
Appendix F:
Written Comments Received by E-mail, Websites,
Fax, Mail, or Submitted at Scoping Meeting

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E-mails and Comments Posted on the EIS Website¹

EBH-EIS-FEMA-RIX

From: Llyana Landes [landesl@yahoo.com]
Sent: Thursday, August 19, 2010 9:31 AM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

My concern is related to the use of wide-spread herbicides in these areas. I suffer from chemical toxicity, and use of herbicides in these areas would mean that I would not be able to hike and spend time in these public parks. This would be a great loss to me, personally, and to many others who's health is also negatively impacted by such chemical applications. Please consider us in your consideration of these permits! Thank you.

EBH-EIS-FEMA-RIX

From: Esther Lerman [eslerm@earthlink.net]
Sent: Thursday, August 19, 2010 11:22 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

Please do not use herbicide when removing the trees in the East Bay hills area. My best friend, and many like her, has MCS- Multiple Chemical Sensitivity- and will not be able to hike these areas anymore for years. Can there be at least one or 2 areas, maybe, that are herbicide free?? Thank you for your attention.

EBH-EIS-FEMA-RIX

From: Nancy M. Friedman [nmf123@pacbell.net]
Sent: Friday, August 20, 2010 3:31 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

I am very opposed to the use of herbicides in the East Bay Hills. I understand you are considering proposals to remove large amounts of trees in 4 different areas of the hills as part of a fire-prevention project (Eucalyptus and some conifers) which include wide-spread herbicide use. There are many people who have suffered irreparable chemical damage to their bodies but love the outdoors. Use of herbicides in this area would make it prohibitive for them to hike there, and put us all at even more risk than we are from a multitude of chemical usage.

¹ Comments submitted through the website generated an e-mail message to EBH-EIS-FEMA-RIX@dhs.gov.

EBH-EIS-FEMA-RIX

From: Robert Breuer [rbreuer@pacbell.net]
Sent: Friday, August 20, 2010 3:59 PM
To: EBH-EIS-FEMA-RIX,
Subject: Scoping comments: Hazardous Fire Risk Reduction, EIS, East Bay Hills
Re: Scoping for Hazardous Fire Risk Reduction, Environmental Impact Statement, East Bay Hills, California

As a resident of Panoramic Hill (Berkeley/Oakland) we live in a well known very risky neighborhood serviced by a single hundred year old very narrow access road. The potential for calamity here is enormous, every bit as much as in the worst areas hit by the 1991 Berkeley/Oakland firestorm where over 20 deaths were attributed to narrow access roads. I suggest that after much study, it is time to act in order to:

1. Broaden Panoramic Way
2. Open a second access route, most likely Dwight Way.

The long overlooked and weary 500+ residents of Panoramic Hill deserve a chance to survive an upcoming fire or earthquake calamity.

Thanks so much for your consideration.

ROBERT BREUER
29 Mosswood Road
Berkeley CA 94704

rbreuer@pacbell.net
tel: (510) 540-5880

EBH-EIS-FEMA-RIX

From: Debbi Thomas [DThomas@DekatoDesigns.net]
Sent: Monday, August 23, 2010 10:38 AM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

Please do not spray more herbicides/pesticides. These chemicals are affecting my nervous system & brain so much that I can no longer work. I can not ride my motorcycle. I have to drive with my windows closed. I have been going to Point Isabelle in El Cerrito because they do not spray, but now Costco next door has sprayed so much that the air is burning my throat. I have to keep hard candy in my mouth all of the time. It makes me so disoriented that I have a difficult time just walking from my truck to the bathroom. I have tried going to Berkeley Marina, Tilden park, Rodeo Beach (Marine Mammal center), Point Reyes. All of these places use chemicals which I can not tolerate. I am sensitive to chemicals, not allergic so I am just much more sensitive than other folks. These chemicals are not going away so they just get worse with each spraying. They also get worse with watering, rain, etc.

EBH-EIS-FEMA-RIX

From: Howard Matis [hsmatis@gmail.com]
Sent: Wednesday, August 25, 2010 7:47 AM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

I support the proposed plan to reduce Fire Risk in the hills. We have already had one disastrous fire which killed people. Please do not listen to the extremists who prize their narrow concept of beauty against the safety of my family and my neighborhood. I support your plan. We do not want to burn again.

EBH-EIS-FEMA-RIX

From: Iech naumovich [conservation@ebcnps.org]
Sent: Monday, August 23, 2010 12:24 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

Your documents listed as PDF's do not download as described. They were not correctly uploaded. Please send a copy to my email (of the PDFs). Browser: Firefox 3.5.11

EBH-EIS-FEMA-RIX

From: Jane Eiseley [jeiseley2@yahoo.com]
Sent: Wednesday, August 25, 2010 8:29 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

I am a senior citizen living in Berkeley. I have been active in the past with the Strawberry Canyon activists opposed to UCB's plans for construction in the Canyon. I urge you to adopt FEMA alternative 4 and to fund only some parts of the current application to reduce fire hazard in the East Bay hills. I very much oppose the use of herbicides and the wholesale cutting of trees, even eucalytus. The parks are important to my quality of life. I do not want to feel saddened by the knowledge that poisons have been applied, animals killed and landscape ruined. The vegetation on the hills is also an important air quality buffer in an area that is plagued by air pollution. Fire protection is important too but I feel that UCB's role in the application is not honest, since the University's view of the hills is that they are building sites ripe for development. They are deaf to objections based on the value of the hills as natural areas for recreation and ecological study. They have also shown that they are deaf to expert opinion that the soil in the hills is unstable and building there may well bring on floods and landslides. Wholesale destruction of the plant cover and application of poisons similarly endangers everything downhill!

EBH-EIS-FEMA-RIX

From: sydney carson [ascarson@berkeley.edu]

Sent: Wednesday, August 25, 2010 9:42 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

There must be better alternatives to preventing fire than cutting down trees so extensively and afterwards spraying the ground with herbicides which will prevent regreening of our hillsides. Use goats. Use anything but the devastation that is being considered.

EBH-EIS-FEMA-RIX

From: Richard Montgomery [rmont@ucsc.edu]

Sent: Wednesday, August 25, 2010 11:00 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

The plan as I understand it: to cut down 100s to 1000s of trees in the Strawberry Canyon area of the Berkeley Hills is a ridiculous one. I understand the possible need to cut out some of the Eucalyptus groves, and if the plan can be changed to be selective: (Eucalyptus, no native trees) then it would be acceptable.

EBH-EIS-FEMA-RIX

From: Linda Richards [lindarichards2004@yahoo.com]

Sent: Monday, August 30, 2010 1:35 PM

To: EBH-EIS-FEMA-RIX,

Subject: Trees

There is no real logical reason to cut the trees in Oakland and Berkeley, Ca. There can always be some off-the-wall to justify this, just like in the rain Forests of our planet.

Please do not fall into this cut-at-will mentality. We need the trees more than we might need to have them removed.

One might ask : Who benefits from the the destruction of these trees? It certainly isn't the citizenry.

Linda Richards

lindarichards2004@yahoo.com

EBH-EIS-FEMA-RIX

From: Tom Klatt [tklatt@berkeley.edu]
Sent: Friday, August 27, 2010 2:09 PM
To: 'EBH-EIS-FEMA-RIX'
Cc: jmcDougall@cp.berkeley.edu
Subject: FW: East Bay Hills EIS - Comments
Attachments: EBH.EIS.docx
FEMA-URS:

Berkeley City councilmember Capitelli sent me his comments, attached.

Tom

Tom Klatt
Environmental Projects Manager
Vice Provost - Teaching, Learning, Academic Planning & Facilities
and
Capital Projects - Physical and Environmental Planning
510-847-7575

From: Capitelli, Laurie [mailto:L.Capitelli@ci.berkeley.ca.us]
Sent: Thursday, August 26, 2010 4:39 PM
To: Tom Klatt
Subject: East Bay Hills EIS

Tom,

Councilmember Capitelli regrets he is not available to personally comment on the East Bay Hills fire safety project. Please see his comment attached.

Thank you.

Jill A. Martinucci

aide to Laurie Capitelli

Berkeley City Council, District 5

510-981-7150

<<EBH.EIS.docx>>

LAURIE CAPITELLI

Berkeley City Council
District 5

August 26, 2010

EBH – EIS
P.O. BOX 72391
Oakland, CA 94612

Comment Re: EIS for Fire Risk Reduction, East Bay Hills, California

I write to conditionally support the fire risk reduction plan as outlined in the grant application submitted by the University of California, the East Bay Regional Parks District and the City of Oakland.

In the spring of this year, I had the pleasure of touring areas of the East Bay Hills that have already benefited from previous fire risk reduction efforts. Eradicating fast-growing invasives and allowing native trees to reclaim the area is key to the long term risk-reduction strategy.

But, as a representative of the City of Berkeley, I am sensitive to implications of herbicide use for the watershed areas downstream in Berkeley. Therefore I request that any project include a study of the short term and long term implications of the use of herbicides and any necessary mitigation, if necessary, to prevent adverse effects, downstream.

Thank you for this opportunity to comment on the plan.

Regards,



Laurie Capitelli

CC: Tom Klatt, Environmental Projects Manager

2180 Milvia Street, Berkeley, CA 94704 Tel: 510.981-7150 Fax: 510.981-7155 lcapitelli@ci.berkeley.ca.us

EBH-EIS-FEMA-RIX

From: tko661gmail.com [tko661@gmail.com]
Sent: Monday, August 30, 2010 1:41 PM
To: EBH-EIS-FEMA-RIX,
Subject: no tree cutting!!!

Not only has the East Bay Regional Park District, the City of Oakland and UC Berkeley all put in grant requests to the Dept of Homeland Security and FEMA to cut down over 1000 trees and apply pesticides on a continual basis; due to Measure CC, an innocuous sounding Measure that many innocent people approved, 500,000 trees are also on the chopping block. One might ask the question, Why Now? We've had an incredibly wet year and a summer so cold its in the record books. It isn't as if wildfires are something new to California and its been 20 years since the Oakland Hills firestorm. The pretext that it's to prevent fires and reduce fuel load doesn't compute. When they cut down all the big trees, Pines, Eucalyptus and Acacias, we will be left with an Oak and Bay landscape, similar to Los Angeles where fires are always raging. Cutting down tall trees, which may scar but do not burn down in a fire is counterproductive. Contrary to popular propaganda, Eucalyptus trees do not "explode". They have saps and oils that, when heated, run and they flare, but wildfires start in grass. Yearly requirements to cut grasses, clear brush, trim low hanging tree limbs up 6 feet or so from the bottom of large trees and make sure branches don't overhang roofs, in addition to more inspections by Oakland Fire trucks, have resulted in no repeats of the Hills fire in two decades. So, why now? Maybe because state funding has dried up due to the economy and public agencies are scrambling for money to avoid layoffs or salary reductions? Maybe because cutting trees on ridges clears the way for more housing development? Whatever the monetary reasons, we have to find a better way for finding funding than destroying the natural beauty of our local parklands. To those so opposed to non native, illegal "alien" trees, landscapes can not be static. They are continually changing. Those native trees were once not natives. Refer to the writings of Dr. Daniel Harder, head of UC Santa Cruz Arboretum. We don't want our tax dollars used to destroy our Regional Parks. They are in the process of doing an environmental impact statement and will be receiving comments until October 1. Thanks.

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Thanks,
Tracy

EBH-EIS-FEMA-RIX

From: Ray Johnston [rayjsham@gmail.com]

Sent: Monday, August 30, 2010 4:37 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

Re: Claremont Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-003) Public Scoping Meeting of August 26, 2010 I would like to express my support for the efforts to reduce the hazardous fire risk in the Claremont Canyon located in the East Bay Hills, California. I attended the evening meeting of August 26 and was pleased to hear almost unanimous support from the attendees making public comments, regarding the need to reduce non-native vegetation. Most wanted the removal process done in such a way that it would not have to be totally repeated several years down the road. The use of herbicides seemed to be the biggest concern for some speakers. I do not know about the other herbicides mentioned for use but do have some experience with garlon. I am the president of a small condo association that had an arborist remove six eucalyptus trees eight years ago, and had garlon applied to the cambium layer at the time of cutting. With no followup applications required, there has been no re-sprouting from the stumps and the surrounding vegetation does not appear to have suffered any bad side effects. This the same technique to be used in the action plan for Claremont Canyon. To address the concerns about the use of garlon, may I suggest a water sample test of the streams that result from runoff in other parts of Claremont Canyon. Some of those areas have previously been cut and had garlon applied. Is there any trace of garlon in the water? If not, I would strongly recommend it's use by proper application in the proposed Claremont Canyon Vegetation Management Project. Ray Johnston 2723 Ashby Pl, Apt F Berkeley, CA 94705

EBH-EIS-FEMA-RIX

From: Shani Heckman [shaniheckman@gmail.com]

Sent: Monday, August 30, 2010 5:20 PM

To: EBH-EIS-FEMA-RIX,

Subject: concern over tree harvesting

Dear East Bay Regional Park Representative.

I am writing b/c I am very concerned about the trees you are suggesting to cut down in East Bay Regional Parks.

Especially, I am concerned about the Pine and Buckeye trees. My concern stems from the fact that many of these trees are old and provide much needed shade and shelter for both humans and wildlife. If these trees were being replanted with Oaks, Redwoods and Douglas Firs I wouldn't be so concerned but when I hear they are to be replaced with flammable grasslands--I have to wonder, why chop any trees down at all?

Before any trees are removed, there should be a plan of action to increase the existing level of trees through replanting. It is well known that a variety of California's trees are threatened by both the beetle and a hotter climate--now is not the time to remove our trees.

thank you for listening and recording my request.

Shani Heckman

--

shani heckman

shanestar productions

www.shanestar.org

New: www.mostunwantedfilm.org

415-206-9392

EBH-EIS-FEMA-RIX

From: Desire3160@aol.com

Sent: Monday, August 30, 2010 6:46 PM

To: EBH-EIS-FEMA-RIX,

Subject: PLEASE...

...don't cut down trees in the SF Bay area! STOP the continued destruction of our natural resources.

thank you

EBH-EIS-FEMA-RIX

From: tko661gmail.com [tko661@gmail.com]
Sent: Tuesday, August 31, 2010 2:21 PM
To: EBH-EIS-FEMA-RIX,
Subject: who would approve this????

1000 acres, not trees are to be cut in the project not funded by Measure CC and awaiting the EIS and FEMA approval. I believe it's 500,000 trees to be cut in regard to Measure CC. The gist of it is, our current parklands will be greatly changed. Deforestation also causes climate change. Peter Scott, whose house burned down in the 1991 Hills Fire quotes from an article "Australia's Dry Run" in the April 2009 National Geographic (after the cutting down of red gum eucalyptus to plant rice and cotton) that the eucs had "captured moisture and helped drive cycles of rainfall." A drought ensued. As Scott writes in the Hills Conservation Network Newsletter, "Do they imagine there will be no impact on the humidity in the environment of our wooded hills, after the shading and moisture-capturing canopy of tall trees is gone?" Scott concludes, "The Australian example is of a larger scale, but it is relevant." and, "Cutting large numbers of trees in our hills will only contribute to climate change and to a less fire-safe environment."

Please do not endorse this measure. After what Oakland has been through in the past, anyone in their right mind would know this is walking a very dangerous path for fire and climate destruction.

--
 Thanks,
 Tracy

EBH-EIS-FEMA-RIX

From: janet moore [apricotjan2009@att.net]
Sent: Tuesday, August 31, 2010 8:52 PM
To: EBH-EIS-FEMA-RIX,
Subject: Parklands in the Oakland, California area and East Bay Hills

To whom it may concern:

I am a resident of Oakland, California. I oppose any extensive cutting of trees in the East Bay Regional Parks. Instead, I urge you to approve of mowing grass lands, trimming tress of branches that are within 6 feet of the ground, and keeping brush cleared from around houses. These measures seem to be effective fire prevention, and allow habitat for birds, wildlife and hikers to enjoy and thrive in. Please do not remove healthy trees, when trimming weeds will do the trick!

Respectfully submitted,
 Janet Moore
 3006 Courtland Avenue
 Oakland, CA 94619

EBH-EIS-FEMA-RIX

From: mike rogers [rogers88@comcast.net]
Sent: Wednesday, September 01, 2010 10:42 AM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

PLEASE do not remove all the trees and vegetation you are proposing. We live in the hills and we live there because we want to live near nature - and we understand the risks. There are a multitude of problems you could cause with this massive destruction of nature. Just one recent example is a similar project taken on down in Monterey which has now destroyed the Monarch Butterfly population. This is our neighborhood and you have no right to come in and destroy it!

EBH-EIS-FEMA-RIX

From: Linda Giannoni [lindgia@att.net]
Sent: Thursday, September 02, 2010 12:14 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

This project would be a waste of hard-earned taxpayers' money for environmental devastation that would increase fire hazard instead of reducing it, lead to erosion and landslides, and poison our soil, air and water for years to come. Tree removal would increase heat and dryness in surrounding areas and remove wind breaks, as well as causing soil erosion. All trees provide cooling shade and a moisture-capturing canopy, along with soil-holding roots. Native birds and animals have adapted to introduced trees and need them for nesting and cover. This project would kill thousands of animals outright and destroy their habitat far into the future. Applying herbicide will intensify and prolong the death toll. We humans would also be poisoned and sickened (with cancer, asthma, COPD and other illnesses), especially those who live nearby and those who use the parks for what should be healthy recreation. This poisoning would become more widespread when rains wash the chemicals into watersheds and when the Santa Anna winds blow the dusty eroded soil into our air for miles around. It would be better to continue and increase existing fire prevention, which is working, and to creatively institute a variety of other measures, including: 1. Create and enforce strict regulations about building materials used in the hills area, in particular outlawing wood roofs. 2. Require sprinkling systems in those areas. It is a high-income area, where homeowners can afford it. 3. Hire unemployed citizens of Oakland to remove dead tree litter from the ground and remove low-hanging dead tree limbs. Though this is a slower and labor intensive method, it would work, and it would help deal with the emergency of joblessness, hunger and homelessness that already exists in Oakland without poisoning anyone and without devastating the beautiful green belt that we are so fortunate to have and that many Bay Area people have lovingly worked to preserve and maintain. A question: Would developers be allowed to build on any of the cleared land? I would hope not, but if so, this should be made public knowledge.

EBH-EIS-FEMA-RIX

From: Marg Hall [sismhall1@aol.com]
Sent: Monday, September 13, 2010 4:03 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

Is this how I submit comments for scoping considerations for these proposals?? I have comments but am not sure this is the way to submit them. Thanks Marg Hall Berkeley, Ca 510-654-1366

EBH-EIS-FEMA-RIX

From: Mary McAllister [marymcallister@comcast.net]
Sent: Wednesday, September 15, 2010 7:05 AM
To: EBH-EIS-FEMA-RIX,
Subject: Comment for "public scoping" for Environmental Impact Study of FEMA grant applications
Attachments: Appendix A - RTAs in FEMA Grants.xlsx; Public Scoping for EIS.docx

My comments and an appendix to those comments for the "public scoping" for the Environmental Impact Study of FEMA grant projects in the East Bay Hills are attached. Please let me know if you have any difficulty opening these documents.

Thank you for this opportunity to comment and for your consideration.

Mary McAllister
Oakland, CA

Appendix A: Recommended Treatment Areas (RTAs/ Polygons) in East Bay Regional Park District FEMA grant applications[1]											
RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
3 *		CC	Coastal Scrub (xeric) Annual Grassland Broom Scrub Coyote Brush Scrub Eucalyptus Forest	Perennial and annual grassland, oak-bay woodland	Invasive plant species of high concern in this RTA. Mow in spring to create a safety zone along East-West fire trail. Remove pine trees on ridgeline to prevent widespread distribution of embers. Chemical treatment and prescribed burns may also be considered. Successful treatment requires a commitment to carefully timed rotation of mowing-burning-grazing to control or reduce broom invasion.	13.8	0.2			yes 80%	p
6		CC	oak-bay woodland Coastal Scrub (xeric)	oak woodland w/ understory of oak little and/or herbs/ferns, grasses w/ short, scattered or low volume scrub [sic]	Potential whipsnake habitat present. Suggest goat grazing during appropriate seasons to avoid impact to snakes. Limb up mature oaks after goat grazing. Mechanical treatments likely precluded by steep slopes.	3.3	0			yes 93%	p
7		CC	Coastal scrub (xeric) Annual Grassland	Perennial and annual grassland	Invasives are a concern in this RTA due to existing seedbed. Mow in spring to create a safety zone along the East-West fire trail. Consider grazing. Chemical treatment and prescribed burning may also be considered. Successful treatment requires a commitment to carefully-timed rotation of mowing-burning-grazing to control or reduce broom invasion.	1.7	0		yes	yes 83%	
8		CC	Oak-Bay Woodland Coastal Scrub (xeric) Developed Coyote Brush Scrub Eucalyptus Forest	Landscaping, scrub and oak woodlands, reduced proportion of bays in understory	Consider hand-labor treatments to create and maintain spacing between shrubs, and prune lower branches according to defensible space performance standards. Suggest mowing grasses, and removal of two-thirds of small (less than 4 inches) bay trees in understory, if feasible.	4	0.3			yes 72%	EBRPD

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
10		CC	Oak-Bay Woodland Coastal Scrub (xeric) Coyote Brush Scrub Eucalyptus Forest	North coastal scrub, oak woodland, eucalyptus forest	French broom and invasive plant species a concern. Consider goat grazing, mechanical treatment or hand labor to remove woodland understory and reduce scrub between woodlands. Recommend limbing up oak woodlands and removing two-thirds of small bay trees and one-third of medium sized (4-8" diameter) bay trees. Thin eucalyptus.	6.2	0.8		yes	yes 79%	P
1		SR	oak-bay woodland non-native coniferous forest coyote brush scrub	Oak-bay woodland. Monterey pine with sparse understory	Invasives are a concern in this RTA due to existing seedbed. Remove understory shrubs and young pine beneath mature pines; also remove structurally weak mature pines. Small RTA size limits mechanical treatment unless combined with other areas; all other treatment methods are suitable.	7.9	0	2.6		yes 78%	P
4		SR	Oak-bay woodland coastal scrub (xeric) Annual Grassland	oak-bay woodland, scattered north coastal scrub, annual grassland	Presence of steep slopes likely preclude off-road mechanical treatments. Remove shrubs emerging oak-bay trees to speed succession to oak-bay woodland within 100 feet of road. Shortening grasses (mowing/grazing) may be necessary.	12.9	0			yes 75%	

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
6 *		SR	Eucalyptus forest	Thinned eucalyptus. Monterey pine, oak-bay woodland and scattered north coastal scrub	Communication tower located in RTA is vital infrastructure, consider the screening value of pines for the tower as it is located on a prominent ridgeline. Create defensible space around tower. Above trail, thin eucalyptus and pines to 25-foot spacing, selecting for removal those trees above well-developed oak-bay woodlands and elsewhere remove those trees that are smaller, unhealthy or have multiple trunks. Emphasize surface fuel reduction under retained trees, prune trees to 8-foot height in thinned areas. Mechanical treatments are most suitable for tree removal, but all treatment methods are suitable for surface fuel treatment. Conduct nest surveys when appropriate to avoid impacts to nesting raptors.	38.4	38.4			yes 63%	
1		HP	Eucalyptus forest	Oak-bay woodland near road, thinned eucalyptus below.	Conduct nest surveys when appropriate to avoid potential adverse affects on nesting raptors. Steep slopes require erosion control measures for mechanical treatments. Remove eucalyptus to w/in 100 feet of ridgeline, thin trees below ridgeline to 25-foot spacing, selecting for removal smaller trees, unhealthy trees to those with multiple trunks. Prune all retained trees to 8 feet. Emphasize surface fuel reduction in follow-on treatments. Mechanical treatment is suitable for tree removal, all methods are suitable for surface fuel reduction.	1.7	1.7			99%	

