. At this point there is universal agreement among fire professionals that something needs to be done.

A CLEAR CUT IS NOT RECOMMENDED

Opponents to the removal of highly invasive, flammable, non-native species such as eucalyptus and acacia trees are misleading the public on this score by inappropriately using clear cutting as a term that arouses one's worst fears. Clear cutting is a forest logging method in which all trees are removed to form a new stand of timber. Clear cutting has never been done in Claremont Canyon and there are no plans to ever do so.

This is a clear-cut, and it is not recommended by anyone.

CONVERSION TO NATIVE PLANT COMMUNITIES IS RECOMMENDED

The University and Park District approach has been to remove eucalyptus and leave native oaks, bays, and other native vegetation and is correctly called selective logging for forest conversion purposes to improve wildfire safety.

This is the 2006/2007 University, Claremont Canyon Phase 6 eucalyptus to native vegetation conversion project that is recommended. The native understory will be different but equally acceptable in each grant area.

IS NATIVE VEGETATION IN OUR HILLS RELATIVELY FIRE SAFE?

Nineteen percent of the existing vegetation in the East Bay Hills is non-native. Most of today's wildland vegetation (by counting numbers of species represented in that vegetation) is composed of "truly native" species or similar and is relatively fire safe. However, most of the plant communities, in their current locations and size, are relatively young and will continue to change through stages of succession, development and rebirth during the next 200-years. This 19% of East Bay Hill vegetation includes mostly non-native eucalyptus and pine that produce dramatic flames that are less controllable, and can throw embers long distances into residential areas.

There should be no confusion about the type of vegetation that is possible and desirable today when converting from higher-risk plant communities to lower-risk plant communities that were identified in the 1995 Hills Emergency Forum Vegetation Dataset. Our native and similar plant communities have evolved here, and can be re-established to grow well with few maintenance requirements other than invasive weed control.

Acres	Native and Similar Plant Communities (mostly natives by species count)
4,100	Oak/Bay Forest- Mixed
3,847	Grassland (mostly areas that are grazed)
3,309	Dry North Coastal Shrubland
1,418	Redwood Forest
918	Successional Shrubland
855	Oak/Bay Woodland- Mixed
332	Wet North Coastal Shrubland
79	Chaparral- Mixed
71	Riparian Forest
10	Oak Savannah
14,940	Subtotal (81% of Oakland/Berkeley Hill wildland vegetation)

DOES 'SPECIES NEUTRAL' WILDFIRE RISK REDUCTION MAKE SENSE?

The fire risks attributed to individual species are very real, and some species do support more intense fire behavior than others. Our native and similar plants listed above are generally below 40' in height (except for comparatively safe native redwoods), and are less prone to unmanageable fire behavior. Non-native eucalyptus and pine groves can exceed 120' in height and can be prone to dramatic fire behavior. When wind drive wildfire reaches their crown, flames above 150' can be expected with burning embers blowing downwind well beyond one half mile. Non-native eucalyptus and pine are some of the most dense and flammable plant communities in the hills. Un-maintained pine groves are also extremely flammable with deep needle duff on the ground and dense pine seedling growth within and around the grove. We also know that major freezes (1922, 1931, 1949, 1972, and 1991) have killed or damaged eucalyptus trees, and that many fires have killed pine trees. We also anticipate that global warming will result in further extremes in weather that will affect plant species and make the 21st century even more risky.

WHAT IS THE STORY ABOUT LEAVING CHIPS AFTER A UC FOREST CONVERSION PROJECT?

The University has used eucalyptus chips, from logs and branches run through a chipper, as a ground mulch to keep logging trucks off our pubic roads if logs and chips were otherwise hauled to off site locations. A secondary benefit is to retain all or most of the plant biomass on site as a mulch to control weed invasion. Some feel the chips that are spread over a eucalyptus or pine tree conversion area are a fire hazard, but no credible evidence has ever been offered to prove that the chips are anywhere near the fire hazard of the standing dense trees. Fire professionals agree that wood chips, which retain extensive moisture, are unable to carry a fast moving flame front, although they could smolder and require additional "mop-up" work to extinguish. There has never been a fire in one of the UC projects where chips have been used during the past seven years.