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
2		HP	Oak-Bay woodland Northern Maritime Chaparral Pallid Manzanita	Oak-bay woodland, pallid manzanita, scattered north coastal scrub	Presence of Pallid Manzanita requires hand labor treatments to avoid impacts. Remove non-manzanita shrubs to reduce fuel volume, and prune retained trees. Consider pile burning to reduce fuel load.	13.6	0			yes 97%	P
3		HP	Northern Maritime Chaparral Pallid Manzanita	Oak-bay woodland, pallid manzanita, scattered north coastal scrub	Presence of Pallid Manzanita requires hand labor treatments to avoid impacts. Remove non-manzanita shrubs to reduce fuel volume, and prune retained trees. Consider pile burning to reduce fuel load.	1.1	0			100%	P
4		HP	Oak-Bay woodland Coastal Scrub (mesic) Pallid Manzanita	Oak-bay woodland, pallid manzanita, scattered north coastal scrub	Potential presence of Pallid Manzanita requires hand labor treatments to avoid impacts. Remove non-manzanita shrubs to reduce fuel volume, and prune retained trees. Consider pile burning to reduce fuel load.	1.6	0			100%	P
2		RD	Eucalyptus Forest	Oak-bay woodland near road, thinned red gum below.	Conduct nest surveys when appropriate to avoid potential adverse affects on nesting raptors. Steep slopes require additional mitigation measures for treatments using heavy machinery. Remove eucalyptus to w/in 100 feet of ridgeline, thin trees below ridgeline to 25-foot spacing, selecting for removal smaller trees, unhealthy trees to those with multiple trunks. Prune all retained trees to 8 feet. Emphasize surface fuel reduction in following initial treatment by removing forest litter, dead bark and branches, and understory shrubs. Mechanical treatment is suitable for tree removal, all methods are suitable for surface fuel reduction.	5	5			yes 74%	

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
3		RD	Eucalyptus Forest Riparian Woodland Coyote Brush Scrub Oak-Bay Woodland Redwood Forest Developed	Red-gum eucalyptus w/ sparse understory	Treatment of this RTA is low priority. Reduce shrub under eucalyptus trees through grazing. Dense tree spacing not conducive to mechanical treatment, and hand-labor not likely suitable due to large size of the treatment area. Avoid treatments in all willow areas.	27.6	10.2			yes 38%	
4		RD	Non-native coniferous forest Oak-Bay woodland Coyote Brush Scrub Developed Eucalyptus Forest	Annual grassland, scattered Monterey Pine, oak-bay woodland	Long history of treatments in this RTA. Emphasize understory and surface fuel treatments by removing forest litter, dead bark and branches, and understory shrubs. All treatments are suitable. Enhance conditions for Oakland star tulip and western leatherwood where appropriate.	28.4	0.4		yes	yes 62%	P
5a		RD	Eucalyptus Forest	Annual grassland safety zone	Installation of firefighter safety zone is a high priority; installation of safety zone would require removal of all eucalyptus trees w/in the RTA. Use of mechanical treatments best for tree removal.	1.1	1.1			yes 65%	
5b		RD	Non-native coniferous forest Redwood forest Coyote Brush Scrub Annual Grassland Oak-Bay woodland	Scattered Monterey pine, oak-bay woodland, annual grassland, redwoods, landscaping	High priority is to create defensible space around Chabot Space and Science Center. Remove structurally unsound mature pine trees and those and those above well developed oak-bay woodlands. Prune all retained trees and emphasize fuel treatments by removing shrubs under trees. Also consider removing young pines and keeping shrub cover to less than 30%.	8.4	0	4.5		9%	P

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
9		RD	Eucalyptus Forest Developed Coastal Scrub (xeric) Oak-Bay woodland	Oak-bay woodland near road, perennial grassland under eucalyptus further up road	Creating and maintaining defensible space around fire station is a high priority. Remove coyote brush to restore annual grasslands within 200 feet of fire station, or where feasible. Remove all shrubs under eucalyptus and oak-bay trees to 8 feet.	9.6	5.8			yes 68%	EBRPD
1		AC	Oak-Bay Woodland Annual Grassland Eucalyptus Forest Coastal Scrub (xeric) Developed Non-native coniferous forest	Oak woodland w/ herbaceous understory, patches of shrubs, occasional eucalyptus trees and pines	Steep slopes may preclude use of machinery. Use hand labor or goat grazing to remove understory of shrubs for oak woodlands and create grassy openings in shrub patches to reduce fuel volume.	9.6	1.3	0.2		88%	P
4 *		AC	Coastal scrub (xeric) Oak-Bay Woodland Coyote Brush Scrub Non-native coniferous forest	Oak savannah with grassland on east, oak woodland on western slope below houses, scattered north coastal scrub	Invasive species present (especially hemlock); control and monitor annually for species composition. On eastern slope, maintain patches of shrubs and isolated trees w/ a combination of goat grazing and prescribed burns. Recommend mowing hemlock and managing for invasives. On western slope use hand labor or goat grazing to reduce shrub volume and provide growing space for emerging trees. Prune all trees of lower branches. Consider burn piles on western slope to remove dead material.	23.5	0	0.4		yes 71%	P
6 *		AC	Coyote Brush Scrub Oak-Bay Woodland Coastal Scrub (xeric) Non-native Coniferous Forest Eucalyptus forest Annual Grassland	Oak-bay woodlands, scattered eucalyptus and pines, all w/ minimal understory vegetation	Steep slopes and lack of access behind homes limit treatment access. Prune mature trees 100-150 feet below property boundaries; pack out cut debris into depressions on slope away from homes.	30.8	1.2	1.3		yes 54%	P

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
7 *		AC	Coyote Brush Scrub Eucalyptus Forest Coastal Scrub (xeric) Annual Grassland Non-native coniferous forest Oak-bay woodland Developed Redwood forest Broom Scrub	In south and west areas annual grassland. On east and north area, oak woodland w/ understory of herbs and scattered north scrub, redwood forest	Steep slopes on east side of RTA limit the types of tree cutting and removal operations possible. Consider annual control and monitoring of invasive species; proximity to homes limits herbicide application to hand applied methods. On eastern edge remove eucalyptus to minimize ember production and distribution. Prune all trees retained. On western side of RTA graze to limit shrub encroachment and apply herbicides to invasives.	97.6	21.9	6.3		yes 31%	P
11 *		AC	Eucalyptus Forest Coyote Brush Scrub Oak-Bay Woodland Developed Annual Grassland	Mature eucalyptus stands, grassland w/ scattered shrubs in fuelbreaks, oak-bay woodlands	Steep slopes may preclude machinery or require specific logging techniques to minimize soil disturbance. Consider maintaining fuelbreaks and thinning eucalyptus stand using prescribed burns and mechanical treatments according to performance standards. In areas of well-developed native understory, consider removing eucalyptus from over-story	112.1	86			45%	
12		AC	Coyote Brush Scrub Eucalyptus Forest	Oak-Bay woodland, mature eucalyptus stands	Steep slopes may preclude machinery or require specific logging techniques to minimize soil disturbance. Consider thinning eucalyptus to expand fuel break and all eucalyptus where oak-bay woodland understory is well developed	28.4	9.5			42%	

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
13	*	AC	Eucalyptus Forest Annual Grassland Coyote Brush Scrub Developed	Mature eucalyptus, mowed grass, shrubs nearest campgrounds, landscaping	Manage vegetation to allow screening for privacy in campground. Ensuring public safety and ability to evacuate campers and visitors in an emergency is top priority. Thin selected areas of eucalyptus to reduce fuel volume and retain screening around campground by establishing shrubs between campgrounds. Select for removal those that provide screening and still avoid creation of ladder fuels. Protect trees and areas used by great blue heron for rookery.	209.4	183.2			49%	
14		AC	Coyote Brush Scrub Annual Grassland Oak-Bay Woodland Coastal Scrub (xeric) Eucalyptus Forest Riparian Woodland	Short grass	Potential Alameda whipsnake habitat. Install safety zone for campers by alternating between grazing and mowing shrubs. Size of wildfire refuge or shelter in place area needs to be large to protect all park visitors/campers.	93	0.4		yes	32%	
9		LC	Annual Grassland Coastal Scrub (xeric) Coyote Brush Scrub Developed Oak-Bay Woodland	Grassland, oak-bay woodland	Maintain short grass height through grazing, mowing or prescribed burns. In 2008 the Fire Dept conducted some treatment activities in this RTA that may change some portions of RD001 from Initial Treatment to Maintenance. Changes in the designation and vegetation types will be reflected in future Fire Action Plans.	281	0		yes	9%	P
10		LC	Annual Grassland Coastal Scrub (xeric) Oak-Bay Woodland	Oak-Bay woodland w/ minimal understory vegetation	Maintain minimal understory through goat grazing or hand labor treatments.	4.8	0			6%	P

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
5		LE	Coastal Scrub (xeric) Annual Grassland Non-native coniferous forest Oak-Bay Woodland	Perennial grasses, scattered coastal scrub, oak-bay woodland	Steep slopes and lack of access behind homes limits use of mechanical equipment. Access off Lexford Place is possible, but riparian corridor limits travel to south. Reduce shrub volume and dead material to performance standards.	4.6	0	0.2		yes 75%	P
6		TI	Oak-Bay woodland Eucalyptus Forest Broom Scrub Developed Coyote Brush Scrub	Emerging oak-bay woodland	Due to presence of steep topography and mapped landslides, potential for soil movement may preclude use of heavy machinery. Keep deep-rooted plants where feasible to stabilize soil. Potential for French broom spread is high if ground disturbance occurs. Removal French broom, eucalyptus trees and sprouts as well as north coastal scrub to speed succession to oak woodland, prune trees according to oak woodland performance standards. Retain any willows, but remove deadwood and prune lower branches. Enhance conditions for western leatherwood.	10.7	1.4			yes 52%	P
12	*brown	TI	Eucalyptus Forest Annual Grassland Non-native coniferous forest oak-bay woodland coastal scrub (xeric) coyote brush scrub redwood forest developed coastal scrub (mesic)	Thinned eucalyptus, redwood oak-bay woodland, annual grassland, north coastal scrub	Reduce surface fuel volume by removing forest litter, dead bark and branches, and understory shrubs. Thin eucalyptus to 25-foot spacing, selecting for removal those eucalyptus around oak-bay woodlands and elsewhere emphasize removal of small or unhealthy trees, or those with multiple stalks. Prune lower branches of trees.	90.8	35.4		yes	42%	P
12	*	TI									

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
13	brown	TI	Eucalyptus Forest Annual Grassland Non-native coniferous forest oak-bay woodland coastal scrub (xeric) coyote brush scrub Riparian woodland	Existing forest canopy, including oak-bay woodland, scattered north coastal scrub	Reduce surface fuel volume by removing forest litter, dead bark and branches, and understory shrubs. Thin eucalyptus to 25-foot spacing, selecting for removal those eucalyptus around oak-bay woodlands and elsewhere emphasize removal of small or unhealthy trees, or those with multiple stalks. Prune lower branches of trees. All treatment methods are possible.	15.7	1.4			87%	
14	brown	TI	Eucalyptus Forest	oak-bay woodland, scattered north coastal scrub	Conduct nest surveys when appropriate to avoid potential adverse effects on nesting raptors. Consider removing eucalyptus within 100 feet of ridgeline. Mechanical treatments are possible, but others may be less disruptive due to slope conditions.	3.5	3.5			71%	
15		TI	Annual Grassland Non-native coniferous forest oak-bay woodland coastal scrub (xeric) coyote brush scrub Redwood Forest Developed	oak-bay woodland, redwoods, scattered north coastal scrub	Consider aesthetic resources and screening for Little Steam Train area. Consider enhancing defensible space around Little Steam Train and Corporation Yard. Prescribed burns may be facilitated by trails surrounding the RTA. All treatment methods are suitable when protective measures for Little Steam Train and Corporation Yard are included. Enhance condition for western leatherwood.	54	0	3	yes	yes 37%	EBRPD

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Euc Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
16	brown	TI	Eucalyptus Forest	Emerging oak-bay woodland, north coastal scrub, annual grass	Conduct nest surveys when appropriate to avoid potential adverse effects on nesting raptors. Remove eucalyptus within 100 feet of ridgeline. Mechanical treatments likely precluded due to steep slopes and small size of RTA. Based on GIS mapping provided by District, this polygon was included because it was part of the historic fuel break however it may not be land owned by the District. Further study is needed.	1.4	1.4			75%	
17	brown	TI	Non-native coniferous forest	Emerging oak-bay woodland, north coastal scrub, annual grass	Conduct nest surveys when appropriate to avoid potential adverse effects on nesting raptors. Remove eucalyptus within 100 feet of ridgeline. Mechanical treatments likely precluded due to steep slopes and small size of RTA.	0.9	0	0.9		51%	
19	?	TI	Eucalyptus forest	annual grassland, scattered north coastal scrub, or thinned eucalyptus	Conduct nest surveys when appropriate to avoid potential adverse effects on nesting raptors. Remove eucalyptus or thin and maintain with prescribed burns those grassy fuels under trees where lower branches have been limbed.	2	2			yes 77%	
22		TI	Annual Grassland Non-native coniferous forest coyote brush scrub Developed	Annual grassland, scattered pines	Communication tower located in RTA is vital infrastructure, consider the screening value of pines for the tower. Prune lower pine branches up to 10 feet. Create and maintain low fuel volume surface fuels, such as grasses. Mechanical treatments are limited here due to steep slopes, small RTA and nearby fenceline.	6.4	0	2.9		60%	EBRPD

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Maintenance	Slope > 30% (4)	w/in 200 ft of structure (5)
3		WC	Coyote Brush Scrub	Speed succession to oak woodland by removing shrubs that limit growing conditions for trees	Riparian plants (willows) are present, assess for possible riparian/wetland located in this area. Remove all deadwood in willows and prune lower branches to retain willow thickets. Retain coffeeberry and prune shrubs similar to trees; create defensible space according to performance standards	1.7	0			yes 97%	P
4		WC	Annual Grassland Oak Bay Woodland Coastal Scrub (xeric)	Annual grassland and north coastal scrub, scattered oaks and eucalyptus	Willows exist on eastern edge of southern portion of polygon; except for debris removal and pruning, treatments should be avoided where possible in these willows. To the east of nearby homes annually graze or mow grasslands to performance standards. South of water tank mowing should continue as treatment option, as should pruning eucalyptus and removing short pines and small eucalyptus.	8	0		yes	yes 33%	P
9		WC	Oak-Bay Woodland Coastal Scrub (mesic) Riparian Woodland Coastal Scrub (xeric)	Emerging oak woodland with ferns, oak litter, no understory shrubs, patches of north coastal scrub	Riparian plants (willows) are present, assess for possible wetlands. Remove all deadwood in willows and prune lower branches of willows. French broom may become established on bare ground, so chipping and distributing cut material should be done. Removal north coastal scrub by hand if cost-effective, and prune trees according to performance standards.	11.5	0		yes	yes 33%	P

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
10		WC	oak-bay woodland coastal scrub (mesic) coastal scrub (xeric)	Oak woodland w/ willows, emerging oak woodland	Due to presence of steep topography and mapped landsides, potential for soil movement may preclude use of heavy machinery. Consider keeping deep-rooted plants onsite where feasible to stabilize soil. Potential for spread of French broom is high if ground disturbance occurs due to existing seedbed. Consider removing north coastal scrub to speed succession to oak woodland and pruning trees according to oak-woodland performance standards.	10.8	0			yes 70%	P
11		WC	coastal scrub (mesic) oak-bay woodland riparian woodland annual grassland eucalyptus forest developed coastal scrub (xeric)	Emerging and established oak woodland, grasslands where no trees exist	Steep slopes, high soil moisture and landslide history may preclude use of heavy machinery; keep deep rooted plants where feasible to stabilize soil. Potential for French broom spread is high if ground disturbance occurs due to existing seedbed. Consider removing north coastal scrub to speed succession to oak woodland and prune trees according to oak woodlands performance standards, or remove dead material and shrubs and prune willows to promote a shift to grassland (which lends itself to mowing as future management action).	34.8	1.1			yes 71%	P

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
1		MK	broom scrub coastal prairie annual grassland coastal scrub (mesic) coastal scrub (xeric) non-native coniferous forest	Same types as currently there with increasing proportion of oak-bay woodland and grass, less scrub and pine. Grass w/ scattered shrubs on south aspect of hillside, scattered north coastal scrub on north aspect of hillside. Manage areas to stop pine seedling growth.	Consider visual resources as there is a view from top of hill; consider retaining pine trees that frame the view. Hi levels of recreation use in this area. Consider mechanical treatments to reduce shrubs and hand labor treatments to limb up trees of lower branches, if feasible. Remove all small pines of less than 12 inches in diameter to approximately 20 ft minimum spacing. Remove all dead pines; and selectively remove shrubs on north aspect. Retain all oaks and bays on north aspect.	5.9	0.5			yes 70%	P
3		MK	coastal prairie annual grassland	Landscaping, annual grassland, scattered shrubs, pruned oaks and pines	Create and maintain spacing according to defensible space performance standards. Consider using hand labor.	2.7				56%	P/EBRPD
4		MK	non-native coniferous forest coastal scrub (xeric)	Open pine stand	Thin pine stand to 50% canopy using mechanical treatment. Select for removal smaller, unhealthy pine trees, and remove all trees below the ridgeline for a distance equal to the height of the tree to prevent ember spread across the ridgeline under a westerly wind. Remove all understory.	3.2		2.9		yes 72%	

RTA	Partial (2)	Park	Vegetation Type	Vegetation Management Goal	Considerations and Guidelines	Total Acres	Eucs Acres (3)	Pine Acres (3)	Main-ten-ance	Slope > 30% (4)	w/in 200 ft of structure (5)
5		MK	coastal prairie annual grassland coastal scrub (mesic) coastal scrub (xeric) non-native coniferous forest	Scattered scrub and grass w/in 50 ft of road. No pines w/in 40 ft of ridgetop. Lower on north-facing slope, north coastal scrub on north aspect, incipient oak-bay woodland, emerging pine stand	Need to coordinate w/ private property owner at entry of trail to manage fuels. Removal of invasive weeds will likely necessitate continued management. Cut French broom and then manage w/ subsequent chemical treatment, if feasible. Control measures for other invasive weed species (e.g., sourgrass, ivy) will likely require a specific plan. Thin shrubs and prune trees according to scrub vegetation performance standards. Suggest treatments extend on both sides of road to create a fuel break. Recommend avoiding thinning or pruning buckeye trees. Cut pines w/in 50 ft of the ridgetop and scatter cut branch pieces on site; boles should be located and oriented to minimize erosion and prevent their rolling downhill.	10		0.1		yes 41%	
(1) Source: Table III-2, "Wildfire Plan" EBRPD											
(2) * = portion of RTA in grant, brown = PDM-PJ-09-CA-2006-04											
(3) Source: Appendix F, "Wildfire Plan"											
(4) yes = USGS designated slide area											
(5) P = private structure; EBRPD = EBRPD structure; Source: Appendix E, "Wildfire Plan"											

Comments on Public Scoping for Environmental Impact Statement FEMA Grant Applications in the East Bay Hills

This public comment is divided into the following sections:

- Part I: These grants should not be funded because they do not comply with FEMA Wildfire Mitigation Policy MRR-2-08-1, "Wildfire Mitigation Policy for HMGP and PDM Program"
- Part II: How can these grant applications be revised to mitigate fire hazard and comply with grant policy?
- Part III: If any or all of these projects are funded in full or in part, these are the environmental issues that must be analyzed and mitigated by the Environmental Impact Statement

Part I: These grant applications do not comply with FEMA's "Wildfire Mitigation Policy for HMGP and PDM Program"

FEMA's policy MRR-2-08-1 for Hazard and Pre-Disaster Mitigation Grants states that FEMA grant funding is available for the following purposes:

- Creating defensible space
- Structural protection through the application of ignition-resistant construction, and
- Limited hazardous fuels reduction to protect life and property

The overall goal of these actions is defined by the policy as follows:

"FEMA hazard mitigation assistance for wildfires is ONLY focused on long-term and cost-effective actions taken to reduce the risk to specific property or structures from future wildfires."

With a few exceptions that will be identified later in this comment, all of the applicants' projects are for the purpose of hazardous fuels reduction. Unfortunately these projects will reduce fuel without reducing fire risk "to specific property or structures." Therefore they should not be funded.

None of the projects of UC Berkeley and the City of Oakland will achieve the objective of reducing risk of future wildfires because they propose to eradicate all non-native vegetation, leaving all native vegetation intact. Since non-native vegetation is not uniformly more flammable than all native vegetation, overall fire risk will not be reduced by these projects.

California native ecology is adapted to and sustained by fire¹. The native landscape is not uniformly less flammable than non-native plants and trees. Most firestorms in California are wind-driven fires² in which everything burns, including native and non-native trees and plants as well as any buildings in the path of the fire³.

The projects of the East Bay Regional Park District are less uniform in their approach, using a range of methods from the removal of all non-native trees in some areas at one extreme to thinning of both native and non-native vegetation at the opposite end of the spectrum. We will critique the most frequently cited "vegetation management goal" in the projects of the East Bay Regional Park District (EBRPD) with respect to its effectiveness as a means of reducing fire hazard.

There are 47 "Recommended Treatment Areas" (RTAs or portions of them) in the FEMA grant applications of EBRPD. These RTAs (AKA polygons) are described in Appendix A of this document. The source of the information in Appendix A is the "Wildfire Hazard Reduction and Resource Management Plan" of the East Bay Regional Park District. John

¹ Sugihara, Neil and Barbour, Michael G, "Fire and California Vegetation," in Sugihara, *Fire in California's Ecosystems*, UC Press, 2006.

² Keeley, Jon, "Fire Management of California Shrublands," in *Proceedings of the California's 2001 Wildfire Conference: 10 Years after the 1991 East Bay Hills Fire*, UC Berkeley, 2001

³ "East Bay Hills Fire Oakland-Berkeley, California," United States Fire Administration, Technical Report Series, FEMA.

Swanson, Assistant Fire Chief of the East Bay Regional Park District, informed us at the “scoping meetings” on August 26, 2010 that EBRPD’s FEMA application is based on its “Wildfire Plan.”

The “vegetation management goals” for the RTAs in EBRPD’s FEMA applications are predominantly oak-bay woodland. Thirty-seven of the 47 (80%) RTAs in the FEMA grants are destined to be oak or oak-bay woodland if this project is implemented. Therefore, we will evaluate EBRPD’s assumption that oak-bay woodland will be less flammable than the existing landscape. We will cite the scientific and experiential evidence that oaks and bays are not less flammable than the non-native trees and shrubs that will be removed or thinned by the proposed FEMA projects.

First, the evidence regarding the flammability of oaks and bays:

Moisture The moisture content of vegetation is a factor in how easily it will ignite. Other conditions being equal, **the more moisture within the vegetation the less likely it is to ignite.** A study done locally in native vegetation reports that, “...the [moisture] of the live oak was fairly constant throughout the fire season and at a lower moisture content than the other species...the lowest moisture content was [47%] on September 30th...”⁴ We don’t have comparable information regarding moisture for eucalyptus because moisture content varies by specific location and climate conditions. However, the literature⁵ generalizes the moisture content of the eucalyptus leaf as roughly 50%, which suggests that the eucalyptus leaf **probably does not contain less moisture than an oak leaf.**

Sudden Oak Death Since all dead vegetation contains less moisture than any living vegetation and is therefore more flammable, Sudden Oak Death is a related issue. The pathogen (*Phytophthora ramorum*) that causes Sudden Oak Death (SOD) was reported on the UC Berkeley campus in 2002.⁶ At that time it also existed at the UC Botanical Garden, which is proximate to UC Berkeley’s FEMA projects. By 2008, the SF Chronicle reported that the infestation of SOD existed in several parks in the East Bay, including several that are included in the project areas for the FEMA applications of EBRPD. **The researcher who is quoted in the Chronicle article estimated that about 20% of all coast live oaks in the East Bay are infected with the pathogen that will eventually kill them because there is no known cure.**⁷

In February 2008, the California Oak Mortality Task Force estimated that **“millions of tanoak and coast live oak” have been killed by SOD in California.**⁸ Thirty four other species of trees and shrubs are also infected with the pathogen, including bay laurels and redwoods. Although these species are not usually killed by the pathogen they are vectors of the disease. **The bay laurel is singled out by the scientific literature as being particularly effective at transmitting the pathogen to the oaks that are then killed by it.**⁹

If SOD continues to spread in the East Bay hills and substantial numbers of oaks are killed by the disease, the resulting landscape will be far more flammable than the existing landscape. Therefore, projects such as those proposed by the applicants for FEMA grants, which promote a transition to oak-bay woodland have the potential to greatly increase the risk of fire in the future. Unless a cure is found for SOD, that can be economically administered, or the spread of the pathogen abates, these projects should not be funded, particularly by a fund source designated for the specific purpose of reducing fire hazard.

Embers Laboratory tests conducted by the USDA Forest Service on four species of native plants and trees found that native chamise and oaks loft embers absent any wind. In the case of oaks, the scientists report that “Many of the oak

⁴ Rice, Carol. “Live Fuel Moisture, Fuel Bed Characteristics, and Fire Vegetation in the Berkeley/Oakland Hills,” Master’s dissertation, UC Berkeley, 1987.

⁵ <http://www.buzzle.com/articles/what-do-koala-bears-eat.html>

⁶ <http://www.universityofcalifornia.edu/news/article/3880>

⁷ http://articles.sfgate.com/2008-11-26/home-and-garden/17127003_1_sudden-oak-death-tan-oaks-infected

⁸ <http://nature.berkeley.edu/comm/pdf/HomeownersGuide2-08.pdf>

⁹ http://en.wikipedia.org/wiki/Sudden_oak_death

leaves had sharp points (i.e., spines) around the outer edge. **The oak leaves would ignite at these points, sometimes accompanied by small explosions of the points that led to the ejection of small brands.**¹⁰

A park ranger on Angel Island reported that embers from the burning oaks were responsible for nearly igniting the historical buildings on the island during the wildfire of 2008: **"All the oaks up there were burning," said the 28-year veteran of the department. "It was an ember shower that just rained on the entire building, and all the vegetation around us was burning."**¹¹ Most of the eucalypts (80 acres) had been removed from the island about 12 years before the 2008 fire. The fire stopped at the edge of the remaining 6 acres of eucalyptus.

Volatile Oils Volatile oils are said to increase the likelihood of ignition, particularly by those who advocate for the destruction of eucalypts, which contain volatile oils. Native bay laurel also contains volatile oils: "In the fruit, there are essential oils and fatty oils present. The fruit is pressed and water extracted to obtain these products. The fruit contains up to 30% fatty oils and about 1% essential oils...The leaves contain about 1.3% essential oils (*Ol. Lauri folii*), consisting of 45% eucalyptol..."¹² **In other words, the predominant oil in the leaf of bay laurel is the same oil in the leaf of eucalypts.**

The "Wildfire Plan" of the East Bay Regional Park District acknowledges the flammability of bay laurels: "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)

Fire Ladders The likelihood of a fire reaching the canopy of a tree, causing a crown fire which is more likely to disperse embers into the surrounding vegetation is increased by the existence of the tree's "fire ladder" to its crown. The fire ladder is composed of low-hanging branches that enable a fire traveling on the ground to move from the ground into the tree, via the "ladder." Both oaks and bays have low fire ladders, in many cases extending to the ground. It is not uncommon for the multiple trunks of the bay to actually lie on the ground, sending new stems vertically from its horizontal position. The coast live oak, which is the locally predominant species of oak, has a prostrate growth habit. Particularly in windy conditions, its canopy will "kneel" into the wind, putting its canopy up as an umbrella against the wind. **Both oaks and bays have much lower fire ladders than any of the non-native trees that are proposed for destruction by the FEMA grant projects: eucalypts, Monterey pines, and acacias.**

Duff and Leaf Litter The amount and composition of leaf litter are factors in ignition. The more likely the leaf litter is to ignite, the more likely the fire is to spread into the tree, causing a crown fire that disperses embers. Here is a description of the flammability of oak leaf litter from a website about the oak savannah:

- Oak leaves and litter burn much more readily than the litter and leaves of other hardwoods.
- Oak leaves are much thicker than those of other hardwoods, giving them greater resistance to decomposition and longer life spans in the leaf litter.
- Oak leaves tend to be drier (more xerophytic) than other hardwood species, making them more flammable.
- Oak leaves curl more than other hardwoods. This puts the fire up off the ground, making it capable of spreading more effectively. Thus, oak leaves are more flammable and more capable of "carrying" a fire.
- Oak leaves contain tannins which make them more resistant to decay, so that it may be several years before all the leaf material has been turned into compost. Thus, the amount of burnable material on the oak forest floor is greater than that with other tree species."¹³

¹⁰ Smith, Steven., et al. "Ignition Behavior of Live California Chaparral Leaves," USDA Forest Service, Riverside, CA

¹¹ "Tiburon battalion chief and Larkspur fire crew save historic Angel Island structure," Marin Independent Journal, 10/18/08

¹² http://en.wikipedia.org/wiki/Bay_laurel

¹³ <http://oaksavannas.org/fire-fuel.html>

This description is consistent with my personal experience with the coast live oak tree in my front yard (which I love). I must rake the leaves weekly most of the year. The leaves are hard and brittle. Therefore, they do not compact and there is much oxygen in the leaf litter between the leaves, which promotes burning if ignition occurs.

These observations are confirmed by the plant and tree database of the US Forest Service, which says of the coast live oak: "Flammability of coast live oak and chaparral communities with a coast live oak component is of particular concern because of their high fuel loading and proximity to urban areas. Some fire-excluded chaparral habitats have fuel accumulations of 30 to 40 tons per acre."¹⁴

Secondly, the evidence regarding the flammability of eucalypts:

Moisture The tall, non-native trees condense the year-round fog in the San Francisco Bay Area: "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..."¹⁵ Average rainfall in the East Bay is 22 inches per year, so this fog precipitation adds nearly 50% to total precipitation. **By contributing moisture to the forest floor during the otherwise dry time of the year, tall non-native trees reduce fire danger. The moisture content of the duff and leaf litter diminishes the likelihood of ignition.¹⁶ If the duff and leaf litter do not ignite, the fire is less likely to spread into the canopy of the tree.**

Because oaks and bays are not as tall as the non-native trees, they do not precipitate as much fog drip. The only tall native tree in the East Bay hills is the redwood. However, there aren't many redwoods in the East Bay hills because they do not tolerate wind and they require much more water than the non-native trees.¹⁷ They are therefore not a suitable replacement for existing non-native trees.

Combustibility Scientists at the University of Tasmania conducted laboratory experiments on the plants and trees in the Tasmanian forest to determine the relative flammability of their native species. The predominant eucalyptus species in the San Francisco Bay Area, the Blue Gum eucalyptus (*E. globulus*), is native to Tasmania and was therefore included in this study. The study reports that, "*E. globulus* leaves, both juvenile and adult, presented the greatest resistance [to ignition] of all the eucalypts studied. In this case, leaf thickness was important as well as the presence of a waxy cuticle." Also, in a table entitled "Rate of flame front movement, the comment for *E. globulus* leaves is "resistant to combustion."¹⁸ In other words, despite the oil content in the leaf, its physical properties protect the leaf from ignition.

These findings are corroborated by local wildfire experience. The National Park Service is one of many managers of public lands that are engaged in massive restorations of native plants that frequently result in the destruction of non-native trees. In support of that effort, NPS has published a brochure about eucalyptus. Deeply embedded in the fine print of that brochure, the park service admits that live eucalyptus leaves are resistant to fire: "The live foliage [of eucalypts] proved fire resistant [during a fire on Mt Tamalpais], so a potentially catastrophic crown fire was avoided."¹⁹

This brochure also contains a table comparing the fuel loads of eucalyptus with native oaks and bays. We find that the table has been carefully constructed to support their belief that eucalypts are more flammable than native

¹⁴ <http://www.fs.fed.us/database/feis/plants/tree/queagr/all.html>

¹⁵ Gilliam, Harold, *Weather in the San Francisco Bay Area*, UC Press, 2002.

¹⁶ Schroeder, Robert, et. al., "Ember ignitability of *Pinus radiata* and *Sequoia sempervirens* Litter: Methodology and Results," in *Proceedings of the California Wildfire Conference: 10 Years after the 1991 East Bay Hills Fire*, UC Press, 2001.

¹⁷ <http://www.fs.fed.us/database/feis/plants/tree/seqsem/all.html>

¹⁸ Dickinson, K.J.M. and Kirkpatrick, J.B., "The flammability and energy content of some important plant species and fuel components in the forests of southeastern Tasmania," *Journal of Biogeography*, 1985, 12: 121-134.

¹⁹ http://home.nps.gov/pore/parkgmt/upload/firemanagement_fireeducation_newsletter_eucalyptus_p2.pdf

trees. If logs—which would take 1,000 hours to ignite²⁰—are removed from this table, **the available fuel load of eucalyptus is not greater than that of native oaks.**

The flammability of eucalyptus leaves is important to an evaluation of the grant applications of EBRPD because their projects propose to remove all eucalypts from ridgelines (RTAs HP001, RD002, AC007, RI014, TI016, TI017), based on their conjecture that they will loft embers and thereby spread fire from one side of the ridge to the other. **If the leaves do not ignite, they will not become embers.**

Furthermore, the tall trees on the ridgeline form a wind break, which has the potential to stop a wind-driven fire when it reaches the eucalypts which are resistant to ignition. This principle is best illustrated with a photo²¹ of a wildfire in 2003 in San Diego County which destroyed an entire neighborhood of homes without spreading into the eucalyptus forest which surrounded them.



Destroying the windbreak by removing all tall trees from the ridgeline of the East Bay Regional Parks will change wind patterns in the East Bay hills. Wind-driven fire will be able to move unobstructed from one side of the ridge to the other if all the tall trees on the ridgeline are removed.

We cannot say with certainty that non-native trees are less flammable than native trees because we cannot find a study that compares them directly. However, we can say with certainty that there is considerable evidence that they are not more flammable than trees that are native to the San Francisco Bay Area.

²⁰ For a technical explanation of timelag, we quote from Sugihara's *Fire in California Ecosystems*: "The proportion of a fuel particle that contains moisture is a primary determinant of fire behavior...Timelag is the amount of time necessary for a fuel component to reach 63% of its equilibrium moisture content at a given temperature and relative humidity [the point at which ignition occurs]. 1,000-hour fuels reflect seasonal changes in moisture..."

²¹ Source: New York Times, 10/27/03

The principles of evolutionary theory suggest that trees that evolved in similar climates will have similar properties. Most of our non-native trees are from a Mediterranean climate, much like our own climate. As the scientists at the University of Tasmania observed in their study of their native flora, "The range of energy values recorded in this study is...similar to documented levels in Mediterranean plant species."²²

Therefore, the destruction of exclusively non-native trees in order to promote the growth of native species will not reduce fire hazard. In fact, it may increase fire hazard if SOD kills the natives or the windbreak is compromised by the removal of all tall trees or fog drip is significantly reduced, etc. Therefore these grant applications should not be funded.

There is one important caveat to this conclusion. FEMA's technical report on the 1991 fire does not single out eucalypts as the cause of that fire. The fire started in grass—as do most fires in California because grass ignites easily—and spread to predominantly native scrub and chaparral. The only specific mention of the role of eucalypts 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."²³ Such freezes, sufficiently deep and sustained, causing eucalypts (and other plants) to die back are very rare in the Bay Area. In fact, there has not been such a freeze in 20 years. Since they are rare, they can be easily mitigated by clearing the dead debris after such a freeze, a significantly more cost-effective and less destructive measure than destroying hundreds of thousands of trees.

Once again, FEMA's policy MRR-2-08-1 governing these grants is relevant: "FEMA hazard mitigation assistance for wildfires is ONLY focused on long-term and **cost-effective actions** taken to reduce the risk to specific property or structures from future wildfires." It is not cost-effective to remove hundreds of thousands of trees that are only a fire hazard in the unlikely event that a freeze causes those trees to die back. If such a freeze causes a flammable die back in the future, the dead leaf litter can be removed at significantly less cost as well as less impact on the environment. Removing die back will not require the repeated use of herbicides to kill the roots of the trees. And if the trees continue to live, they will continue to perform their function in the environment, absorbing carbon, retaining moisture and stabilizing soil with their living roots, providing a windbreak, and precipitating fog from the air.

Nor is it cost-effective to clear-cut hundreds of thousands of trees for the purpose of protecting property and lives when the surrounding homes have not cleared defensible space, as required by law of the City of Oakland. The City of Oakland passed an ordinance in 2006, requiring home owners to manage the vegetation on their properties for fire safety. The voters of Oakland also voted to tax themselves to enforce this law. Yet, many of the homes in the Oakland hills have not complied with this requirement.

²² Dickinson, K.J.M. and Kirkpatrick, J.B., "The flammability and energy content of some important plant species and fuel components in the forests of southeastern Tasmania," *Journal of Biogeography*, 1985, 12: 121-134.

²³ Page 6, "East Bay Hills Fire Oakland-Berkeley, California," United States Fire Administration, Technical Report Series, FEMA



These homes in the City of Oakland are particularly vulnerable because of the steep slope. The National Fire Protection Association informs us on the Firewise website that a 30% slope will accelerate the rate of spread of fire to twice the speed of fire on flat ground.

We could provide a similar analysis for most of the non-native plants and trees that these projects propose to destroy. Although every project proposes to eradicate non-native vegetation, in several cases the native vegetation that will remain is considered more flammable by the East Bay Regional Park District "Wildfire Plan."

For example, the project proposes to eradicate non-native broom (classified by the plan as non-native scrub) from the Recommended Treatment Areas, but retain native coyote bush. Yet the "Wildfire Plan" reports in Chapter V much greater flame lengths for coyote bush (14-32 feet) than for non-native scrub (15-18 feet). Both coyote bush and broom have small leaves, classified as "fine fuels" which ignite more readily than larger diameter fuels. However, given that coyote bush usually contains much dead wood, while the branches of broom are green and therefore contain more moisture, we should not be surprised that coyote bush has much greater flame lengths, predicting that a fire would spread more rapidly in coyote bush scrub.

The "Wildfire Plan" also assigned an "Extreme" Fire Hazard rating to North Coastal Scrub (xeric), but proposes to retain North Coastal Scrub (xeric) in 21 of 47 RTAs (45%) in the FEMA grant projects. Fire Hazard Rating is described by the "Wildfire Plan" 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 "Wildfire Plan" assigns this Extreme Fire Hazard rating—the highest rating—to only two types of vegetation: North Coastal Scrub (xeric) and Maritime Chaparral. Both vegetation types are native. In other words, EBRPD apparently considers native vegetation more flammable than any type of non-native vegetation yet it proposes to eradicate non-natives considered less flammable.

These are all indications that the FEMA grant projects of the East Bay Regional Park District are first and foremost native plant restorations and only secondarily fire hazard mitigation projects.

Another way in which the projects increase rather than decrease fire hazard is by chipping all trees that are removed and distributing those chips on the bare ground. All of the applicants' projects propose this disposition of the remains of the trees they cut down. Here is a photo example²⁴ of this process from one of the many completed projects on the property of UC Berkeley:

²⁴ Available here: http://oep.berkeley.edu/pdf/FireProjects/CH1_rpt_USFW.pdf



Are the wood chips on the ground less flammable than the living trees in the background?

The City of Oakland ordinance for creating defensible space limits wood chips on the ground to a depth of 6 inches. Can Oakland distribute the chips from tens of thousands of eucalypts at the North Oakland Sports Center without exceeding the limits of its own law?

FEMA's policy MRR-2-08-1 governing the hazard and pre-disaster mitigation grants also requires that applicants provide "a draft operations and maintenance plan at the time of the application, including **information demonstrating that the requested wildfire project will be maintained to achieve the proposed hazard mitigation.**" UC Berkeley and the City of Oakland have not satisfied this requirement, to my knowledge. (I have read these grant applications, obtained by public records request.)

In the case of the grant applications of UC Berkeley and the City of Oakland, the projects apparently do not indicate any follow-up treatment other than the repeated poisoning of eucalyptus stumps required to kill the roots of those trees. These applicants apparently do not intend to replant these areas. However, UC Berkeley has completed many similar projects²⁵ in the past 10 years which enables us to visit those projects to determine the result of eradicating every non-native plant and tree. UC Berkeley describes on its website 17 completed "vegetation management" projects since 2000. Not all of the descriptions include acreage and number of trees. Those projects that are quantified report the removal of nearly 18,000 non-native trees on over 150 acres.

²⁵ Available here: http://oep.berkeley.edu/programs/fire_mitigation/index.html

As these photos illustrate, the areas in which non-native trees have been removed are now occupied by non-native weeds and grass:



This UC Berkeley "vegetation management" project completed in August 2002 is now populated by non-native annual grass. Claremont Canyon Headslope Fire Fuels Mitigation Project – Phase 2.



The same project is on the left side of the fence. On the right side of the fence is private property in which eucalypts remain. There is less non-native grass on the private property. Perhaps it is being mowed. Also the shade of the eucalypts retards the growth of the grasses.

These photos illustrate a general principle about fuels management projects. One of the reasons why native plant advocates want to destroy all the non-native trees is that most native plants do not tolerate shade. Native plant advocates are under the mistaken impression that native plants will occupy the space presently shaded by tall non-native trees. Unfortunately, the bare ground is more likely to be occupied by weeds because they are more competitive than native vegetation.²⁶ Today's higher temperatures and CO₂ levels favor non-native weeds over the native plants that existed 250 years ago in a very different environment.

This principle is also illustrated by experiments conducted in the field. Environmental scientists at UC Berkeley removed native chaparral from experimental plots in Northern California to test fuel reduction techniques using two different methods (prescribed burns and mechanical), in different seasons, over a period of several years. In every test, the result was on average from 23% (for prescribed burns) to 61% (for mechanical methods) non-native plants where they had not previously existed.²⁷

Jon E. Keeley (USGS) finds the same tendency for non-natives to replace natives in forests when natives are removed for the purpose of reducing fuel loads: "Forest fuel reduction programs have the potential for greatly enhancing forest vulnerability to alien invasions."²⁸

Why should we care if non-native trees are replaced by non-native weeds and grass? Within the context of fire hazard mitigation, we should care because ignition occurs most frequently and spreads most quickly in grass because it is a "fine fuel." Although trees ultimately provide more fuel, they are rarely fully engaged in a wildfire. Unless the fire is driven by hot wind, it will travel quickly through grass without igniting trees, particularly if the trees do not provide a fuel ladder to their canopy. And in a wind-driven fire, the fire is indiscriminate, destroying all forms of fuel whether native or non-native. In the Wildland-Urban Interface the best way to prevent wildfires is to prevent ignition.

Returning to the question of whether or not the FEMA grant applications have provided adequate maintenance plans as required by policy governing the grant program, we will turn to the grant applications of the East Bay Regional Park District. The "Wildfire Plan" of EBRPD is very explicit in describing elaborate maintenance of their projects. The question is whether or not their follow-up plans are realistic. EBRPD's track record of follow-up maintenance after the destruction of trees is not good: "One to 5-year eucalyptus forest consists of stump-sprouts from trees that were cut in the last 5 years." (page 132 of EIR for "Wildfire Plan") In other words, EBRPD cut down eucalypts, but did not follow-up with the required periodic poisoning of resprouts and so the eucalypts have returned.

FEMA's policy regarding hazard and pre-disaster mitigation grants also explicitly prohibits specific purposes and management methods: "Certain project activities and their associated costs are not eligible for funding:"

The grant applications in question use many of the methods prohibited by the grant policy:

**Projects to address ecological issues related to land management and
Projects to protect the environment are prohibited**

²⁶ "Can Weeds Help Solve the Climate Crisis?," New York Times, June 29, 2008

²⁷ Potts, Jennifer and Stephens, Scott, "Invasive and native plant responses to shrubland fuel reduction: comparing prescribed fire, mastication, and treatment season," *Biological Conservation*, 2009, 142: 1657-1664.

²⁸ Keeley, Jon, "Fire Management Impacts on Invasive Plants," USGS, April 2006.

Many of the "considerations and guidelines" for the Recommended Treatment Areas in the FEMA grant application of the East Bay Regional Park District imply that they are intended to address ecological and/or environmental issues. Here are a few examples:

- CC3: "Invasive species of high concern in this RTA"
- HP2, H P3, HP4: "Presence of Pallid Manzanita requires hand labor treatments...Remove non-manzanita shrubs and prune retained trees."
- RD4, TI6, TI15: "Enhance conditions for Oakland star tulip and western leatherwood..."
- AC4: "Invasive species present (especially hemlock); control and monitor annually for species composition."
- MK 5: "Avoid pruning or thinning buckeye trees."

The following are a few examples of management actions in EBRPD's "Wildfire Plan" that are intended to roll back biological time to sustain native landscapes from 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)
- "[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)

This is more evidence that EBRPD's "Wildfire Plan" is primarily a native plant restoration, which has little to do with fire hazard mitigation.

Projects for prescribed burning are prohibited

The following RTAs expressly mention prescribed burning as one of the management methods: CC3, 7, HP2, HP3, HP4, AC4, AC11, LC9, TI15, TI19.

Projects for clear-cutting are prohibited

The projects of UC Berkeley and the City of Oakland are essentially clear-cuts in areas where non-native trees are the predominant vegetation. This is best illustrated by one of UC's vegetation management projects that was done in 2004. This project used the same methods proposed in UC's grant applications, i.e., the removal of all non-native trees and shrubs.



Frowning Ridge Project – Phase 4²⁹

²⁹ These photos were copied from UC Berkeley's website: http://oep.berkeley.edu/pdf/FireProjects/FR4_Summary.pdf

And here is a photo of one of the areas in UC Berkeley's proposal for FEMA grant funding:



In the foreground, are the stumps left by one of UC Berkeley's completed projects (Claremont Canyon Headslope Fire Fuel Mitigation Project – Phase 4). To the west of that completed project, farther down the road in this picture, is one of the areas in their FEMA grant application PDM-PJ-09-CA-2005-003. It is forested exclusively with eucalypts. Therefore, it will be clear-cut.

Likewise, one of the areas in the FEMA grant application of the City of Oakland will be clear-cut because it is exclusively eucalypts:



In the foreground we see a portion of the vast, irrigated lawn of the sports fields at the North Oakland Sports Center. Ignition is unlikely in such an irrigated setting. In the middle-ground, below the tall eucalypts, we see the evidence of previous attempts to eradicate eucalypts that have resprouted because they have not been repeatedly poisoned as

required to kill the roots. In the background we see the tens of thousands of eucalypts that will be clear-cut from this hill if this project is funded.

Many of the "considerations and guidelines" (see Appendix A) for the Recommended Treatment Areas in the FEMA grant application of the East Bay Regional Park District imply clear-cutting of eucalypts and Monterey pine from the ridgelines: CC3, HP1, RD2, RD5a, AC7, TI14, TI16, TI17, MK4.

Projects for maintenance activities are prohibited

The "Wildfire Plan" of the EBRPD specifically identifies which Recommended Treatment Areas are "initial treatment" and which are "maintenance" (see Appendix A). Eight of the RTAs included in the grant application are identified as "maintenance": CC7, CC10, RD4, AC14, LC9, TI12, TI15, and WC4.