The University has chipped during several Claremont Canyon projects including its most recent mid-canyon project in 2006/2007. The remaining native vegetation in mid-canyon between Claremont Canyon Avenue and Grizzly Peak Boulevard is healthy and doing well now that the dominating eucalyptus cover has been removed. The chipped areas vary in depth, but in this part of the canyon chips are now less than eight inches in depth except at a few confined chipping areas that now form open meadows that surrounding vegetation that will soon occupy. The University's Claremont Canyon phased projects (2001-2007) are one of the most successful eucalyptus conversion efforts for restoring native vegetation while reducing fire-hazards in the East Bay Hills.

WHAT ABOUT THE ISSUE OF CLIMATE RISK VERSUS FUEL RISK?

Renowned experts including Dr. Jon Keeley, who spoke at the 2007 annual meeting of the Claremont Canyon Conservancy, have made it clear that wholesale reduction of fuel load in remote open space areas does not mitigate the risk of a Diablo Wind-driven fire.

Dr. Keeley's concluding statement in his paper, *Fire history of the San Francisco East Bay region and implications for landscape patterns*, published after the Claremont Canyon Conservancy meeting, contained the following closing paragraph.

> "Under these severe fire weather conditions, fire spread is extremely rapid and the area has a history of devastating fires. These, however, have all been relatively small fires that involved fuels at the wildland-urban interface. Fuels far removed from this interface zone played very little role in these conflagrations. Thus, it would seem the most cost-effective approach to fire hazard reduction should be focused at the interface zone and here the problem is often as much due to exotic fuels as it is to natural successional processes."

Dr. Keeley has published extensively on the futility of using prescribed fire to reduce the fuel load in expansive Southern California shrublands where much of his research has been focused, and recommends that fuel management occur at the residential interface. Also, East Bay fires are small compared to larger 100,000 acre fires in Southern California and elsewhere, but have destroyed equally large numbers of homes in our "smaller" under 2,000 acre fires.

SHOULD CLIMATE RISKS AND FUEL RISKS BE EVALUATED AND ADDRESSED SEPARATELY?

The conclusions of Dr. Jon Keeley and the conclusions of every recognized fire expert who has reviewed the East Bay Hill fire problem agree that climate risks and fuel risks need to be evaluated and addressed together.

The following statements about climate and fuel risks are taken from sections of the Forest Encyclopedia Network.

> "Climate fire risks are directly related to wind speed that has one of the greatest effects on fire intensity and rates of spread. As wind blows across a fire, it pushes the flame forward and closer to the unburned fuel in front of the fire. This increases convection and radiation, which dry the fuel and increase its combustibility. In general, the higher the wind speed, the further the flame leans and the faster it dries the fuels, increasing both fire intensity and rate of spread. Wind also adds oxygen to the existing fire, further increasing combustion rates in the flaming zone."
>
> "There is a direct relationship between fire line intensity and wind speed. This relationship has also been quantified in fire behavior prediction models. Wind also influences the direction of spread and can carry sparks and firebrands downwind of fires, greatly increasing spread rates. A shift in wind direction could rapidly turn a slower moving flanking fire to a head fire, increasing its rate of spread."
>
> "Fuel risks involve a number of factors with fuel load being one of the most important factors controlling fire intensity. Fire intensity is directly proportional to a fuels heat of combustion, the amount of fuel consumed, and a fires rate of spread. Fuel loads are dependent on vegetation type, life stage (older, over-mature plant communities may have an accumulation of large woody debris), and

time since the last fire."

IT HAS BEEN SUGGESTED THAT THE JUNE 2008 FIRE RAGED IN SPITE OF THE REMOVAL OF PINE TREES.