Projects for creation and maintenance of fire breaks, access roads, staging areas are prohibited

Many of the "considerations and guidelines" for the Recommended Treatment Areas in the FEMA grant application of EBRPD imply creation and maintenance of fire breaks, access roads, and staging areas:

- AC11: "...maintaining fuelbreaks..."
- AC 12: "...expand fuel break..."
- RD5a: "installation of firefighter safety zone..."

In conclusion, the projects of the applicants for FEMA hazard and pre-disaster mitigation grants, as presently defined, violate FEMA's policy governing these grants and should therefore be denied funding.

Part II: How can these grant projects be revised to comply with grant policy?

I began this comment with an acknowledgement that there were a few exceptions to our general observation that the projects will not mitigate fire hazards to "protect life and property," as required by the policy governing these grants. There are a handful of Recommended Treatment Areas in the grant applications of the East Bay Regional Park District that will create defensible space around specific buildings, such as the Chabot Space and Science Center (RD5b). If the treatments proposed by EBRPD will indeed create defensible space around important buildings such as this, they may be appropriately funded by FEMA. This is, of course, FEMA's prerogative. I am only acknowledging that the creation of defensible space is a legitimate use of FEMA hazard and pre-disaster mitigation grant funding.

More ambiguous are the 27 Recommended Treatment Areas in EBRPD's grant application which are identified by EBRPD as being within 200 feet of a building (see Appendix A). "Firewise"³⁰ and other reputable sources of information regarding the creation of defensible space such as CAL Fire, recommend that defensible space around homes be from 30 to 100 feet, depending upon the degree of fire hazard. In other words, 200 feet is roughly twice the maximum recommended range for creating defensible space, according to experts on fire safety. However, it is possible that EBRPD's designation includes a range from 0 to 200 feet, in which case, some of these RTAs could be appropriately funded by a FEMA grant. We aren't in a position to make such a determination, but applicants can probably do so if they were asked to revise their applications accordingly.

However, if these applications were to be revised, their methods of creating defensible space would have to be revised as well. Their plans for tree removal would have to be species-neutral because fire safety cannot be achieved by eradicating exclusively non-native trees. The UC Berkeley Fire Center in their brochure "Home Landscaping for Fire"³¹ says, "It is important to remember that given certain conditions, all plants can burn...how your plants are maintained and where they are placed is as important as the species of plants that you choose...landscape

³⁰ http://www.firewise.org/fw_youcanuse/learningcenter/course_info.htm#landscaping

³¹ http://firecenter.berkeley.edu/docs/CE_homelandscaping.pdf

management (e.g., pruning, irrigation, and cleanup) have a greater impact on whether or not a plant ignites than does the species.” It is ironic that UC Berkeley is engaged in the destruction of every non-native tree and plant on its property, despite the advice on its own website about fire safety, which was obviously ignored in the writing of its grant application.

Likewise, there may be opportunities for the City of Oakland to revise its grant application so that it reduces the risk of fire to homes in Oakland. Although the City of Oakland passed a law in 2006³², which theoretically obligates residents to create defensible space around their homes, and residents voted to tax themselves to pay for enforcement of that law, many homeowners have not complied with this law. The Oakland ordinance regarding the creation of defensible space, like other government websites already cited, states that “all plants can burn” and that pruning and maintaining all trees and plants are the means of reducing fuel loads most effectively. Like UC Berkeley, the City of Oakland appears to be ignoring its own advice about reducing fire hazards on the Wildland-Urban Interface.

Here is photograph of a home in Oakland which is adjacent to one of the project areas in Oakland’s FEMA grant application.



This photo was taken from Skyline Blvd, east of the North Oakland Sports Center. All the eucalypts in the distance, surrounding the irrigated sports field at the bottom of the canyon would be destroyed if the grant project were funded, but all the trees surrounding this house and down the hill from it would not be thinned, pruned, or limbed up to remove the fire ladder because they are not in the project area.

The City of Oakland’s application for FEMA funding does not make the best use of Oakland’s limited resources. The City’s shared cost for this grant would be in excess of \$662,000. This money would be put to better use if it benefited home owners more directly. And more importantly, fire hazard to life and property would be reduced. I hope that FEMA will encourage the City of Oakland to revise its grant application so that it will reduce fire hazard and benefit home owners, as their current application does not.

I am unaware of any way to revise the grant application of UC Berkeley so that it mitigates fire hazard to life and property. Unless there are specific structures within their grant project area, they may not have opportunities to provide defensible space. I assume FEMA will advise UC Berkeley if there is such an opportunity.

³² <http://www.oaklandnet.com/wildfireprevention/docs/OFDNewsletterWeb.pdf>

Part III: These are the environmental issues that must be analyzed and mitigated by the EIS if these grants are funded

Air Quality/Greenhouse Gases Carbon Dioxide (CO₂) is the predominant greenhouse gas and carbon is an element of CO₂. As trees grow, they absorb carbon and store it throughout their lives. When they die and decay they release their stored carbon back into the air as CO₂. Therefore, **when we destroy trees, we are contributing to climate change by releasing CO₂ and by permanently ending the trees' ability to absorb CO₂ in the future.**

The grant applications in question do not quantify the loss of sequestered carbon resulting from the destruction of hundreds of thousands of trees. Nor do they mitigate for this loss and its consequent impact on climate change. The EIR for EBRPD's "Wildfire Plan" uses absurd arguments to claim mitigation for the loss of carbon. For example, it claims that if the trees are not destroyed, they will burn. It also claims that the drastically thinned forest of non-native trees will be healthier and will therefore absorb more carbon. I hope the EIS for the FEMA grants will make more credible arguments for mitigation of this serious environmental issue.

If the projects of the East Bay Regional Park District are funded without being revised, the prescribed burns they intend to conduct must also be evaluated by the EIS. Prescribed burns have an extensive track record of causing wildfires. The most recent local example is a fire in October 2009 in Santa Cruz that burned 485 acres, 8 buildings, 5 vehicles and injured 4 firefighters.³³ Even if prescribed burns do not cause wildfires, they release harmful particulates into the air and reduce air quality. Since prescribed burns violate the terms of FEMA's grant policy, they should be deleted from EBRPD's plans, but if they are not the EIS must evaluate the impact they will have on air quality as well as the probability that they will cause a wildfire.

The EIS must also consider other possible sources of greenhouse gases resulting from these projects, such as the use of heavy equipment required for tree removal and the emission of methane, as well as CO₂ as the chips of the dead trees decay on the ground.

Herbicides Most non-native plants and trees cannot be eradicated without repeated use of herbicides. In the case of eucalypts, the stumps are sprayed with Garlon within minutes of cutting down the tree. UC Berkeley's grant application states that resprouts must be cut and poisoned twice per year for 10 years.

The grant applications of all three applicants state that they use Garlon 4 for this purpose. The Material Safety Data Sheet for Garlon 4 reports that 30% of Garlon 4 is kerosene. It therefore has a high fire hazard rating. Although East Bay Regional Park District reported use of Garlon 4 in its "Wildfire Plan" it subsequently reported using Garlon 4 Ultra in its response to comments on the EIR for the "Wildfire Plan." The EIS for these FEMA grant applications should determine what formulation of Garlon will be used by the City of Oakland and UC Berkeley. If they are using Garlon 4, the EIS should determine if fire hazard is increased by the use of a flammable chemical in proximity of the chain saws and other heavy equipment used to destroy the trees. Whatever formulation is used, scientific studies based on laboratory experiments indicate that the active ingredient, triclopyr, is a toxic chemical.³⁴

Roundup is used to eradicate many non-native plants, most notably broom. Since broom seeds can live in the ground for as long as 60 years, it is a long-term commitment to eradicate broom with herbicides. Studies on Roundup indicate that one of its inert ingredients may be harmful to human cells.³⁵

³³ <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/05/27/BAPC1DL48T.DTL>

³⁴ http://www.marinwater.org/documents/Chap4_Triclopyr_8_27_08.pdf

³⁵ <http://www.scientificamerican.com/article.cfm?id=weed-whacking-herbicide-p>

The requirements for herbicide use by the grant projects should be quantified, analyzed, and mitigated. The likelihood of herbicides entering the watershed must also be determined. Here is an example of this concern:



This photo was taken at the North Oakland Sports Center where the City of Oakland's FEMA grant application proposes to destroy all the eucalypts. The eucalypts in this photo are along a stream bed, now dry in September. When these eucalypts are destroyed, what is the likelihood that the Garlon needed to kill the roots of the trees will end up in the creek?

Several of the Recommended Treatment Areas in the grant application of the East Bay Regional Park District are described as "riparian woodland" (RD3, AC14, T113, WC9, WC11). The EIS should consider the impact of herbicide use in such areas described as "riparian woodland." Is it a watershed? If so, what is the likelihood of contamination of that watershed by toxic herbicides? (And incidentally, what is the likelihood that "riparian woodland" is a high fire-hazard area?)

Erosion, Flood Consequences Another function performed by our non-native trees is that their roots absorb water and stabilize soil. These are particularly important functions on steep hills. Most of the proposed grant projects are located on steep hills. In fact, in the case of the projects of the East Bay Regional Park District, some portion of all 47 Recommended Treatment Areas have slopes of at least 30% and 29 RTAs (42%) have been mapped as landslide areas by the US Geological Service. (See Appendix A)

The roots of the trees that will be destroyed will decay slowly. According to Ray Moritz, certified forester, it will take from 3 to 5 years for the roots to decay (private communication). So, we will turn to one of UC Berkeley's projects completed in 2002 to witness the erosion that has resulted from tree removals:



Claremont Canyon Headslope Project – Phase 2



Grizzly Peak Blvd is being undermined by erosion

Where tree removal is proposed on steep slopes, particularly along or above roads, the EIS must evaluate and analyze the likelihood of erosion and require mitigation if necessary.

As the tree roots decay, they will be unable to absorb the water that runs down the hillsides during rains. Since none of these projects intend to replant these areas, what will happen to this water? Will the water cause flooding at the base of the hills, where it will accumulate? Will creeks overflow? The EIS must evaluate and analyze the consequences of losing the water-absorbing properties of trees when they are removed.

Windbreak Tall trees provide a windbreak. They develop their defenses against the wind in a specific location. That is, the more wind they are exposed to as they grow, the better able they are to withstand the wind. When their neighbors are destroyed, they are suddenly exposed to more wind than they are able to withstand.

This is a particularly important issue for the projects of the East Bay Regional Park District because they propose to radically thin the tall non-native trees in many Recommended Treatment Areas. If the trees that remain are suddenly

exposed to wind from which they had been previously protected by neighboring trees, what is the likelihood that they will fall, that is, fall down? This question is not addressed by the "Wildfire Plan." Therefore, the EIS must analyze the potential for windthrow resulting from drastic thinning of the tall trees. Because wind accelerates as it travels up hill, trees on steep hills are probably more vulnerable to windthrow if they lose their protection from the wind.

A related issue is that windbreaks are also a visual screen and a sound barrier. In those areas in which trees will be removed or drastically thinned, what will be the visual and sound effects on the surrounding neighborhoods?

A windbreak also has the potential to stop the progression of a fire. Since wind is the primary driver of most firestorms, if the trees are capable of stopping the wind, they are potentially capable of stopping the fire. The EIS must analyze the potential for increasing fire risk by destroying the windbreak, particularly on the ridgeline where the existing trees have the potential to prevent the spread of the fire from one side of the ridgeline to the other.

Wildlife Certain types of birds, such as raptors and owls, use the tall trees to nest, to roost, and to hunt from. If the proposed grant applications are implemented, a significant portion of tall trees will be eliminated from the East Bay. The East Bay Regional Park District reports in its "Carbon Sequestration Evaluation"³⁶ that there are 503 acres of pine and 1,633 acres of eucalyptus on their properties. Their "Wildfire Plan" proposes to eradicate most pines from 144 acres and most eucalypts from 1,368 acres. (N.B., Not all of these trees are within the FEMA grant project area, however, from the standpoint of cumulative impacts, they are relevant to the EIS.)

Since the only native tall tree in the East Bay is the redwood and East Bay Regional Park District contains only 475 acres of redwoods according to the "Carbon Sequestration Evaluation," it is reasonable to conclude that the majority of tall trees will be eliminated from its properties if the "Wildfire Plan" is implemented.

Will we lose raptors and owls in the East Bay if these plans are implemented? What other species of birds, and perhaps animals, will be impacted by this massive destruction of tall trees? Will there be a glut of the animals upon which these birds prey, such as mice and rats? What diseases do these rodents carry that may become more difficult to control? These are just some of the many questions the EIS should address if these grants are funded.

Cumulative Impacts This is perhaps the most important topic that must be considered by the EIS if these grant applications are funded because such massive native plant restorations, requiring the destruction of millions of trees, are occurring everywhere. Particularly when considering the impact of carbon loss and its consequences for climate change, all of the projects at least in the San Francisco Bay Area must be taken into consideration because our air does not stop neatly at political borders. Climate change is a regional, statewide, national, and international issue.

The Response to Comments on the EIR³⁷ for the "Wildfire Plan" of the East Bay Regional Park District is a starting point for identifying the many projects in the Bay Area that are destroying non-native trees and plants and in so doing, contributing to greenhouse gases:

- "Annual Vegetation Management Plan for the Wildfire Prevention Assessment District, 2006. City of Oakland, Oakland Fire Department, Fire Prevention Bureau.
- 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."

³⁶ http://www.ebparks.org/files/ebprd_carbon_seq_study_2008.pdf

³⁷ http://www.ebparks.org/files/EBRPD_WHRRMP_Final_RTCr.pdf

Obviously, the projects for which FEMA grant applications have been submitted must be added to this list, as well as EBRPD's entire "Wildfire Plan," including those portions of that plan that are not included in the grant project area.

The following are other projects in the San Francisco Bay Area of which I am aware. This list should **not** be considered exhaustive. I am not necessarily aware of every similar project, and given the strength and influence of the native plant movement in the Bay Area, I assume there are similar projects in every jurisdiction that is responsible for public land.

- The **San Leandro Creek Tree Management Project of the Alameda County Flood Control & Water Conservation District** proposes to destroy 33 eucalypts in the short run and 910 more in the long run. All eucalypts will be removed. All other species of trees will remain.
- The **Natural Areas Program of the City of San Francisco** has destroyed thousands of trees in the city's parks since the program began in 1998. The management plan for the Natural Areas Program was approved in 2006. The plan proposes to destroy an additional 18,500 trees over 15 feet tall and untold numbers of smaller trees that the plan chooses not to define as trees. These trees will be destroyed on approximately 1,000 acres of parkland in San Francisco and Pacifica that have been designated as "natural areas."
- **UC San Francisco** has announced its intention to destroy approximately 3,000 non-native trees on Mount Sutro in the short run. This initial destruction is considered a "demonstration project" on 7.5 acres. It is UCSF's intention to destroy a corresponding number of trees (20,000-30,000 trees) on the remaining 40 acres, assuming that it decides that its "demonstration" is successful.
- The **federal government** is one of the largest landowners in the Bay Area. In addition to Golden Gate National Recreation Area (75,500 acres), Point Reyes National Seashore (28,800 acres), and Muir Woods National Monument which are managed by federal agencies, the Presidio in San Francisco is presently controlled by a non-profit trust. These entities have engaged in extensive tree-removal on the public lands they control. Information available on their websites does not enable us to quantify the acres or trees that have been removed or are planned for removal in the future. Therefore, we will describe those projects in the broad terms available to us.
 - There are large-scale restoration efforts that have required the removal of all non-native vegetation, including trees. The restoration of Redwood Creek in Marin County is an example of such a project. There are many others.
 - The other, larger category of tree-removal projects on these federal lands are the so-called "fuel management projects" which remove exclusively non-native trees and vegetation. We count 8 of these "fuel management" projects on GGNRA property and 8 in the Pt Reyes National Seashore, but the acreage of these projects is not reported, so we can't estimate the number of trees that will be removed. Projects along roads will apparently remove all trees within 30 feet of the roads. Further from roads, all trees with trunks less than 18" in diameter will be removed. The sole example³⁸ of such thinning we could find on the websites, says that the **density of trees was reduced from 1,600 trees per acre to 256 trees per acre, a loss of over 1,300 trees per acre.**

The EIS for the FEMA grant applications must make a good faith effort to identify, quantify, and analyze the cumulative impact of all the tree destruction projects in the San Francisco Bay Area which will release tons of carbon into the atmosphere thereby contributing to climate change. Since none of the FEMA projects intend to replant the areas from which trees and plants will be removed, it will be challenging to mitigate for such a loss. However, if FEMA decides to fund these grants, it must also propose suitable mitigation for the carbon loss resulting from the implementation of these projects. If "replacement" trees are proposed, the fact that non-native trees grow in many places in which native trees will not grow. Generally speaking, native trees do not tolerate as much wind and require more water than the non-native trees that will be destroyed.

³⁸ http://www.nps.gov/goga/parkmgmt/upload/thinning_example.pdf

In Conclusion

With few exceptions for small portions of the proposed projects that will create defensible space for specific buildings, the applications for FEMA hazard and pre-disaster mitigation grants should be denied because they do not conform to FEMA policy governing these grants.

If the applicants can be advised to revise their projects so that they conform to FEMA's grant policy and actually reduce fire hazard, they should be considered for funding.

If any of these projects are funded by FEMA, whether revised or not, the EIS must address many serious issues about their potential impact on the environment. The EIS must also consider the question of cumulative impacts broadly to include projects like these that are occurring all over the Bay Area, because air quality and greenhouse gases are not local issues.

Mary McAllister
Oakland, California
September 15, 2010

EBH-EIS-FEMA-RIX

From: Rk Bose [fk94131@yahoo.com]
Sent: Saturday, September 18, 2010 5:22 PM
To: EBH-EIS-FEMA-RIX,
Subject: Public Scoping Comments

This is in response to the Public Scoping for Environmental Impact Statement for the FEMA Grant Applications in the East Bay Hills.

This Grant Application seems part of a pattern of activity across the Bay Area to get FEMA funding for native plant restoration projects under the pretext of "fire hazard." In fact, some of the planned actions may increase the danger.

Since much of the popular "knowledge" – even from expert sources – about eucalyptus is factually incorrect on observation, the EIS should require physical study of actual conditions at the project sites.

1. Changing wind patterns.

The projects as stated will fell trees along ridge-lines and elsewhere. Live eucalyptus trees act as wind-breaks, decreasing wind velocity across hillsides; that may in fact have been the intent of some of the plantings a century or so ago. The flexibility of eucalyptus crowns – evident in considerable movement in windy conditions – may have the effect of causing turbulence that breaks up wind flows, thus having an even stronger effect than a more rigid wind-break.

With the huge number of trees to be felled, wind patterns will be affected. Since the greatest risk in the East Bay is from wind-driven flames, this may potentially increase fire hazard.

A detailed study of changes to wind patterns and wind-velocities at the micro-climate level would be an essential part of any EIS.

2. Is eucalyptus more flammable than the alternatives?

Eucalyptus, by using moisture efficiently, and in some places by fog-harvesting, remains green and alive through summer conditions that dry out shrubs, chaparral and grassland. Felling trees will result in drier vegetation conditions that are more prone to ignition. "Native" plants are no more fire-resistant than non-native ones.

Though popular thinking equates eucalyptus with fire-hazard, many of these beliefs are at best urban legends. Actual tests have not shown eucalyptus to be particularly flammable. Indeed, there is anecdotal evidence in at least two instances where eucalyptus has acted as a fire break: The Scripps Ranch fire in Southern California; and the 2008 Angel Island fire which reportedly burned grassland on half the island, but stopped at the eucalyptus grove.

Eucalyptus can be killed during the East Bay's rare freezes, and like other dead trees, then becomes more combustible. The less expensive and dangerous solution would be to remove freeze-killed trees – of whatever species – from around homes and structures.

3. What will replace the eucalyptus groves that are to be felled?

If it is oak/ bay-laurel woodland, it is particularly prone to Sudden Oak Death, the disease that is spreading around the Bay Area with no end in sight. Quite aside from the potential flammability of such forests in live conditions, they will almost certainly be more flammable if they contain a large percentage of dead trees.

If it is chaparral or grassland, both are more flammable and liable to ignite than trees are. If they are close to homes, they are more likely to cause damage since wood-framed houses (as most homes in the Bay area are) are more flammable than trees.

The EIS should evaluate this for each project site, based on site conditions and plans for vegetation management.

4. Habitat impacts.

Eucalyptus forests – contrary to the myths disseminated about the tree – support a wide variety of bird and animal life. Removal of hundreds of thousands of trees will have a huge impact on existing habitats for a wide range of wildlife, from mammals and reptiles to birds and insects. The EIS should detail these impacts based on actual studies and not surmises.

5. Microclimate impacts

Tree removal and the activities associated with them will affect soil compaction, water flows, and of course wind patterns, with the potential to alter microclimates at sites distant from the actual worksites. This is particularly true if the project areas are on hillsides, where the impacts may occur in downhill areas. The EIS should evaluate and detail these impacts.

6. Carbon sequestration

The projects propose to remove huge amounts of biomass, allowing them to decay and thus return their carbon to the atmosphere. This is a concern in terms of climate change overall as well as the environs of the project areas. The EIS should get a robust quantification of net carbon release over the project life and the next 30-50 years.

In summary: The planned projects appear to be ill-conceived in terms of reducing fire-hazard, and in fact, through a change of wind-patterns, moisture conditions, and vegetation-type, may actually make it worse. It may also have unintended consequences on micro-climates, habitats, and the environment. The EIS should address these issues.

Sincerely,

RK Bose
San Francisco

EBH-EIS-FEMA-RIX

From: Morley [mzinger1@comcast.net]
Sent: Tuesday, September 21, 2010 9:31 PM
To: EBH-EIS-FEMA-RIX,
Subject: Public comment on pending FEMA Grant requests

Dear Sirs,

This communication is to object strongly to pending FEMA grant applications:

Claremont Canyon Vegetation Management project
Strawberry Canyon Vegetation Management Project
Oakland Regional Fuel Management project.

These projects are thinly disguised efforts by native plant enthusiasts to kill Eucalyptus trees. The proposals have little to do with fire prevention and would in fact INCREASE the risk of fire.

In this day, where the entire world is talking 'GREEN' it would be laughable (if it was not so serious) to attempt to remove hundreds of thousands of trees around a spectacularly beautiful Bay Area location.

I would think it would elicit a huge public outcry against FEMA for allowing this.

I am an ex-faculty member of UCSF and an admirer of UCSF and UCB academic functions, but am also aware of their irrational bureaucratic functions. UCSF has tried to obtain FEMA funds and has used deceptive misleading propaganda in their efforts and it appears UCB does the same.

I expect that you are familiar with the deceptive arguments advanced about fire risk.

So, lets focus on the economics: UC generally is laying people off, limiting classes, begging the legislature for more funding, raising student fees, etc. Our State and Federal governments are also struggling with serious deficits. For FEMA and the University and the City of Oakland to be spending vast sums on destroying forests.....defies all common sense!

These projects have not come to widespread public attention, yet. They have been opposed by a relatively small group of concerned, responsible, intelligent residents of the area. some of whom lost their homes in the 1991 Oakland fire. Imagine the public outrage when the projects do come to widespread public attention!

Does UCB want the land for expansion? Are they indifferent to global warming? Are they indifferent to widespread use of Herbicides?

I urge FEMA to use objective reason, scientific evidence, and be aware of less disruptive methods of decreasing fire risk. I believe FEMA's response to UCSF grant request was rational and responsible and hope you will continue such.

Morley M. Singer M.D.

Professor Emeritus, UCSF
177 Belgrave Ave
San Francisco, Ca 94117

EBH-EIS-FEMA-RIX

From: Phil Price [pnprice@creekcats.com]
Sent: Friday, September 24, 2010 8:45 AM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

The document links all seem to be broken, or at least that is true of the three or four that I clicked on. I would like to get copies of the discussion of the planned project and the project alternatives. Also, I can't find any timeline or calendar. I have heard that the EIS process is under way now, and that scoping comments are due by October 1. But from the document titles, it looks like the project might be farther along than that. What is the status of the EIS process, and what does the timeline look like going forward? Thanks.

EBH-EIS-FEMA-RIX

From: SLAKEWINGS@aol.com
Sent: Friday, September 24, 2010 3:46 PM
To: EBH-EIS-FEMA-RIX,
Subject: About the scoping plan for the East Bay hills
Attachments: Dear FEMA.doc

Let me know if you can open and read my letter.

Thank you,
Bev Von Dohre

Dear FEMA,

I went to the first scoping meeting and it was clear to me that those asking for money for this project are simply interested in conning FEMA for money, and are not interested in the safety of people or the environment. I believe that the well-intentioned people who support the project don't know the details of what will happen if it is implemented. (This won't be the first time that many people supported something in good faith that was the opposite of what they were told.)

Not only will this plan not prevent fire danger, but it will make the East Bay far more vulnerable to devastating fires.

The tall exotic Monterey pines, Eucalyptus, Acacias, etc., precipitate inches of water from the fog during the dry season -- preventing, not causing fires, and providing moisture for native animals and plants. (Go under these trees even in the summer and see how green the ground is with plants supported by the non-native trees.) One woman at the meeting said she'd seen the Nineties firestorm come right up to her home and surround her old enormous Eucalyptus, yet the tree didn't even begin to catch fire, disproving the myth of Eucalyptus' flammability.

Fires typically begin in grasslands, which is where the 1991 Firestorm started. This project will result in extensive new dry grasslands in the East Bay hills, once the 1000 acres of beautiful trees are destroyed. These grasses are also not native and are far more flammable than the trees. The erosion and resulting landslides will be catastrophic. At that point, FEMA money will REALLY be needed.

We have an established eco-system that our native animals have adapted to. Once the trees are destroyed, the already-burdened wildlife will die, from hunger and loss of habitat. I'm also not seeing any mention of the harm done to the environment from eliminating so many oxygen-producing trees, and how much carbon will be released by their corpses. Also, are they planning to chip and mulch the hills, effectively eliminating the bare ground needed by native bees? I'm not only horrified by the plan to kill 1000 acres of trees in an environment that desperately needs more trees, but also by the apparent lack of awareness of our local eco-system.

Do people not understand what the plan is or do they really not care? Everyone I've spoken with believes that only a few dead or dying trees will be eliminated, and do not know the actual plan to clear cut much of our beautiful wilderness, so close to our cities in the East Bay hills, stretching from Richmond to Castro Valley. The devastation from the heavy equipment that will be used is being ignored also.

Most people also don't seem to know the plants involved or the local environment. They haven't seen how raptors, woodpeckers, and other birds use the dead trees for their survival. They haven't watched how young pines are growing up from the base of their dead mothers, keeping the hills green with new trees. They also are not remembering that many native trees are dying from Sudden Oak Death and that we should be grateful for having these resistant, beautiful exotic trees.

The people who are not going to monetarily benefit from this plan believe the myths and have no idea the devastation that will result. Most people don't know that large sections of our parks in the East Bay hills are almost entirely exotic trees and that their clear-cutting will leave bare, ugly hillsides with poisoned stumps, impending erosion and landslides, the wildlife left homeless, many native plants destroyed, the topsoil damaged, and the beauty gone forever. Few urban areas have such amazing wilderness. What a tragedy to mindlessly destroy it.

I've seen re-planting of native trees in parks, but have yet to see these trees doing very well. Many die, wasting more money and creating more habitat for exotic broom that people so hate.

I believe most people would object to this clear-cutting plan as well as the plan to continuously apply herbicide to the stumps of the butchered trees, if they knew the details. Eucalyptus will take an enormous amount of poison to stop its attempts to stay alive and resprout. And what about the acacias? You cut one down, and you have dozens sprouting along the ground, yards away from the original tree. They continue to try to live years after their mother tree was killed.

I do not believe any herbicide or the other petrochemicals added to it are safe. Every banned pesticide was once declared safe from studies funded by the pesticide industry. Some Bay Area counties refuse to use herbicides, while others still do, ignoring the hazards. I've seen California Newts dying horrible deaths after crawling through roadside areas sprayed with "safe" herbicides. I believe that "applying" herbicides across the hills will result in incalculable deaths of native animals, including protected species, as well as contaminating the earth, reservoirs, groundwater, streams, and bay. Some of the poison will evaporate into the air, adding to our air pollution problem. How many cases of cancer, auto-immune and other illnesses will result from the use of these poisons? I also believe this plan won't work, knowing the amazing regenerative capabilities of these magnificent trees. So the use of poison will be far more continuous than planned.

It's also being ignored that many native species have become dependent on and prefer non-native trees, shrubs, herbs, etc.

I want to ask, "Why the selective logging?" For those who want our parks and UC Berkeley lands clear-cut, I suggest they start with the expensive ornamental non-

natives that are the majority of trees at the UC Botanical Gardens, Oakland Zoo, and people's private gardens and yards – which, like in the hills, would leave almost no vegetation since most of the green we see are from non-natives. Why the inconsistency – why are those businesses being spared? At the East Bay Regional Park headquarters where the scoping meeting was held, there were many introduced ornamentals. Those olive trees, *Arbutus Unedo*, etc, aren't going to be eliminated, so why destroy the trees on trails that many of us know personally and love? Why doesn't the plan include annihilating all the non-native trees in people's yards in the hills, or even elsewhere? Let's be fair and cut down every non-native plant, including all street trees, and the expensive landscaping at federal, state, county, and city areas, city parks, etc. Why should only the native animals suffer?

There will be many persuasive arguments for committing this irreparable environmental devastation, but please don't believe them. I've seen terrible harm already done in the name of environmentalism, such as the boardwalk constructed in the middle of the endangered clapper rail habitat at Abbott's Lagoon, Pt. Reyes, which was supposedly for the rail, but I don't see them there any longer. (The previous trail was along the edge of the habitat). "Experts" told Audubon to cut down every plant (they didn't know native from non-native) in the tiny Burrowing Owl habitat at Cesar Chavez Park in Berkeley. Those of us who had been watching the owls for years knew that was the opposite of what the owls need and want. When the owls arrived after the cutting, one left immediately, while the other two stood forlornly by the stumps of their shrubs from the previous year. (Audubon later apologized and admitted their mistake, which I appreciate.) Weeding the water plants in the Japanese pool at the UC Botanical Gardens several years ago resulted in almost the entire year's eggs of California Newts being killed. I go to the pond every year and have never seen the numbers of newts there as there were previously. A few hours of well-intentioned work can result in permanent ecological damage.

For those in the hills who do want the trees cut, I suggest we trade houses and they live in the tree-denuded wasteland that is much of the East Bay.

For those who insist on eliminating non-native plants, I suggest we start with the humans, dogs, and cats. (Each cat is capable of killing 800 small animals a year, which is why many species of small animals are missing from neighborhoods and even the parks where cats hunt.) And why not kill all the honeybees as well since they're from Europe?

The animals, as well as the trees, are not just "things" in humans' territory. We are planning the killing of living, feeling beings. When people are often depressed from the dark and rain in winter, the gorgeous acacias bloom brilliant golden for two months. The broom with their yellow, exquisitely fragrant blossoms bloom for months during winter and spring.

Please learn who this project will actually benefit. Find out the details before it's too late.

Please know that if this "project" begins, it will be far more destructive than they have told anyone. Expect the worst.

Expect to look up into the hills and see burnt grass where we now see extensive woodlands. Recognize the trees in the parks you love and realize some parks will be completely empty of trees. Expect catastrophic fires and terrible landslides when the trees are gone. Expect damage to the waterways from the erosion.

The FEMA money is desperately needed elsewhere. Please don't waste this money by making a few people rich at the expense of the people, animals, environment, and beauty of our parks. Please don't create a new environmental disaster under the guise of preventing one.

Bev Von Dohre

510-482-9494

510-967-5069

Slakewings@aol.com

EBH-EIS-FEMA-RIX

From: Marg Hall [sismhall1@aol.com]

Sent: Friday, September 24, 2010 6:03 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

Thank you for requiring a careful environmental review of this proposal. I suggest you require inclusion of the following in the scope of the review: 1. Consider the impact of all herbicide ingredients, including "inert" ones, which by themselves may have significant negative consequences. 2. Follow the recommendations of the 2008-9 Annual Report of the President's Cancer Panel, especially with respect to implementation of the precautionary principle. 3. Consider the evidence from the East Bay Hills Fire regarding the relative contribution of eucalyptus trees vs structures to the fire hazard in the hills 4. Consider the long term fire hazard of clear cutting vs responsible thinning and management 5. Take into account the economic benefit of wildland management programs that are labor intensive and will provide employment to local residents 6. Evaluate the long term risk of 10 years of herbicide application

EBH-EIS-FEMA-RIX

From: jbrobit@aol.com
Sent: Sunday, September 26, 2010 9:06 PM
To: EBH-EIS-FEMA-RIX,
Subject: RE SAVE THE TREES

I am writing in deep concern over the plan to clear-cut a large number of trees in the area of Strawberry Canyon. The recent experience of seeing trees removed at the site of the UC Stadium renovation was heartbreaking and has served no good purpose other than to make the whole area hotter and uglier. Planting new trees there will not solve any problems for at least another fifty years--long after we are gone. I understand that it may be important to remove some Eucalyptus trees--not native to California--but there must be better ways to do it than clear-cutting and using herbicides which are known to increase the risk for several diseases including Parkinson's. Please also consider the following:

- Approximately 8 years ago a part of the same hill area was proposed for tree clearance to develop a University housing complex. At that time Grizzly Peak/Olympus area neighbors organized and stopped the project.
- These grants call for clearcutting which is in direct opposition to the FEMA guidelines which specifically prohibits clearcutting.
- Chipping the clearcut trees and scattering the chips (leaving them at a depth of several feet) would potentially increase the fire hazard. Note: chips degrade the wildlife for creatures nesting in ground, snakes, etc., they release CO2 and stimulate weeds.
- Applying toxic pesticides is dangerous to the environment, to wildlife, and possibly to people.
- It is important to the environment to keep as many tall trees as possible. Note: large trees sequester CO2 and are important for the survival of several species of birds, especially raptors, and they serve as windbreaks and help to keep the local climate cool and moist.

For these and many other reasons, I ask you to reconsider this plan and find a more ecological alternative.

Jan Robitscher
Berkeley, CA

EBH-EIS-FEMA-RIX

From: sdinkc@aol.com
Sent: Sunday, September 26, 2010 9:47 PM
To: EBH-EIS-FEMA-RIX,
Subject: UC/EBRDP/Oakland projects

To Whom it may concern,

I am writing to object to the "reduce fire hazard" proposals by the University of California — for *Strawberry Canyon and Claremont Canyon; the City of Oakland; and the East Bay Regional Park District in the East Bay Hills to essentially clear cut, or retard the growth of trees using herbicides:

*The proposed UC Strawberry Canyon Vegetation Management Project involves felling all eucalyptus, Monterey pine, acacia trees and exotic
- non native trees on approx. 60 acres of UC property, chipping the downed trees and scattering the chips in portions of the cleared area, and then semi-annually applying herbicides to eradicate eucalyptus tree sprouts.

-- These grants call for clear cutting which is in direct opposition to the FEMA guidelines which specifically prohibits clear cutting.

-- Chipping the clearcut trees and scattering the chips (leaving them at a depth of several feet) would potentially increase the fire hazard.
Note: chips degrade the wildlife for creatures nesting in ground, snakes, etc., they release CO2 and stimulate weeds.

-- Applying toxic pesticides is dangerous to the environment, to wildlife, and possibly to people.

-- It is important to the environment to keep as many tall trees as possible. Note: large trees sequester CO2 and are important for the survival of several species of birds, especially raptors, and they serve as windbreaks and help to keep the local climate cool and moist.

Judicious thinning and brush clean up would be the best course of action to reduce the threat of fire, and protect wildlife.

Susan Cerny
860 Keeler Ave.
Berkeley, CA 94708

EBH-EIS-FEMA-RIX

From: Matthew Taylor [matthew@matthewtaylor.net]

Sent: Sunday, September 26, 2010 10:09 PM

To: EBH-EIS-FEMA-RIX,

Subject: comments on EBH EIS

My comments are below on the project that's discussed at this website:

- Approximately 8 years ago a part of the same hill area was proposed for tree clearance to develop a University housing complex. At that time Grizzly Peak/Olympus area neighbors organized and stopped the project.
- These grants call for clearcutting which is in direct opposition to the FEMA guidelines which specifically prohibits clearcutting.
- Chipping the clearcut trees and scattering the chips (leaving them at a depth of several feet) would potentially *increase the fire hazard*. Note: chips degrade the wildlife for creatures nesting in ground, snakes, etc., they release CO₂ and stimulate weeds.
- Applying toxic pesticides is dangerous to the environment, to wildlife, and possibly to people.
- It is important to the environment to keep as many tall trees as possible. Note: large trees sequester CO₂ and are important for the survival of several species of birds, especially raptors, and they serve as windbreaks and help to keep the local climate cool and moist.

Matthew Taylor
Wordsmith, Mediator.
<http://matthewtaylor.net>

land 510-841-4061 (try first)
cell 510-684-7233

"Conflict work is the art of the impossible." - Johan Galtung

2135 Cedar St.
Berkeley CA 94709

please send all notifications via email not via snail mail if possible

EBH-EIS-FEMA-RIX

From: isis feral [isisferal@yahoo.com]
Sent: Monday, September 27, 2010 1:34 AM
To: EBH-EIS-FEMA-RIX,
Cc: Amaglio, Alessandro
Subject: EBH EIS documents inaccessible to public

I contacted your agency through your website at www.ebheisforca.ursdcmetro.com several weeks ago, because the links in the document section were broken. While those two initial links have been fixed, not a single other link, to the eleven documents that were added since, works.

The documents listed appear to be relevant details about the project for which public comment is being solicited. It is not reasonable to expect the public to comment on projects for which details are being withheld. Considering that your agency knew several weeks ago that the first two links were broken, it should not be too much to expect that additional links are checked for functionality.

Please let me know when the links to the documents are repaired and accessible to the public, and extend the public comment period to assure the public has the proper time to review these documents. Please also confirm receipt of this email and the agency's intent to remedy this situation.

Thank you.

Isis Feral
isisferal@yahoo.com

EBH-EIS-FEMA-RIX

From: Drwolf98@aol.com
Sent: Monday, September 27, 2010 8:05 AM
To: EBH-EIS-FEMA-RIX,
Subject: No Subject

I oppose ANY funding of the 2 UC PDM grants for the following reasons:

- ! -These grants call for clearcutting of all eucalyptus, pines, and acacia trees, ! which is in direct opposition to the FEMA guidelines which specifically prohibit ! clearcutting.
- ! -These grants call for the removal of trees that are far away from any structures, ! which is in direct opposition to the FEMA guidelines which clearly state that the ! purpose of these grants is to protect structures and associated lives.
- ! -The methods being proposed for these grants includes the chipping and ! spreading of the cut trees on site, leaving up to 24" of wood chips. There is a ! substantial concern that this practice will CREATE a fire hazard in that these ! dried wood chips are highly flammable, and if a fire were to start it would be all ! but impossible to extinguish.
- ! -There is no evidence that targeting 3 species of trees while leaving other ! vegetation will reduce the fire risk. There are vague assertions made that native ! species are somehow less of a fire risk than non-native species, but these ! assertions are unsubstantiated. In fact, if the experience on Angel Island and ! Southern California is any indicator, migrating a landscape from one with large, ! tall trees to one with grasses and chaparral (which is what is being proposed) ! will likely INCREASE the risk of fire.
- ! -The FEMA Inspector General's Office has been made aware that there are ! allegations of fraud in these grant applications, allegations that if proven, would ! likely have caused these projects to be discarded in favor of other more ! deserving projects.

We oppose ANY funding of the EBRPD grant for the following reasons:

- ! -These grants call for the removal of trees that are far away from any structures, ! which is in direct opposition to the FEMA guidelines which clearly state that the ! purpose of these grants is to protect structures and associated lives.
- ! -These grants are targeted at 3 species, eucalyptus, pines, and acacia trees. ! There is no evidence that targeting 3 species of trees while leaving other ! vegetation will reduce the fire risk. There are vague assertions made that native ! species are somehow less of a fire risk than non-native species, but these ! assertions are unsubstantiated. In fact, if the experience on Angel Island and ! Southern California is any indicator, migrating a landscape from one with large, ! tall trees to one with grasses and chaparral (which is what is being proposed) ! will likely INCREASE the risk of fire.
- ! -There is currently a lawsuit pending that challenges the adequacy of the EBRPD EIR that forms the basis for the CEQA clearance for significant portions of this project. Until this lawsuit is resolved it is impossible to know what vegetation management actions will be acceptable. Given this reality, it would be inappropriate to allow further progress on this grant at this time.

We partially support the funding of the City of Oakland grant as follows:

- ! -We oppose the portion of this grant that the City proposed to transfer to UC for ! their proposed project in the Frowning Ridge area. The reasons for this are the ! same as described in the section above that discusses the UC PDM grants.
- ! -We support funding ONLY the portion of this project that addresses the threat to ! residential structures in the area immediately above Caldecott Field. In this case, ! as is the case with the UC projects, fuels should be removed in a SPECIES- ! NEUTRAL manner. That is to say that ALL fuels that pose a threat should be ! addressed, with a vegetation-free buffer zone of at least 100' below the homes ! at the top of the canyon, with underbrush clearing and limbing off ALL trees at ! the site.

Dr. Anne //Wolff
 64 Bayview Ave.
 Larkspur, CA 94939

EBH-EIS-FEMA-RIX

From: Peter Wegner [pw.pw.pw@gmail.com]
Sent: Monday, September 27, 2010 9:35 AM
To: EBH-EIS-FEMA-RIX,
Cc: savestrawberrycanyon@gmail.com; Robin Olesen
Subject: re: UC Strawberry Canyon Vegetation Management Project
Dear FEMA:

We live with our family of five in Strawberry Canyon on land that abuts UC property.

We are writing to express **my strong opposition** to the current plan to clear-cut all eucalyptus, Monterey pine, acacia trees and exotic non-native trees.

We object on the following grounds:

- clear cutting savages a wooded area that is heavily used by recreational walker and hikers
- it contravenes a provision of FEMA guidelines that expressly prohibits clear-cutting
- chipping and depositing the chipped debris onto the ground destroys habitat for native species of animal
- therefore your attempt to remove so-called "non-native" flora actually harms native fauna
- "non-native" is itself a relative term, since the forest is entirely composed of trees that came from somewhere else at some point in time ... designating eucalyptus as non-native therefore arbitrarily and indefensibly draws a line in time before which trees are said to be native and after which they are not
- spraying with herbicide actually increases the risk of fire; this has already happened this year as dense vegetation along the fire trail through the canyon was killed then left standing, effectively lining the trail with tinder
- leaving chipped debris does the same
- the herbicide becomes run-off which flows into the creek at the base of the canyon, destroying animal habitat, contaminating the water table and polluting the bay

What you propose is therefore properly understood as a direct and imminent threat to public health.

Therefore, together with our family, we must **urge you to reconsider.**

Sincerely,
Peter Wegner & Robin Olesen
299 Panoramic Way
Berkeley CA
94704

EBH-EIS-FEMA-RIX

From: Renata Polt [rpfgs@earthlink.net]
Sent: Monday, September 27, 2010 9:57 AM
To: EBH-EIS-FEMA-RIX,
Subject: trees

To whom it may concern:

I am shocked by the proposal to clear-cut and poison thousands of trees in the UC/Oakland/Regional Park neighborhoods.

The trees are essential to climate control and to the existence of birds and other wildlife. And the idea of keeping the areas clear with the use of herbicides is outrageous. Mulching the chipped vegetation will *add to*, not *decrease* fire danger.

Please reconsider this ill-conceived plan.

Renata Polt Schmitt
196 Hillcrest Road
Berkeley 94705

EBH-EIS-FEMA-RIX

From: Mike Vandeman [mjvande@pacbell.net]
Sent: Sunday, September 26, 2010 10:09 PM
To: EBH-EIS-FEMA-RIX,
Subject: Strawberry Canyon Clearcutting

Gentlepersons:

Eucalyptus removal is okay, because they are exotic, but eucalyptus exudes chemicals that inhibit the growth of other species, so their chips should NOT be left on site.

Monterey pine is allegedly nonnative, but in actuality, that depends on time scale. It is extremely unlikely, given that it is native to the Monterey area, that they have NEVER grown in Berkeley.

Therefore, they should be given the benefit of the doubt, and not cut. If you want to remove exotics, you should start with French broom, which is relatively easy to remove -- IF you are consistent in cutting it each spring.

The hill property above campus is important habitat (for, among others, the federally Threatened Alameda whipsnake), and should not be used for building. Due to the difficulty of serving it via public transit (it is off the beaten path and up a hill), its use is unwise.

Sincerely yours,

Michael J. Vandeman, Ph.D.
2600 Camino Ramon # 3e4001
San Ramon, CA 94583-5099
925-866-2325

--

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>

EBH-EIS-FEMA-RIX

From: isis feral [isisferal@yahoo.com]
Sent: Monday, September 27, 2010 6:56 PM
To: AlessandroAmaglio; EBH-EIS-FEMA-RIX
Subject: RE: EBH EIS documents inaccessible to public

Thank you very much. The links now work.

Since these documents outline the proposed actions, and have not been available for public viewing during the public comment period, I do think that the public deserves an extension on the comment period.

Thank you.

Isis Feral

--- On Mon, 27/9/10, Amaglio, Alessandro <alessandro.amaglio@dhs.gov> wrote:

From: Amaglio, Alessandro <alessandro.amaglio@dhs.gov>
Subject: RE: EBH EIS documents inaccessible to public
To: "isis feral" <isisferal@yahoo.com>, "EBH-EIS-FEMA-RIX," <EbH-EIS-FEMA-RIX@dhs.gov>
Date: Monday, 27 September, 2010, 10:11 AM

Please check the site again. I have been told that the technical problem has been resolved. Feel free to let me know should you still encounter any difficulties in opening the links/attachments. Thank you.

Alessandro Amaglio
Regional Environmental Officer
FEMA R IX-U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, California 94607-4052
Phone: 510-627-7284
Fax: 510-627-7270
Cell phone: 510-610-1587
Email: alessandro.amaglio@dhs.gov

From: isis feral [mailto:isisferal@yahoo.com]
Sent: Monday, September 27, 2010 01:34
To: EBH-EIS-FEMA-RIX,
Cc: Amaglio, Alessandro
Subject: EBH EIS documents inaccessible to public

I contacted your agency through your website at www.ebheisforca.ursdcmetro.com several weeks ago, because the links in the document section were broken. While those

two initial links have been fixed, not a single other link, to the eleven documents that were added since, works.

The documents listed appear to be relevant details about the project for which public comment is being solicited. It is not reasonable to expect the public to comment on projects for which details are being withheld. Considering that your agency knew several weeks ago that the first two links were broken, it should not be too much to expect that additional links are checked for functionality.

Please let me know when the links to the documents are repaired and accessible to the public, and extend the public comment period to assure the public has the proper time to review these documents. Please also confirm receipt of this email and the agency's intent to remedy this situation.

Thank you.