Bob Sieben, fire prevention coordinator for Hiller Highlands provided the following account of this recent fire, in which he credits prior removal of non-native species for minimizing what might have been a much more damaging fire:

> "This potentially catastrophic fire began at or before 11:15 am on Thursday June 12th on a declared Red Alert day with high winds. There was dense regrowth of Monterey pines in the exact area of this fire following the firestorm of 1991. Prior to the firestorm the pines were so dense that one could not see across this canyon. Survivors of the firestorm reported hearing one pine tree after another exploding in fire: Monterey pines may ignite simply from being heated without an actual flame. All 200 Monterey pines in Hiller Phase V and all 600 on the adjacent property just East of it were removed in 2003 by volunteers and workers paid with funds raised from the entire Hiller Highlands community. There were easily 600 pines in the area occurring in dense, at times impenetrable, groves of as many as a dozen or more in a square yard. Many were already 20 to 30 feet tall. The lower branches died back as the trees reached for light and there was dense pine duff underneath, constituting an extreme fire danger.
>
> I personally walked this area before the June 12th fire and cut the few pines that had reseeded. The fire of June 12th would have been far worse had these pines not been removed. The fire burned into the exact steep area where pine trees had been. The fire in the recovering sparse woodland of live oaks, bays and elderberries was therefore manageable by firefighting forces. In fact, it was successfully contained in this area and prevented from spreading northeastward toward homes on Charing Cross Road, and beyond.
>
> The part of the fire threatening homes on Charing Cross entered a very steep area where coyote brush had not been cleared, trees had not been laddered and planting poles still attached to redwoods contributed to the fire crowning into the trees. A patch of prostrate coyote bush used in landscaping helped leapfrog the fire up the hill. These problems have been reduced or eliminated since the fire. From personal experience I can attest that this is a very steep and risky hill to work on. There was only one ember caused fire at a distance from the fire front. A water drop put out the resulting spot fire promptly by an alert East Bay Regional Parks helicopter flying overhead.
>
> The speedy response of the OFD was laudatory. They could not have contained this fire in the 90 minutes they did if the residents had not eliminated the Monterey pines from this area well before the fire occurred, giving the firefighters the chance to control it. In other words the vegetation management plan was successful in that this fire was manageable and failed to spread by embers beyond the area. The firemen on the scene thanked us profusely for the work we had done in advance, giving them the chance to control this fire. Clear cutting the entire slope or covering it with cement would have prevented a fire, but was never considered. We learned that even on very steep slopes appropriate fire prevention measures can be taken without damage to the slope."

WHAT IS HAPPENING WITH THE THREE FEMA PRE-DISASTER MITIGATION GRANTS?

The three grants are:

PDMC-PJ-09-CA-2005-011 Strawberry Canyon
PDMC-PJ-09-CA-2005-003 Claremont Canyon
PDMC-PJ-09-CA-2006-004 Oakland/Frowning Ridge

These grants were awarded in 2005 and 2006 in a nationwide competition for pre-disaster mitigation funds in which 130 California agencies participated. In 2006, only three grants were awarded in this state and only 19 grants were awarded nationally. This speaks to the recognized wildfire risks faced by agencies and residents in the East Bay Hills, the quality of the three agency projects, and the need for completing all three projects without delay.

The FEMA UC Strawberry Canyon Draft Environmental Assessment comment period closed on January 26, 2008. FEMA then referred a list of technical questions to the University. The University responded to FEMA on April 10, 2008 and again on June 6, 2008. Nothing happened during the next five months until November 17, 2008 when FEMA wrote to the State Office of Emergency Services (who is the intermediary between FEMA and local agencies) asking the University to respond to six additional questions. More than a year has passed with various questions and challenges to the project that have held up authorization to proceed, but as this is written we are hopeful that the remaining issues can soon be resolved.

WHAT IS THE CONSERVANCY DOING TO GET THESE GRANTS BACK ON TRACK AND WORK COMPLETED?

Officers of the Claremont Canyon Conservancy are working with officials at U.C, the City of Oakland, and the Hills Emergency Forum as well as our elected representatives to ensure that the work that these FEMA grants were awarded for is commenced and successfully completed. The CCC is urging FEMA to meet with agency representatives to finalize and issue the Environmental Assessment for Strawberry Canyon. The Conservancy is also urging the issuance of the Draft Environmental Assessments for the Claremont Canyon and Oakland Hills grant projects for public comment.

This information has been compiled and posted on the Conservancy's website as a public service. The Conservancy is convinced that the issue of fire safety in Claremont Canyon is important enough to be worthy of our best efforts as people of good will. Only by working together as a community and using the best available information can we hope to understand and significantly reduce the widely recognized fire hazard that exists in the vicinity of the canyon.

Membership in the Claremont Canyon Conservancy is open to everyone. Please consider joining the organization if you have not already done so.