Isis Feral
isisferal@yahoo.com

EBH-EIS-FEMA-RIX

From: Max Ventura [beneficialbug@netzero.net]
Sent: Monday, September 27, 2010 10:56 PM
To: EBH-EIS-FEMA-RIX,
Subject: Comment on "public scoping" for EIS of FEMA grant applications
Attachments: image001.jpg; image003.jpg; EBPA,DSC FEMA response, EBRPD, UC, Oak.doc

Same comments as below appear in the attached document. Please acknowledge receipt.

Thank you.

Sincerely,

Maxina Ventura

EBPA/DSC

27 September, 2010

To
 Whom
 It
 May
 Concern:

East
 Bay
 Pesticide

Alert, also known as Don't Spray California, is taking this opportunity to respond jointly to FEMA requests from the University of California (UC); the East Bay Regional Park District (EBRPD); and Oakland for what the agencies refer to as 'wildfire prevention projects' in the East Bay Hills. For we actively have opposed these entities' attempts to continue various and related wildfire projects include the use of pesticides, and in the case of tree fellings which for these agencies is paired with use, cause increased fire danger to people, wildlife, structures. These plans violate at least two parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, "Wildfire Mitigation Policy for and PDM Program".

PESTICIDES, TOXICITY, and FIRE DANGER DUE TO MISMANAGEMENT

UC, EBRPD, and the city of Oakland amply have demonstrated their wildfire prevention protocols in the past and have, in the EIR process of EBRPD quite recently, shown their intentions to continue what has caused fire danger in the hills. Each of these entities' practices, irregardless whether people support more tree fellings or pesticide use, routinely have included spraying pesticides and leaving dead vegetation throughout the hills, a clear fire danger adding to grossly mismanaged understories throughout the hills. These agencies each have acted in negligence, continuing practices which abetted the '91 fire. For this reason alone, they should not be granted FEMA wildfire prevention monies. They have demonstrated incompetence in the past and their future plans would jeopardize the health and wellbeing of people, pets, wildlife, insects, soil, and vegetation, as well as structures, a misuse of public funds. For a flammability study conducted in the East Bay, near Claremont Canyon, please see <http://pesticides.intown.biz/Cheriel%20Response.html>.

Perhaps an example of intention would be enlightening. The only specific general management practices mentioned in the EBRPD's Draft EIR were an inadequate requirement for notification signs, and reference to the size and smoothness of cut tree stumps. EBRPD appears to have no

interest in serious notification which might allow people plans to avoid treated areas or better yet make arrangements to stay away from nearby homes for a time period, and seems to be more concerned about the potential for splinters from logged trees than about chemical poisoning from contact, drift, and other mobility of pesticides applied to and around the stumps and other vegetation, a subject they avoid. Please see <http://twinside.org.sg/title/service76.htm> on Denmark's ban on RoundUp because it was found in groundwater.

ALTERNATIVES to PESTICIDES

These agencies' plans are to cut trees and use pesticides. There is no safe use of pesticides. By nature they kill, cause genetic mutations, neurological problems, hormonal disruption and disfunction. They translocate and endanger water supplies. We offered them alternatives, most absolutely standard practices, focusing on fuel reduction by employing people who need jobs to do manual labor of understory removal without the use of chemicals. And in the case of any tree fellings, solarization of tree stumps, a standard practice relying on elementary school and backyard bulb gardeners' basic principles of starving plant life of the photosynthesis process. No photosynthesis, no sugars to feed the plant (read: resprouts). A sheet of plastic stapled down is a standard practice, but it is possible to use a natural tar (as opposed to a petrochemically-derived product) instead. Alternatives to pesticides abound, as we made clear in 2005; yet, just days after our presentation, Tom Klatt of UC put out his 10 year plan for Strawberry Canyon and Claremont Canyon, which is enlightening. It says labor and chemicals are about \$100 per acre each of two times per year, expecting it to take 1-1/2 hours per acre. That's probably a crew of several working to apply pesticides (it's only the Licensed Pesticide Applicators overseeing spray projects who make huge salaries; people doing the dangerous work rarely make much above minimum wage). The \$4000 management for \$6716 in labor and \$1125 in chemicals for 45 acres for Claremont Canyon for 10 years may well be part of the Licensed Pesticide Applicator salary of \$125,000 common in 2005. So in the event of tree fellings, a crew going in with weed wrenches for baby trees or weed whackers for resprouts should be able to be paid if instead applying most or all of that "management" \$4000 for their wages, an assertion we have made all these years. Additionally, what is not outlined in Klatt's plan, nor in any of the agencies' project plans or grant requests is who covers the costs of lost productivity for those sickened by pesticide exposures, whether workers applying pesticides or otherwise working in the hills, residents, or visitors to the hills. Without such plans specified it appears that the burden is shifted to individuals, cities, or counties.

SCARE TACTICS

The issue we brought up in 2005 remains today; mismanagement. Even in the few cases of diseased trees which legitimately should be felled if they would be likely to fall in an area where people or homes would be damaged, after fellings these agencies could be cutting back resprouts, solarizing, or employing one of the many other alternatives we offered as examples. But the city of Oakland is a prime example of mismanagement creating fire danger. Eucalypts cut down in Montclair were left to resprout and in 2005, after this resprout museum had grown tall once more, but with multiple sprouts creating fire ladders everywhere, the city council woman who wanted to join in the hills pesticide use pushed by UC and EBRPD used these resprouts as an example to scare people. What scared us was the city's irresponsible behavior in cutting the trees in the first place if they didn't plan to cut them back after, or dig out the stumps. City representatives kept talking about the massive danger of that stand of resprouts but never bothered in that time period to have the sprouts cut back down.

TOXICOLOGICAL PROFILES OF PESTICIDES

In January of 2005, EBPA/ DSC handed representatives of each of these entities toxicology of

2

the pesticides UC and EBRPD already were using, and pushing Oakland to use in the hills. We offered many quite standard alternatives to pesticide use while pointing out the danger to other species of removing Eucalyptus from the hills (Eucalyptus was the only tree being discussed at public hearings at

that time). Please see <http://dontspraycalifornia.org/wpad.html> for more info on our opposition in that time period. Also, please see the toxicology of Monsanto's RoundUp (<http://www.alternatives2toxics.org/emacsoldsite/round.htm>), the toxicology of glyphosate, the "active" ingredient of the product called RoundUp (<http://www.pesticide.org/glyphosate.pdf>), and that of Garlon's triclopyr (<http://www.pesticide.org/triclopyr.pdf>), at least the formulation used at that time. Formulations are changed routinely due to pesticide resistance. In fact, part of the danger of a pesticide approach is that when a pesticide stops performing as expected, use of a new formulation is planned. What about environmental oversight of new formulations? Is that part of FEMA's oversight when granting monies for wildfire prevention projects? Does FEMA plan to leave oversight around product and formulation use to these agencies if FEMA should grant them public monies to fund their requests? Please see <http://pesticides.intown.biz/wildfire.html> for details of the other pesticides UC uses in the hills.

LOW DOSE and the NON-MONOTONIC DOSE RESPONSE

New formulations cannot be expected to be "less toxic", though that phrase also has absolutely no legal meaning, which may be why we have seen these agencies use such language trying to assuage the public throughout time as people have opposed pesticide use. In fact, pesticides can hit hardest in small, repeated, cumulative doses which build up in the body, and by the 'non-monotonic dose response'. The NMDR results in a larger response with less of a dose. This is the theory and basis of the practice of the healthcare modality, Homeopathy, practiced around the world; less can be more. Researchers long have described the cumulative effects of low doses of chemicals, which they consider more dangerous than the occasional major exposure in otherwise-healthy individuals. For more detail on low-dose chemical responses, please see <http://web72345.ntx.net/article/gulfwar.shtml>. Endocrine disruptors are one example of chemicals that cause a non-monotonic dose response (<http://citybelt.typepad.com/LowDownLowDoseEDs.PDF>). Or, as the body is secreting 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 fermentation in 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 in people (animal testing was not done to ascertain statistics on farm or domestic animals). 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 a 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 and a "pick up", for many caffeinated coffee has a physically relaxing effect while decaffeinated coffee, containing much less caffeine, gives them alertness and a burst of energy.

RESPONSE TIME AFTER EXPOSURE

In the case of pesticide applications, people might not have their primary reactions at the time of highest as the exposure tapers off, they can have even fatal responses. In the case of carbamate and

3

organophosphate pesticides, commonly people don't experience any significant response until 8-12 hours exposure, and responses to pesticides can last weeks to years, in the case of a response taking someone's peripheral body's ability to metabolize the toxins in question. Just as one person can metabolize a 6-pack of beer while another can be asleep, or otherwise affected, after a sip or two. We, and wildlife and pets, are individual beings which variously are damaged by pesticides, as is soil and vegetation. The medical establishment has not been taught to recognize even the most common symptoms of exposure to even the most commonly-found pesticides. Typically is not familiar with appropriate tests such as the cholinesterase test which looks for depressed level of the enzyme, seen with carbamate and organophosphate poisoning, but must be checked within a few hours to provide an accurate assessment. Thus, when people die of heart attacks or asthma attacks due to pesticide exposure, their death certificates give no indication of the part pesticides have played. This results in any epidemiological

health studies and data kept by the Department of Pesticide Regulation (DPR) and other agencies being s doesn't help statistical understanding that undocumented workers, many who do the dirty work of applyi which can kill them, are not going to be showing up in OSHA (Occupational Safety and Health Administ DPR's source for records on work-related pesticide poisonings, as DPR's staff scientist, Louise Mehler, t to us in the latter 90's.

UNETHICAL ASPECTS of RISK ASSESSMENT

Risk Assessment is the game played by the pesticide industry, busily trying to keep people from thinking critically about pesticide use. Risk Assessment, the methodology used by the chemical industry and authors of Environmental Impact Reports and Statements and seekers of any number of grants for projects including pesticide use, or the downing of trees, for instance, 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 healthcare workers and medical doctors 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 web from which one cannot be spot-removed without endangering the others. In fact, the USDA's Light Brown Apple Moth debacle has 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.

Environmental reviews should be based on the Precautionary Principle, which in a nutshell states "better safe than sorry", with a particular view toward 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.

INFORMATION and FACTS IGNORED

Shocking to many is how much information these agencies have been given for years about the dangers of the use of pesticides, and abundant alternatives, but also that their plans for, and execution already, of tree felling is actually a "native plant restoration" project, masked as a wildfire prevention project. Almost 6 years ago we were challenging the city of Oakland over what was very publicly being touted as a "native plant restoration" project alongside the more

4

formal 'wildfire prevention project' titling, pointing out the irony that, using pesticides in Sausal Creek or other hills areas would in fact serve to kill off the web of mycorrhizal fungi which nourish native plants and are an essential part of healthy soil which supports healthy vegetation. Pesticides damage immune systems of all biological beings. In spite of this fact, the city councilwoman, Jean Quan, and Friends of Sausal Creek, continued to push for pesticide use in the creek and on the 1,023 acres the city oversees in the hills, being actively pushed by UC's Tom Klatt and EBRPD's Nancy Brownfield, under whose tenure EBRPD has increased use of pesticides, even taking into consideration acreage added over the years.

ENDANGERED SPECIES in the HILLS

We countered that in fact there are endangered species in the hills, both animal and vegetation and that, pesticides would endanger them. Finally, the city attorney said to us, "Okay, you got us. This does fall under CEQA (the California Environmental Quality Act)." As we continued to attempt to follow up, to make sure plans were not continuing without formal environmental review, including more public, advertised hearings, we were stonewalled. No one contacted at city offices would talk. Later we discovered that apparently to do an end-run around our expose, the city quietly made an alliance with UC and has plowed ahead with plans to cut down healthy trees and use pesticides, in spite of the fact of

endangered species in the hills. While the endangered Pallid Manzanita, Alameda Whipsnake, Pallid Bat, and the Red-legged Frog all reside in the East Bay Hills we see no significant plans to protect them nor the raptors who depend on tall trees for their survival. Findings of 'no significant impact' abound in the EBRPD's EIR; yet it is scientifically-impossible for their plans to have 'no significant impact' when they plan to down between 500,000 and 1.2 million trees, then apply pesticides for the next 10 years. By virtue of the fact of this agency's arrogance in its statement that there would be 'no significant impact', we feel any assertion they make must be questioned and researched for facts. In light of this, their request for FEMA wildfire prevention grant funding should not be provided so that it is available for true emergency wildfire prevention work.

OAKLAND MISLEADS

Look at the city's website and you see talk of sustainability and environmental health, and the old pesticide industry line, "best management practices". The words 'pesticides' and 'herbicides' are nowhere to be seen. It would appear the city continues to try to pull the wool over people's eyes as in spite of having what the city attorney likes to call a 'ban' on pesticide use by the city, it uses herbicides citywide on medians, and in some parks, such as on the paths within a few feet of Children's Fairyland, and along narrow roads in the hills on Joaquin Miller Road, among others. In addition, subcontractors use pesticides without oversight by the city, as acknowledged to us by Noel Gallo early in 2005. This results in people not being able easily or accurately to track pesticide use in the city associated with city use as county agricultural records for the city's use do not reflect the subcontractors' use, and records for subcontractors do not have to specify as clearly what products they are using where and when, or in what amounts.

The Oakland city people behind plans to remove eucalyptus seem to miss the irony of the city Office of Parks and Recreation boasting 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 and creek areas and all around the Bay Area.

5

UC ACQUIRES MONEY FROM PESTICIDE COMPANIES

People would like to believe that a public university system will be devoted to seeking truth in science. UC has contracts with pesticide companies such as Novartis and Syngenta, Dow, Bayer, and Monsanto. Suffice it to say, UC is not objective; it receives masses of money directly and indirectly from pesticide companies so of course it will push pesticides. At the same time, UC has been clearcutting areas of the East Bay Hills and we have pointed out that the reason UC may have set its sights so aggressively on Claremont Canyon's trees is that to get rid of them now clears the way more easily for their Lawrence Berkeley Lab extensions to proceed without getting bogged down later in the EIR process around: trees. UC seems to have a stronghold over the city of Berkeley but it also is apparent that, that stronghold is acquiring breadth with passing time. Oakland has latched on, and a series of agencies with oversight of one area or another in the hills (eg, EBMUD and PG&E) seem to tag along fairly quietly with whatever UC asserts.

EBRPD DISAPPOINTS, CONFUSES, and IGNORES

EBRPD is expected to be acting in the public and environment's best interest in work it does in the region system and, indeed, its union employees sometimes have taken public stands in support of worker and vi: safety, such as their strong resolution opposing the Light Brown Apple Moth pesticides program. See res: <http://www.dontspraycalifornia.org/AFSCME%202428%20resolution.pdf>. Our experience with the union rangers throughout the park system is frustration, almost uniformly, with Nancy Brownfield, at the center controversy, who has a misleading title of "Integrated Pest Management Specialist". Ms. Brownfield has pesticide use, to the chagrin of many of the workers who understand that visitors, wildlife, vegetation, so are being endangered. They want money put into hiring more workers, not paying for chemicals.

To make matters worse, EBRPD has jumped headlong into the Spartina Project which uses pesticides in order to eradicate cordgrass in the Bay (brought in originally by the military). As would be expected, the state and listed California Clapper Rail population has significantly decreased. When reading minutes of the EBRPD September 7, 2010 meeting, one might want to assume that this is due simply to the removal of habitat. For insight into the chemicals the Rails are ingesting, inhaling, and absorbing, please see <http://pesticides.intown.biz/spartina.html>. You might note that Imazapyr is being used by UC in the hills; RoundUp is being used by EBRPD and Oakland. Still, the plan is to continue this pesticide use around the

WHAT IS NATIVE? WHO IS BEHIND 'INVASIVE SPECIES COUNCILS'?

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 such as the FEMA grants requested by these agencies, are 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, some of it ironically native and quite flammable as wildfire historically blazed through these hills bursting seedpods and covering them in what amounted to rich compost. These scare tactics could lead, therefore, to more fire danger in the future as threats continue to build due to mismanagement.

UC, EBRPD, and the city of Oakland have seemed fixated on getting rid of what they refer to as non-native plants. Invasion Biologists have differing scientific opinions on when species have

6

reached acclimation, at which point even trying to remove them can pose biological danger. 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.

David Theodoropoulos, an Invasion Biologist who is deeply 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.jhudsonseeds.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=543758534586424176>). The fire burnt out before igniting the trees in those areas. Just as we see with many trees in the neighborhood of the San Bruno PG&E gas pipeline explosion and resulting inferno. Many living trees surround burnt homes.

Where agencies mismanaged in the East Bay 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, the hills inferno flourished. But many eucalyptus trees acted as windbreaks that hot, windy day, and the moist, cool forest floor around these trees reduced the potential for ignition in some areas. What we see in photos of the 2003 Scripps Ranch fire in Southern California is classic; homes full of gas lines and gas appliances, and cars, exploded, completely surrounded by massive, unaffected eucalyptus trees. See photos: <http://graphics7.nytimes.com/images/2003/10/27/national/28fire.1.jpg> and: <http://www.scrippsrancho.org/special/Fire2003/Ward/MVC-002F.jpg>. The first shows a whole cul-de-sac of houses and cars exploded, completely surrounded by healthy eucalyptus, the second shows exploded cars and only a chimney of a house left (much like Broadway Terrace in '91), many healthy eucalyptus trees right there, unscathed.

WHO PROFITS IN THIS ATTACK ON "NON-NATIVES"?

The question is, who profits by manufacturing an emergency around getting rid of anything non-native? Pesticide companies, for one, and in the case of felling trees, there are many contracts to be written, much money changing hands already as consultants are sent in to do their studies and estimates, and years of work and money are assured if final decisions reflect taking down a million or more trees, some

of the lungs of the earth.

A history of mismanagement is no excuse for allowing further mismanagement, unleashing potent toxins upon us.

Landscape aesthetics are in the eye of the beholder and forcing nature into the aesthetic preferences of a few is at the expense of ecological health. Continued widespread removal of trees is leading to mudslides in the hills and whole sections of habitat. As important, pesticides used on and around the stumps remain in the area and innocent pedestrians or bicycle riders in some areas walk or ride through pesticide residues while inhaling (indoors, insecticides can take two weeks to stop floating around and begin to settle down onto furniture, stuffed animals and dishes—source: Designer Poisons, Marion Moses). People track them and spray them further as they walk, jog, or bike. Wildlife in

7

the area is exposed through inhalation, absorption and ingestion. One of our considerable concerns is that in the Bay Area we have immigrant populations from Asia who use plants found in the hills medicinally as well as for food (blackberry shoots being popular in some cuisines), and people practicing Western Herbalism frequently gather herbs in the hills. They can unwittingly be sickened ironically as they are gathering Horsetail to aid respiratory distress, or other herbs for other medicinal purposes.

This plan brings to mind the county of Alameda's plan to remove all the century-old Eucalypts along San Leandro Creek, in fact the only wild corridor for miles which links the flatlands and hills. As another story of deception has been revealed, tree by tree, parcel by parcel, we find that the purpose of the county's removal plans is, once again, according to the county's chief arborist, Jim Brown, a "native restoration project". The grand plan was to quickly clearcut three areas to provide the easiest access/removal areas and spend the next few years chopping down one tree after another, dragging them up the creek further to ruin remaining habitat, then nicely (maybe) replanting some trees. Among those considered by the county is willow, a fine choice if you want to end up with no water at all in the creek. Oh, yes, and pesticide use on the banks of the creek, too, though no one has yet revealed which products after months of requests. And when you read the fine print on their documents, you see that a primary "Reason for Action" to remove the trees again and again is listed as: Tree will require substantial on-going resources to evaluate and maintain.

Money, time, the hassle factor. Not that they don't have money. In fact, the county hired a "very expensive" (according to a county person) p.r. firm, the same one the state hired to push their Light Brown Apple Moth pesticides program, and an arborist who has created her own ranking system for tree danger, at odds with that used by many certified arborists. One has to wonder why the county would want to rely on a new system while the arborists with her company keep saying they can't guarantee anything. Not that we are expecting many guarantees when dealing with nature. But there are some guarantees in this situation in the hills and the SL creek: down trees and you lose oxygen and gain carbon, increasing the numbers of people who will be sickened. Change the environment so drastically by removing these trees and you will have a hotter environment, not able to support life which has acclimated over a century. Use pesticides and you will ruin soil and water health and endanger people, wildlife, pets and insects.

WHAT WOULD AN HONEST LOGGER SAY ABOUT THESE PLANS?

As the author of this writing was at work assembling notes for this response she contacted a gentleman who comes from a logging family from the Central Coast area to hear his response to the general plans by these agencies. His response was swift and clear. He pointed out that in spite of herbicides which might be used, stumps are open wounds, attractive to insects and more so as they degrade. They are prone to disease which then endangers the trees nearby left standing. He put it this way, thinking of

clearcutting and replants he's seen in the logging world, "In the infant stage replants are attacked by insects gathering at the open wounds of cut stumps. They are still weak in their infant stages, and more so if exposed to herbicides. Disease can spread easily in that environment, building on the stronghold on a stump. The secondary militia creates infection on many standing trees, a disease ward for any trees in the area." He went on to give more

8

perspective. "If there's 300 tree stumps in one area and 500 are nearby if there are infantile trees nearby many are likely to become diseased. What can happen to the rest of the forest of 2000 surrounding that area? What are the chances of survival?"

CARBON SEQUESTRATION; WHY SHOULD PEOPLE OPPOSED TO PESTICIDE USE CARE?

The East Bay is home to a population considered to have 16.3% already somewhere on the continuum of chemically-sensitive. Those of us with Multiple Chemical Sensitivity (MCS), or concerned about becoming victims of this debilitating chronic disease which can bring with it myriad life-threatening problems such as high blood sugar, high blood pressure, high cholesterol, heart problems, kidney disease, asthma, and hormonal disruption, are concerned about the massive carbon releases which come with felling trees such as old eucalyptus. These trees are lungs for us. They have taken in carbon and given us oxygen. We cannot lose this oxygen and on top of it face yet more carbon.

It is ironic to know that UCSF, home of an acclaimed medical school, is behind plans to remove all the eucalyptus from Mt. Sutro in San Francisco. We were busy assembling our response to UCSF's requests for a FEMA grant for what was being called a 'wildfire prevention project' but was actually another 'native plant restoration' project. Happily, before we could send in our response, we got the good news that FEMA had realized the grant request was not legitimate and refused to grant it this money to UCSF without an EIR. It is ironic that the home of a medical school is not willing to go through that health and environmental process, and instead intends to march ahead, funding the felling of trees itself. A foggy mountain in the city, providing so much needed oxygen, to be decimated by UCSF.

OUR RECOMMENDATIONS

We want FEMA to be clear that these agencies have had information in their hands for many years clarifying dangers of pesticides and offering multiple standard alternatives, easily applied with the funds available through various pools of tax monies in addition to the regular streams of funding for maintenance. They have failed in their most basic maintenance duties.

Too, we want FEMA to remember that there is no emergency here other than the lack of proper maintenance over decades by agencies with lack of competence or interest. That is no reason to grant emergency monies which need to be available for emergencies that arise unexpectedly. What's going on here is entirely predictable and reversible with common sense oversight. FEMA's wildfire prevention project granting stream should not be used to make up for incompetence if it will result in that incompetence being allowed to remain, and continue, resulting in future wildfire dangers being created.

These agencies have been expected by people living in the hills to do reasonable understory management, a standard expectation in an Urban-Wildland interface. They have failed to act reasonably, and sensibly, to safeguard people and now are ready to release massive amounts of carbon into the environment, completely change habitats in the hills, and try to create native plant nurseries in pesticide-laden soils. The irony is that they seem completely unaware that

9

many native plants which used to thrive in the East Bay Hills are highly flammable. Perhaps it's time to stop assuming that if something is called native it's preferable, and if it's called non-native it's bad.

Time to move beyond that severely limited thinking.

Our climate has changed drastically, quickly, and we cannot assume that pulling down a million eucalyptus, acacia, and monterey pine, and planting native plants, or waiting for vegetation to fill in, will mean we will end up with anything actually resembling the East Bay Hills of a century ago. And as one man said some time ago about 'native plant restoration' projects, "Looks a lot like gardening to me." An ongoing maintenance project, exactly what these agencies all seem to want to avoid: maintenance.

What do you teach a toddler if you give her sweets? Don't fill up on healthy foods; leave room for the sugar.

What do you teach these agencies if you give them these FEMA grants? Don't bother with the regular maintenance with which you are charged; let it go and you'll get the spoils.

These agencies' histories of action have violated at least two of the three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, in their not doing reasonable maintenance to create defensible space around homes, and their not limiting hazardous fuels, in fact increasing fuels by pesticing and leaving behind dried out vegetation, as described above.

East Bay Pesticide Alert asks that you deny UC; UCRPD; and Oakland the FEMA 'wildfire prevention project' grants they have requested based on the above points, and on the fact that these are 'native plant restoration' projects being masqueraded as 'wildfire prevention projects', an old game it seems we must keep exposing.

Thank you for your attention to this matter.

Sincerely,

Maxina Ventura
Chronic Effects Researcher
East Bay Pesticide Alert

EBH-EIS-FEMA-RIX

From: Max Ventura [beneficialbug@netzero.net]
Sent: Tuesday, September 28, 2010 1:03 AM
To: EBH-EIS-FEMA-RIX,
Subject: resubmitting corrected links comment for "public scoping" for EIS of FEMA grant applications
Attachments: EBPA, DSC, FEMA response, UC; EBRPD; Oak.doc
To Whom It May Concern:

I submitted our comments unfortunately having failed to check URL links first. We checked and found some broken links due to document name changes and in one case substituted an equally-important article from a scientific journal when one link failed and we could not find the original article in internet archives.

We are very sorry to inconvenience you in this way. Please accept the attached as the intended submission and please acknowledge receipt of this.

Thank you.

Sincerely,

Maxina Ventura
East Bay Pesticide Alert / Don't Spray California



To Whom It May Concern:

East Bay Pesticide Alert, also known as Don't Spray California, is taking this opportunity to respond jointly to FEMA grant requests from the University of California (UC); the East Bay Regional Park District (EBRPD); and the city of Oakland for what the agencies refer to as 'wildfire prevention projects' in the East Bay Hills. For nearly 6 years we actively have opposed these entities' attempts to continue various and related wildfire projects which often include the use of pesticides, and in the case of tree fellings which for these agencies is paired with pesticide use, cause increased fire danger to people, wildlife, structures. These plans violate at least two out of three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, "Wildfire Mitigation Policy for the HMGP and PDM Program".

PESTICIDES, TOXICITY, and FIRE DANGER DUE TO MISMANAGEMENT

UC, EBRPD, and the city of Oakland amply have demonstrated their wildfire prevention protocols in the past and have, in the EIR process of EBRPD quite recently, shown their intentions to continue what has caused fire danger in the hills. Each of these entities' practices, irregardless whether people support more tree fellings or pesticide use, routinely have included spraying pesticides and leaving dead vegetation throughout the hills, a clear fire danger adding to grossly mismanaged understories throughout the hills. These agencies each have acted in negligence, continuing practices which abetted the '91 fire. For this reason alone, they should not be granted FEMA wildfire prevention monies. They have demonstrated incompetence in the past and their future plans would jeopardize the health and wellbeing of people, pets, wildlife, insects, soil, and vegetation, as well as structures, a misuse of public funds. For a flammability study conducted in the East Bay, near Claremont Canyon, please see <http://pesticides.intown.biz/Cherie!%20Response.html>.

Perhaps an example of intention would be enlightening. The only specific general management practices mentioned in the EBRPD's Draft EIR were an inadequate requirement for notification signs, and reference to the size and smoothness of cut tree stumps. EBRPD appears to have no interest in serious notification which might allow people plans to avoid treated areas or better yet make arrangements to stay away from nearby homes for a time period, and seems to be more concerned about the potential for splinters from logged trees than about chemical poisoning from contact, drift, and other mobility of pesticides applied to and around the stumps and other vegetation, a subject they avoid. Please see <http://twinside.org.sg/title/service76.htm> on Denmark's ban on RoundUp because it was found in groundwater.

ALTERNATIVES to PESTICIDES

These agencies' plans are to cut trees and use pesticides. There is no safe use of pesticides. By nature they kill, cause genetic mutations, neurological problems, hormonal disruption and disfunction. They translocate and endanger water supplies. We offered them alternatives, most absolutely standard practices, focusing on fuel reduction by employing people who need jobs to do manual labor of understory removal without the use of chemicals. And in the case of any tree fellings, solarization of tree stumps, a standard practice relying on elementary school and backyard bulb gardeners' basic principles of starving plant life of the photosynthesis

process. No photosynthesis, no sugars to feed the plant (read: resprouts). A sheet of plastic stapled down is a standard practice, but it is possible to use a natural tar (as opposed to a petrochemically-derived product) instead. Alternatives to pesticides abound, as we made clear in 2005; yet, just days after our presentation, Tom Klatt of UC put out his 10 year plan for Strawberry Canyon and Claremont Canyon, which is enlightening. It says labor and chemicals are about \$100 per acre each of two times per year, expecting it to take 1-1/2 hours per acre. That's probably a crew of several working to apply pesticides (it's only the Licensed Pesticide Applicators overseeing spray projects who make huge salaries; people doing the dangerous work rarely make much above minimum wage). The \$4000 management for \$6716 in labor and \$1125 in chemicals for 45 acres for Claremont Canyon for 10 years may well be part of the Licensed Pesticide Applicator salary of \$125,000 common in 2005. So in the event of tree fellings, a crew going in with weed wrenches for baby trees or weed whackers for resprouts should be able to be paid if instead applying most or all of that "management" \$4000 for their wages, an assertion we have made all these years. Additionally, what is not outlined in Klatt's plan, nor in any of the agencies' project plans or grant requests is who covers the costs of lost productivity for those sickened by pesticide exposures, whether workers applying pesticides or otherwise working in the hills, residents, or visitors to the hills. Without such plans specified it appears that the burden is shifted to individuals, cities, or counties.

SCARE TACTICS

The issue we brought up in 2005 remains today; mismanagement. Even in the few cases of diseased trees which legitimately should be felled if they would be likely to fall in an area where people or homes would be damaged, after fellings these agencies could be cutting back resprouts, solarizing, or employing one of the many other alternatives we offered as examples. But the city of Oakland is a prime example of mismanagement creating fire danger. Eucalypts cut down in Montclair were left to resprout and in 2005, after this resprout museum had grown tall once more, but with multiple sprouts creating fire ladders everywhere, the city council woman who wanted to join in the hills pesticide use pushed by UC and EBRPD used these resprouts as an example to scare people. What scared us was the city's irresponsible behavior in cutting the trees in the first place if they didn't plan to cut them back after, or dig out the stumps. City representatives kept talking about the massive danger of that stand of resprouts but never bothered in that time period to have the sprouts cut back down.

TOXICOLOGICAL PROFILES OF PESTICIDES

In January of 2005, EBPA/ DSC handed representatives of each of these entities toxicology of the pesticides UC and EBRPD already were using, and pushing Oakland to use in the hills. We offered many quite standard alternatives to pesticide use while pointing out the danger to other species of removing Eucalyptus from the hills (Eucalyptus was the only tree being discussed at public hearings at that time). Please see <http://dontspraycalifornia.org/wpad.html> for more info on our opposition in that time period. Also, please see the toxicology of Monsanto's RoundUp (<http://www.alternatives2toxics.org/catsoldsite/round.htm>), the toxicology of glyphosate, the "active" ingredient of the product called RoundUp (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/glyphosate>), and that of Garlon's triclopyr (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/triclopyr>), at least the formulation used at that time. Formulations are changed routinely due to pesticide resistance. In fact, part of the danger of a pesticide approach is that when a pesticide stops performing as expected, use of a new formulation is planned.

What about environmental oversight of new formulations? Is that part of FEMA's oversight when granting

monies for wildfire prevention projects? Does FEMA plan to leave oversight around product and formulation use to these agencies if FEMA should grant them public monies to fund their requests? Please see <http://www.eastbaypesticidealert.org/wildfire.html> for details of the other pesticides UC uses in the hills.

LOW DOSE and the NON-MONOTONIC DOSE RESPONSE

New formulations cannot be expected to be "less toxic", though that phrase also has absolutely no legal meaning, which may be why we have seen these agencies use such language trying to assuage the public throughout time as people have opposed pesticide use. In fact, pesticides can hit hardest in small, repeated, cumulative doses which build up in the body, and by the 'non-monotonic dose response'. The NMDR results in a larger response with less of a dose. This is the theory and basis of the practice of the healthcare modality, Homeopathy, practiced around the world; less can be more. Researchers long have described the cumulative effects of low doses of chemicals, which they consider more dangerous than the occasional major exposure in otherwise-healthy individuals. For more detail on low-dose chemical responses, please see <http://web72345.nyx.net/article/gulfwar.shtml> or <http://toxsci.oxfordjournals.org/content/68/1/1.full>. Endocrine disruptors are one example of chemicals that cause a non-monotonic dose response. Or, as the body is secreting 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 fermentation in 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 in people (animal testing was not done to ascertain statistics on farm or domestic animals). 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 a 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 and a "pick up", for many caffeinated coffee has a physically relaxing effect while decaffeinated coffee, containing much less caffeine, gives them alertness and a burst of energy.

RESPONSE TIME AFTER EXPOSURE

In the case of pesticide applications, people might not have their primary reactions at the time of highest exposure but as the exposure tapers off, they can have even fatal responses. In the case of carbamate and organophosphate pesticides, commonly people don't experience any significant response until 8-12 hours after exposure, and responses to pesticides can last weeks to years, in the case of a response taking someone past a point of her/his body's ability to metabolize the toxins in question. Just as one person can metabolize a 6-pack of beer quickly, another can be asleep, or otherwise affected, after a sip or two. We, and wildlife and pets, are individual biological beings which variously are damaged by pesticides, as is soil and vegetation. The medical establishment has not been taught to recognize even the most common symptoms of exposure to even the most commonly-found pesticides, and typically is not familiar with appropriate tests such as the cholinesterase test which looks for depressed levels of this enzyme, seen with carbamate and organophosphate poisoning, but must be checked within a few hours of exposure to provide an accurate assessment. Thus, when people die of heart attacks or asthma attacks due to pesticide exposures, their death certificates give no indication of the part pesticides have played. This results in any epidemiological or other health studies and data kept by the Department of Pesticide Regulation (DPR) and other agencies being skewed. It doesn't help statistical understanding that undocumented workers, many who do the dirty work of applying chemicals which can kill them, are not going to be showing up in OSHA (Occupational Safety and Health Administration) files, DPR's source for records on work-related pesticide poisonings, as DPR's staff scientist, Louise Mehler, acknowledged to us in the latter 90's.

UNETHICAL ASPECTS of RISK ASSESSMENT

Risk Assessment is the game played by the pesticide industry, busily trying to keep people from thinking critically about pesticide use. Risk Assessment, the methodology used by the chemical industry and authors of Environmental Impact Reports and Statements and seekers of any number of grants for projects including pesticide use, or the downing of trees, for instance, 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 healthcare workers and medical doctors 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 web from which one cannot be spot-removed without endangering the others. In fact, the USDA's Light Brown Apple Moth debacle has 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.

Environmental reviews should be based on the Precautionary Principle, which in a nutshell states "better safe than sorry", with a particular view toward 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.

INFORMATION and FACTS IGNORED

Shocking to many is how much information these agencies have been given for years about the dangers of the use of pesticides, and abundant alternatives, but also that their plans for, and execution already, of tree felling is actually a "native plant restoration" project, masked as a wildfire prevention project. Almost 6 years ago we were challenging the city of Oakland over what was very publicly being touted as a "native plant restoration" project alongside the more formal 'wildfire prevention project' titling, pointing out the irony that, using pesticides in Sausal Creek or other hills areas would in fact serve to kill off the web of mycorrhizal fungi which nourish native plants and are an essential part of healthy soil which supports healthy vegetation. Pesticides damage immune systems of all biological beings. In spite of this fact, the city councilwoman, Jean Quan, and Friends of Sausal Creek, continued to push for pesticide use in the creek and on the 1,023 acres the city oversees in the hills, being actively pushed by UC's Tom Klatt and EBRPD's Nancy Brownfield, under whose tenure EBRPD has increased use of pesticides, even taking into consideration acreage added over the years.

ENDANGERED SPECIES in the HILLS

We countered that in fact there are endangered species in the hills, both animal and vegetation and that, pesticides would endanger them. Finally, the city attorney said to us, "Okay, you got us. This does fall under CEQA (the California Environmental Quality Act)." As we continued to attempt to follow up, to make sure plans were not continuing without formal environmental review, including more public, advertised hearings, we were stonewalled. No one contacted at city offices would talk. Later we discovered that apparently to do an end-run around our expose, the city quietly made an alliance with UC and has plowed ahead with plans to cut down healthy trees and use pesticides, in spite of the fact of endangered species in the hills. While the endangered Pallid Manzanita, Alameda Whipsnake, Pallid Bat, and the Red-legged Frog all reside in the East Bay Hills we see no significant plans to protect them nor the raptors who depend on tall trees for their survival. Findings of 'no significant impact' abound in the EBRPD's EIR; yet it is scientifically-impossible for their plans to have 'no significant impact' when they plan to down between 500,000 and 1.2 million trees, then apply pesticides for

the next 10 years. By virtue of the fact of this agency's arrogance in its statement that there would be 'no significant impact', we feel any assertion they make must be questioned and researched for facts. In light of this, their request for FEMA wildfire prevention grant funding should not be provided so that it is available for true emergency wildfire prevention work.

OAKLAND MISLEADS

Look at the city's website and you see talk of sustainability and environmental health, and the old pesticide industry line, "best management practices". The words 'pesticides' and 'herbicides' are nowhere to be seen. It would appear the city continues to try to pull the wool over people's eyes as in spite of having what the city attorney likes to call a 'ban' on pesticide use by the city, it uses herbicides citywide on medians, and in some parks, such as on the paths within a few feet of Children's Fairyland, and along narrow roads in the hills on Joaquin Miller Road, among others. In addition, subcontractors use pesticides without oversight by the city, as acknowledged to us by Noel Gallo early in 2005. This results in people not being able easily or accurately to track pesticide use in the city associated with city use as county agricultural records for the city's use do not reflect the subcontractors' use, and records for subcontractors do not have to specify as clearly what products they are using where and when, or in what amounts.

The Oakland city people behind plans to remove eucalyptus seem to miss the irony of the city Office of Parks and Recreation boasting 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 and creek areas and all around the Bay Area.

UC ACQUIRES MONEY FROM PESTICIDE COMPANIES

People would like to believe that a public university system will be devoted to seeking truth in science. UC has contracts with pesticide companies such as Novartis and Syngenta, Dow, Bayer, and Monsanto. Suffice it to say, UC is not objective; it receives masses of money directly and indirectly from pesticide companies so of course it will push pesticides. At the same time, UC has been clearcutting areas of the East Bay Hills and we have pointed out that the reason UC may have set its sights so aggressively on Claremont Canyon's trees is that to get rid of them now clears the way more easily for their Lawrence Berkeley Lab extensions to proceed without getting bogged down later in the EIR process around: trees. UC seems to have a stronghold over the city of Berkeley but it also is apparent that, that stronghold is acquiring breadth with passing time. Oakland has latched on, and a series of agencies with oversight of one area or another in the hills (eg. EBMUD and PG&E) seem to tag along fairly quietly with whatever UC asserts.

EBRPD DISAPPOINTS, CONFUSES, and IGNORES

EBRPD is expected to be acting in the public and environment's best interest in work it does in the regional park system and, indeed, its union employees sometimes have taken public stands in support of worker and visitor park safety, such as their strong resolution opposing the Light Brown Apple Moth pesticides program. See resolution: <http://www.dontspraycalifornia.org/AFSCME%202428%20resolution.pdf>. Our experience with the union and park rangers throughout the park system is frustration, almost uniformly, with Nancy Brownfield, at the center of controversy, who has a misleading title of "Integrated Pest Management Specialist". Ms. Brownfield has pushed pesticide use, to the chagrin of many of the workers who understand that visitors, wildlife, vegetation, soil, and they, are being endangered. They want money put into hiring more workers, not paying for chemicals.

To make matters worse, EBRPD has jumped headlong into the Spartina Project which uses pesticides in efforts to eradicate

cordgrass in the Bay (brought in originally by the military). As would be expected, the state and federally-listed California Clapper Rail population has significantly decreased. When reading minutes of the EBRPD's Board's September 7, 2010 meeting, one might want to assume that this is due simply to the removal of habitat. But for more insight into the chemicals the Rails are ingesting, inhaling, and absorbing, please see <http://www.eastbaypesticidealert.org/spartina.html>. You might note that Imazapyr is being used by UC in the hills and RoundUp is being used by EBRPD and Oakland. Still, the plan is to continue this pesticide use around the Bay.

WHAT IS NATIVE? WHO IS BEHIND 'INVASIVE SPECIES COUNCILS'?

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 such as the FEMA grants requested by these agencies, are 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, some of it ironically native and quite flammable as wildfire historically blazed through these hills bursting seedpods and covering them in what amounted to rich compost. These scare tactics could lead, therefore, to more fire danger in the future as threats continue to build due to mismanagement.

UC, EBRPD, and the city of Oakland have seemed fixated on 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. 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.

David Theodoropoulos, an Invasion Biologist who is deeply 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.jludsonseeds.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=543758534586424176>). The fire burnt out before igniting the trees in those areas. Just as we see with many trees in the neighborhood of the San Bruno PG&E gas pipeline explosion and resulting inferno. Many living trees surround burnt homes.

Where agencies mismanaged in the East Bay 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, the hills inferno flourished. But many eucalyptus trees acted as windbreaks that hot, windy day, and the moist, cool forest floor around these trees reduced the potential for ignition in some areas. What we see in photos of the 2003 Scripps Ranch fire in Southern California is classic; homes full of gas lines and gas appliances, and cars, exploded, completely surrounded by massive, unaffected eucalyptus trees. See photos: <http://graphics7.nytimes.com/images/2003/10/27/national/28fire.L.jpg> and: <http://www.scrippsrancho.org/special/Fire2003/Ward/MVC-0002F.jpg>. The first shows a whole cul-de-sac of houses and cars exploded, completely surrounded by healthy eucalyptus, the second shows exploded cars and only a chimney of a house left (much like Broadway Terrace in '91), many healthy eucalyptus trees right there, unscathed.

WHO PROFITS IN THIS ATTACK ON "NON-NATIVES"?

The question is, who profits by manufacturing an emergency around getting rid of anything non-native?

Pesticide companies, for one, and in the case of felling trees, there are many contracts to be written, much money changing hands already as consultants are sent in to do their studies and estimates, and years of work and money are assured if final decisions reflect taking down a million or more trees, some of the lungs of the earth.

A history of mismanagement is no excuse for allowing further mismanagement, unleashing potent toxins upon us.

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 mudslides in the hills, removing whole sections of habitat. As important, pesticides used on and around the stumps remain in the area and translocate. Innocent pedestrians or bicycle riders in some areas walk or ride through pesticide residues while inhaling residual drift (indoors, insecticides can take two weeks to stop floating around and begin to settle down onto furniture and floors, stuffed animals and dishes—source: Designer Poisons, Marion Moses). People track them and spray them around further as they walk, jog, or bike. Wildlife in the area is exposed through inhalation, absorption and ingestion. One of our considerable concerns is that in the Bay Area we have immigrant populations from Asia who use plants found in the hills medicinally as well as for food (blackberry shoots being popular in some cuisines), and people practicing Western Herbalism frequently gather herbs in the hills. They can unwittingly be sickened ironically as they are gathering Horsetail to aid respiratory distress, or other herbs for other medicinal purposes.

This plan brings to mind the county of Alameda's plan to remove all the century-old Eucalypts along San Leandro Creek, in fact the only wild corridor for miles which links the flatlands and hills. As another story of deception has been revealed, tree by tree, parcel by parcel, we find that the purpose of the county's removal plans is, once again, according to the county's chief arborist, Jim Brown, a "native restoration project". The grand plan was to quickly clearcut three areas to provide the easiest access/removal areas and spend the next few years chopping down one tree after another, dragging them up the creek further to ruin remaining habitat, then nicely (maybe) replanting some trees. Among those considered by the county is willow, a fine choice if you want to end up with no water at all in the creek. Oh, yes, and pesticide use on the banks of the creek, too, though no one has yet revealed which products after months of requests. And when you read the fine print on their documents, you see that a primary "Reason for Action" to remove the trees again and again is listed as: Tree will require substantial on-going resources to evaluate and maintain.

Money, time, the hassle factor. Not that they don't have money. In fact, the county hired a "very expensive" (according to a county person) p.r. firm, the same one the state hired to push their Light Brown Apple Moth pesticides program, and an arborist who has created her own ranking system for tree danger, at odds with that used by many certified arborists. One has to wonder why the county would want to rely on a new system while the arborists with her company keep saying they can't guarantee anything. Not that we are expecting many guarantees when dealing with nature. But there are some guarantees in this situation in the hills and the SL creek: down trees and you lose oxygen and gain carbon, increasing the numbers of people who will be sickened. Change the environment so drastically by removing these trees and you will have a hotter environment, not able to support life which has acclimated over a century. Use pesticides and you will ruin soil and water health and endanger people, wildlife, pets and insects.

WHAT WOULD AN HONEST LOGGER SAY ABOUT THESE PLANS?

As the author of this writing was at work assembling notes for this response she contacted a gentleman who

comes from a logging family from the Central Coast area to hear his response to the general plans by these agencies. His response was swift and clear. He pointed out that in spite of herbicides which might be used, stumps are open wounds, attractive to insects and more so as they degrade. They are prone to disease which then endangers the trees nearby left standing. He put it this way, thinking of clearcutting and replants he's seen in the logging world, "In the infant stage replants are attacked by insects gathering at the open wounds of cut stumps. They are still weak in their infant stages, and more so if exposed to herbicides. Disease can spread easily in that environment, building on the stronghold on a stump. The secondary militia creates infection on many standing trees, a disease ward for any trees in the area." He went on to give more perspective. "If there's 300 tree stumps in one area and 500 are nearby if there are infantile trees nearby many are likely to become diseased. What can happen to the rest of the forest of 2000 surrounding that area? What are the chances of survival?"

CARBON SEQUESTRATION; WHY SHOULD PEOPLE OPPOSED TO PESTICIDE USE CARE?

The East Bay is home to a population considered to have 16.3% already somewhere on the continuum of chemically-sensitive. Those of us with Multiple Chemical Sensitivity (MCS), or concerned about becoming victims of this debilitating chronic disease which can bring with it myriad life-threatening problems such as high blood sugar, high blood pressure, high cholesterol, heart problems, kidney disease, asthma, and hormonal disruption, are concerned about the massive carbon releases which come with felling trees such as old eucalyptus. These trees are lungs for us. They have taken in carbon and given us oxygen. We cannot lose this oxygen and on top of it face yet more carbon.

It is ironic to know that UCSF, home of an acclaimed medical school, is behind plans to remove all the eucalyptus from Mt. Sutro in San Francisco. We were busy assembling our response to UCSF's requests for a FEMA grant for what was being called a 'wildfire prevention project' but was actually another 'native plant restoration' project. Happily, before we could send in our response, we got the good news that FEMA had realized the grant request was not legitimate and refused to grant it this money to UCSF without an EIR. It is ironic that the home of a medical school is not willing to go through that health and environmental process, and instead intends to march ahead, funding the felling of trees itself. A foggy mountain in the city, providing so much needed oxygen, to be decimated by UCSF.

OUR RECOMMENDATIONS

We want FEMA to be clear that these agencies have had information in their hands for many years clarifying dangers of pesticides and offering multiple standard alternatives, easily applied with the funds available through various pools of tax monies in addition to the regular streams of funding for maintenance. They have failed in their most basic maintenance duties.

Too, we want FEMA to remember that there is no emergency here other than the lack of proper maintenance over decades by agencies with lack of competence or interest. That is no reason to grant emergency monies which need to be available for emergencies that arise unexpectedly. What's going on here is entirely predictable and reversible with common sense oversight. FEMA's wildfire prevention project granting stream should not be used to make up for incompetence if it will result in that incompetence being allowed to remain, and continue, resulting in future wildfire dangers being created.

These agencies have been expected by people living in the hills to do reasonable understory management, a standard expectation in an Urban-Wildland interface. They have failed to act reasonably, and sensibly, to

safeguard people and now are ready to release massive amounts of carbon into the environment, completely change habitats in the hills, and try to create native plant nurseries in pesticide-laden soils. The irony is that they seem completely unaware that many native plants which used to thrive in the East Bay Hills are highly flammable. Perhaps it's time to stop assuming that if something is called native it's preferable, and if it's called non-native it's bad. Time to move beyond that severely limited thinking.

Our climate has changed drastically, quickly, and we cannot assume that pulling down a million eucalyptus, acacia, and monterey pine, and planting native plants, or waiting for vegetation to fill in, will mean we will end up with anything actually resembling the East Bay Hills of a century ago. And as one man said some time ago about 'native plant restoration' projects, "Looks a lot like gardening to me." An ongoing maintenance project, exactly what these agencies all seem to want to avoid: maintenance.

What do you teach a toddler if you give her sweets? Don't fill up on healthy foods; leave room for the sugar.

What do you teach these agencies if you give them these FEMA grants? Don't bother with the regular maintenance with which you are charged; let it go and you'll get the spoils.

These agencies' histories of action have violated at least two of the three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, in their not doing reasonable maintenance to create defensible space around homes, and their not limiting hazardous fuels, in fact increasing fuels by pesticing and leaving behind dried out vegetation, as described above.

East Bay Pesticide Alert asks that you deny UC; UCRPD; and Oakland the FEMA 'wildfire prevention project' grants they have requested based on the above points, and on the fact that these are 'native plant restoration' projects being masqueraded as 'wildfire prevention projects', an old game it seems we must keep exposing.

Thank you for your attention to this matter.

Sincerely,

Maxina Ventura
Chronic Effects Researcher
East Bay Pesticide Alert

From: gary.molitor@gamil.com [gary.molitor@gamil.com]
Sent: Tuesday, September 28, 2010 3:30 PM
To: Lane Powell; EBRPD - Public Affairs
Subject: [Website feedback] Eucalyptus tree lies

Gary Molitor sent a message using the contact form at
<http://www.ebparks.org/contact>.

LIE # 1

* The oil in dry leaves slows their decomposition and ignites readily and explosively, ...

LIE # 2

* The bark and leaves of eucalyptus create thick flammable duff ...

LIE # 3

* Their height contributes to convenient fire spread and, when ignited, ...

LIE # 4

* Eucalyptus are called "widow makers" because of their limbs tendency to break easily ...

LIE # 5

* ... litter decays, creating an allelopathic effect that ...

LIE # 6

* Eucalyptus flowers are deep and filled with gum that clogs the beaks of the local short beaked birds ...

LIE # 7

* The trees create bird and butterfly sinks by giving them a false sense of security for nesting.

There is ample scientific evidence that none of these lies have even a faint hint of truth to them

EBH-EIS-FEMA-RIX

From: helen kozoriz [helenkozoriz@sbcglobal.net]
Sent: Wednesday, September 29, 2010 11:26 AM
To: EBH-EIS-FEMA-RIX,
Cc: helen kozoriz
Subject: FEMA Mitigation Policy MRR-2-08-1

To Whom It May Concern:

I would like to submit the following article published in the July 2010 Hills Conservation Network Newsletter as a comment on the Claremont Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-003), Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011), Oakland Regional Fuel Management Project (PDM-PJ-09-CA-2006-004) and the EBRPD Brushland Fuels Management Project (HGMP 1731-16-34).

Alternatives to pesticide use must be considered and studied before embarking on projects which will have significant cumulative impacts on public health, the environment and ecology of the East Bay for years to come. Because these projects, as presently described, involve the controversial use of harmful pesticides, I urge that FEMA not fund any of these projects.

Sincerely,

Helen M. Kozoriz
Stop the Spray Alameda County
1 Rydal Court
Oakland, California 94611
(510) 336-0499
helenkozoriz@sbcglobal.net

Pesticide Risks in the Environment

You may have heard about the recent public outcry over a proposal by California's Department of Pesticide Regulation (DPR) to register cancer-causing methyl iodide as a soil fumigant for strawberries and other crops.

The *New York Times* quoted John Froines, chair of the scientific review panel commissioned by DPR and professor of environmental health sciences at UCLA, as saying, "This is without question one of the most toxic chemicals on earth."

If methyl iodide is approved, farm workers will suffer increased risk of cancer; neighboring residents will be exposed to pesticide drift; and surface and ground water

will be contaminated by a hazardous chemical.

Every pesticide has risks involved in its use. The East Bay Regional Park District (EBRPD), UC Berkeley and the City of Oakland regularly apply pesticides to prevent eucalyptus stumps from resprouting and to kill broom and other types of unwanted vegetation.

According to its own most recent Integrated Pest Management (IPM) report available online, in 2008 the Park District used 191 gallons of pesticides (Garlon, Roundup, Surflan and Banvel; the total does not include diphacinone, a rodenticide). See: <http://www.ebparks.org/stewardship/ipm>

Triclopyr (the active ingredient in Garlon 4 Ultra) and glyphosate (the active ingredient in Roundup) are used on non-native vegetation. EBRPD's Wildfire Plan/EIR, recently certified by EBRPD's Board of Directors, will result in increased applications of triclopyr to eucalyptus stumps and more spraying of glyphosate on broom.

Caroline Cox, now research director at the Center for Environmental Health in Oakland, reported extensively on triclopyr and glyphosate when she was editor of the *Journal of Pesticide Reform*. She said, "Triclopyr's carcinogenicity has been studied in rats and mice. In both species, feeding of triclopyr significantly increased the frequency of breast cancer (mammary adenocarcinomas)." See: <http://www.pesticide.org/triclopyr.pdf>

Cox described three separate studies which show "a link between glyphosate exposure and non-Hodgkin's lymphoma, a type of cancer." In a fourth study, "the incidence of another cancer, multiple myeloma, showed a 'suggestive association' with glyphosate exposure." See: <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/glyphosate>

San Francisco's Department of the Environment classifies Garlon 4 Ultra as a "highest hazard" (Hazard Tier 1) pesticide in the "limited use, special concern" category. Roundup is listed as a Hazard Tier 2 pesticide; it is in the "limited use" category. See: <http://www.SFEnvironment.org/IPMchecklist>

According to the EPA, triclopyr is "very mobile" in soil and has the potential to leach to ground water. Glyphosate's persistence in soil varies widely, but drift is common. Both pesticides are known to contaminate rivers and streams; triclopyr has been found in drinking water in some places in the United States.

EPA currently does not require manufacturers to disclose so-called "inert" ingredients in commercial pesticide products, but tests reveal that some inerts are hazardous. See: <http://www.epa.gov/opprd001/inerts/>

What are the environmental impacts of pesticide applications in the East Bay hills? There is no doubt that triclopyr, applied to thousands of eucalyptus stumps, and glyphosate, sprayed on broom, may negatively impact the watershed and the health of humans and animals.

Pesticide use exposes workers, people of all ages, including children and pregnant women, pets, wildlife and the environment to harmful chemicals. Do we really need to use pesticides? This is what we want to know: How can projects that depend on pesticides claim to benefit the environment?

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EBH-EIS-FEMA-RIX

From: Gary Molitor [gary.molitor@gmail.com]
Sent: Wednesday, September 29, 2010 3:21 PM
To: EBH-EIS-FEMA-RIX,
Subject: East Bay/Berkeley Regional Fuel Management Project
Attachments: HMGP 731-16-34.pdf



HMGP
11-16-34.pdf (328 K)

See attachment..

Dear FEMA,

This email is to register my opposition to a possible FEMA grant for these applications:

The Claremont Canyon Vegetation Management Project (PDM-PJ-09 CA 2005-003)

And

The Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011)

And

The Oakland Regional Fuel Management Project (PDM PJ-09-CA-2006-004)

These projects are designed to remove *only* eucalyptus, Monterey pine, and acacia trees. It should be obvious that by singling out eucalyptus, Monterey pine, and acacia trees that these projects are an attempt by the native plant proponents to eradicate non-native trees and not about potential fire hazard management.

There is no scientific evidence that the removal of these trees will limit the fire danger and may potentially increase the fire danger as we all saw in the 2008 Angel Island fire. This fire was a result of the removal of 80% of the eucalyptus trees from the island by the State Park Service. That 2008 fire was the worse fire ever recorded on the island.

If eucalyptus trees are so flammable please explain why all the homes burned in the Scripps Ranch Fire and none of the Blue Gum Eucalyptus trees where burned (see photograph below). Actually, contrary to the opinions of the misinformed, Blue Gum Eucalyptus trees are fire resistant. Their branches are far enough off the ground to prevent fire-laddering.



I have lived in the Bay Area Most of my 70 years. As a kid growing up in San Leandro and before the East Bay hills were covered over with housing I can remember the Oak savanna hills erupting in fire almost yearly.

The only effective way to reduce fuel load is through brush removal, limbing, trimming, mowing and grazing.

I also oppose FEMA grant funding of the
Brushland Fuels Management Project (HMGP 731-16-34)

The East Bay Regional Park District has been disingenuous in its supporting propaganda for this ill conceived project.

Here from the first page of their pamphlet, "Problems caused by Eucalyptus Trees" are the lies they have propagated.

LIE # 1

- The oil in dry leaves slows their decomposition and ignites readily and explosively,...

LIE # 2

- The bark and leaves of eucalyptus create thick flammable duff ...

LIE # 3

- Their height contributes to convenient fire spread and, when ignited, ...

LIE # 4

- Eucalyptus are called "widow makers" because of their limbs tendency to break easily ...

LIE # 5

- ... litter decays, creating an allelopathic effect that ...

LIE # 6

- Eucalyptus flowers are deep and filled with gum that clogs the beaks of the local short beaked birds ...

LIE # 7

- The trees create bird and butterfly sinks by giving them a false sense of security for nesting.

There is ample scientific evidence that none of these lies have even a faint hint of truth to them

The proposed EBRPD project will greatly increase the use of Garlon 4 Ultra (triclopyr) to spray these areas to control unwanted vegetation. This poisonous chemical has been classified by the San Francisco's Dept. of the Environment as a high hazard pesticide with the label of "limited use, special concern" and the EPA describes it as "very mobile in soil" with "the potential to leach to ground water."

Is FEMA really in the business of supporting the destruction a naturalized environment in the name of native species only "restoration?" I hope not.

Sincerely,
Gary Molitor
San Leandro, CA

EBH-EIS-FEMA-RIX

From: Tomiko Eya [hana_ko77777@yahoo.com]
Sent: Wednesday, September 29, 2010 10:57 PM
To: EBH-EIS-FEMA-RIX,
Subject: EISCA Autogenerated Email

I support Alternative 1, to approve the applications for financial assistance as submitted by California Emergency Management Agency. It is imperative for hazardous fire risk reduction to remove the highly flammable eucalyptus, Monterey pine, and acacia trees, and brush, and thin vegetation in the targeted areas.

EBH-EIS-FEMA-RIX

From: Max Ventura [beneficialbug@netzero.net]
Sent: Thursday, September 30, 2010 1:08 AM
To: EBH-EIS-FEMA-RIX,
Subject: Resubmitting FEMA grant opposition, URL's may not open in comments recently submitted
Attachments: EBPA,DSC FEMA, UC, EBRPD,Oak 2.doc
 To Whom It May Concern:

Once again, I am submitting East Bay Pesticide Alert's comments as a colleague was not able to open links and wondered whether this was related to them being red in the document.

Since I am about to go out of town I will simply try again with the links in the typical blue color and hope these work. Please alert me if they do not and when I return Sunday I will see what can be done to remedy this problem.

I will paste in the document as well as attaching it.

Sincerely,

Maxina Ventura
 Chronic Effects Researcher
 EBPA



To Whom It May Concern:

East Bay Pesticide Alert, also known as Don't Spray California, is taking this opportunity to respond to FEMA grant requests from the University of California (UC); the East Bay Regional Park District and the city of Oakland for what the agencies refer to as 'wildfire prevention projects' in the East Bay. For nearly 6 years we actively have opposed these entities' attempts to continue various and related projects which often include the use of pesticides, and in the case of tree fellings which for these projects paired with pesticide use, cause increased fire danger to people, wildlife, structures. These plans violate two out of three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, "Wildfire Mitigation for the HMGP and PDM Program".

PESTICIDES, TOXICITY, and FIRE DANGER DUE TO MISMANAGEMENT

UC, EBRPD, and the city of Oakland amply have demonstrated their wildfire prevention protocols in the past and have, in the EIR process of EBRPD quite recently, shown their intentions to continue what has caused fire danger in the hills. Each of these entities' practices, irregardless whether people support more tree fellings or pesticide use, routinely have included spraying pesticides and leaving dead vegetation throughout the hills, a clear fire danger adding to grossly mismanaged understories throughout the hills. These agencies each have acted in

negligence, continuing practices which abetted the '91 fire. For this reason alone, they should not be granted FEMA wildfire prevention monies. They have demonstrated incompetence in the past and their future plans would jeopardize the health and wellbeing of people, pets, wildlife, insects, soil, and vegetation, as well as structures, a misuse of public funds. For a flammability study conducted in the East Bay, near Claremont Canyon, please see <http://pesticides.intown.biz/Cherie1%20Response.html>.

Perhaps an example of intention would be enlightening. The only specific general management practices mentioned in the EBRPD's Draft EIR were an inadequate requirement for notification signs, and reference to the size and smoothness of cut tree stumps. EBRPD appears to have no interest in serious notification which might allow people plans to avoid treated areas or better yet make arrangements to stay away from nearby homes for a time period, and seems to be more concerned about the potential for splinters from logged trees than about chemical poisoning from contact, drift, and other mobility of pesticides applied to and around the stumps and other vegetation, a subject they avoid. Please see <http://twinside.org.sg/title/service76.htm> on Denmark's ban on RoundUp because it was found in groundwater.

ALTERNATIVES to PESTICIDES

These agencies' plans are to cut trees and use pesticides. There is no safe use of pesticides. By nature they kill, cause genetic mutations, neurological problems, hormonal disruption and disfunction. They translocate and endanger water supplies. We offered them alternatives, most absolutely standard practices, focusing on fuel reduction by employing people who need jobs to do manual labor of understory removal without the use of chemicals. And in the case of any tree fellings, solarization of tree stumps, a standard practice relying on elementary school and backyard bulb gardeners' basic principles of starving plant life of the photosynthesis process. No photosynthesis, no sugars to feed the plant (read: resprouts). A sheet of plastic stapled down is a standard practice, but it is possible to use a natural tar (as opposed to a petrochemically-derived product) instead. Alternatives to pesticides abound, as we made clear in 2005; yet, just days after our presentation, Tom Klatt of UC put out his 10 year plan for Strawberry Canyon and Claremont Canyon, which is enlightening. It says labor and chemicals are about \$100 per acre each of two times per year, expecting it to take 1-1/2 hours per acre. That's probably a crew of several working to apply pesticides (it's only the Licensed Pesticide Applicators overseeing spray projects who make huge salaries; people doing the dangerous work rarely make much above minimum wage). The \$4000 management for \$6716 in labor and \$1125 in chemicals for 45 acres for Claremont Canyon for 10 years may well be part of the Licensed Pesticide Applicator salary of \$125,000 common in 2005. So in the event of tree fellings, a crew going in with weed wrenches for baby trees or weed whackers for resprouts should be able to be paid if instead applying most or all of that "management" \$4000 for their wages, an assertion we have made all these years. Additionally, what is not outlined in Klatt's plan, nor in any of the agencies' project plans or grant requests is who covers the costs of lost productivity for those sickened by pesticide exposures, whether workers applying pesticides or otherwise working in the hills, residents, or visitors to the hills. Without such plans specified it appears that the burden is shifted to individuals, cities, or counties.

SCARE TACTICS

The issue we brought up in 2005 remains today; mismanagement. Even in the few cases of diseased trees which legitimately should be felled if they would be likely to fall in an area where people or homes would be damaged, after fellings these agencies could be cutting back resprouts, solarizing, or employing one of the many other alternatives we offered as examples. But the city of Oakland is a prime example of mismanagement creating fire danger. Eucalypts cut down in Montclair were left to resprout and in 2005, after this resprout museum had grown tall once more, but with multiple sprouts creating fire ladders everywhere, the city council woman who wanted to join in the hills pesticide use pushed by UC and EBRPD used these resprouts as an example to scare people. What scared us was the city's irresponsible behavior in cutting the trees in the first place if they didn't plan to cut them back after, or

dig out the stumps. City representatives kept talking about the massive danger of that stand of resprouts but never bothered in that time period to have the sprouts cut back down.

TOXICOLOGICAL PROFILES OF PESTICIDES

In January of 2005, EBPA/ DSC handed representatives of each of these entities toxicology of the pesticides UC and EBRPD already were using, and pushing Oakland to use in the hills. We offered many quite standard alternatives to pesticide use while pointing out the danger to other species of removing Eucalyptus from the hills (Eucalyptus was the only tree being discussed at public hearings at that time). Please see <http://dontspraycalifornia.org/wpad.html> for more info on our opposition in that time period. Also, please see the toxicology of Monsanto's RoundUp (<http://www.alternatives2toxics.org/consolidate/round.htm>), the toxicology of glyphosate, the "active" ingredient of the product called RoundUp (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/glyphosate>), and that of Garlon's triclopyr (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/triclopyr>), at least the formulation used at that time. Formulations are changed routinely due to pesticide resistance. In fact, part of the danger of a pesticide approach is that when a pesticide stops performing as expected, use of a new formulation is planned.

What about environmental oversight of new formulations? Is that part of FEMA's oversight when granting

2

monies for wildfire prevention projects? Does FEMA plan to leave oversight around product and formulation use to these agencies if FEMA should grant them public monies to fund their requests? Please see <http://www.eastbaypesticidealert.org/wildfire.html> for details of the other pesticides UC uses in the hills.

LOW DOSE and the NON-MONOTONIC DOSE RESPONSE

New formulations cannot be expected to be "less toxic", though that phrase also has absolutely no legal meaning, which may be why we have seen these agencies use such language trying to assuage the public throughout time as people have opposed pesticide use. In fact, pesticides can hit hardest in small, repeated, cumulative doses which build up in the body, and by the 'non-monotonic dose response'. The NMDR results in a larger response with less of a dose. This is the theory and basis of the practice of the healthcare modality, Homeopathy, practiced around the world; less can be more. Researchers long have described the cumulative effects of low doses of chemicals, which they consider more dangerous than the occasional major exposure in otherwise-healthy individuals. For more detail on low-dose chemical responses, please see <http://web72345.nix.net/article/gulfwar.shtml> or <http://toxsci.oxfordjournals.org/content/68/1/1.full>. Endocrine disruptors are one example of chemicals that cause a non-monotonic dose response. Or, as the body is secreting 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 fermentation in 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 in people (animal testing was not done to ascertain statistics on farm or domestic animals). 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 a 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 and a "pick up", for many caffeinated coffee has a physically relaxing effect while decaffeinated coffee, containing much less caffeine, gives them alertness and a burst of energy.

RESPONSE TIME AFTER EXPOSURE

In the case of pesticide applications, people might not have their primary reactions at the time of highest

as the exposure tapers off, they can have even fatal responses. In the case of carbamate and organophosphate pesticides, commonly people don't experience any significant response until 8-12 hours exposure, and responses to pesticides can last weeks to years, in the case of a response taking someone's body's ability to metabolize the toxins in question. Just as one person can metabolize a 6-pack of beer, another can be asleep, or otherwise affected, after a sip or two. We, and wildlife and pets, are individual beings which variously are damaged by pesticides, as is soil and vegetation. The medical establishment has not been taught to recognize even the most common symptoms of exposure to even the most commonly-found pesticides. The medical establishment typically is not familiar with appropriate tests such as the cholinesterase test which looks for depressed levels of the enzyme, seen with carbamate and organophosphate poisoning, but must be checked within a few hours or provide an accurate assessment. Thus, when people die of heart attacks or asthma attacks due to pesticide exposure, their death certificates give no indication of the part pesticides have played. This results in any epidemiological health studies and data kept by the Department of Pesticide Regulation (DPR) and other agencies being skewed, which doesn't help statistical understanding that undocumented workers, many who do the dirty work of applying pesticides which can kill them, are not going to be showing up in OSHA (Occupational Safety and Health Administration) records. DPR's source for records on work-related pesticide poisonings, as DPR's staff scientist, Louise Mehler, told me in the latter 90's.

3

UNETHICAL ASPECTS of RISK ASSESSMENT

Risk Assessment is the game played by the pesticide industry, busily trying to keep people from thinking critically about pesticide use. Risk Assessment, the methodology used by the chemical industry and authors of Environmental Impact Reports and Statements and seekers of any number of grants for projects including pesticide use, or the downing of trees, for instance, 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 healthcare workers and medical doctors 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 web from which one cannot be spot-removed without endangering the others. In fact, the USDA's Light Brown Apple Moth debacle has 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.

Environmental reviews should be based on the Precautionary Principle, which in a nutshell states "better safe than sorry", with a particular view toward 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.

INFORMATION and FACTS IGNORED

Shocking to many is how much information these agencies have been given for years about the dangers of the use of pesticides, and abundant alternatives, but also that their plans for, and execution already, of tree felling is actually a "native plant restoration" project, masked as a wildfire prevention project. Almost 6 years ago we were challenging the city of Oakland over what was very publicly being touted as a "native plant restoration" project alongside the more formal 'wildfire prevention project' titling, pointing out the irony that, using pesticides in Sausal Creek or other hills areas would in fact serve to kill off the web of mycorrhizal fungi which nourish native plants and are an essential part of healthy soil which supports healthy vegetation. Pesticides damage immune systems of all biological beings. In spite of this fact, the city councilwoman, Jean Quan, and Friends of Sausal Creek, continued to push for pesticide use in the creek and on the 1,023 acres the city oversees in the hills, being actively pushed by

UC's Tom Klatt and EBRPD's Nancy Brownfield, under whose tenure EBRPD has increased use of pesticides, even taking into consideration acreage added over the years.

ENDANGERED SPECIES in the HILLS

We countered that in fact there are endangered species in the hills, both animal and vegetation and that, pesticides would endanger them. Finally, the city attorney said to us, "Okay, you got us. This does fall under CEQA (the California Environmental Quality Act)." As we continued to attempt to follow up, to make sure plans were not continuing without formal environmental review, including more public, advertised hearings, we were stonewalled. No one contacted at city offices would talk. Later we discovered that apparently to do an end-run around our expose, the city quietly made an alliance with UC and has plowed ahead with plans to cut down healthy trees and use pesticides, in spite of the fact of endangered species in the hills. While the endangered Pallid Manzanita, Alameda Whipsnake, Pallid Bat, and the Red-legged Frog all reside in the East Bay Hills we see no significant plans to protect them nor the raptors who depend on tall trees for their survival. Findings of 'no significant impact' abound in the EBRPD's EIR; yet it is scientifically-impossible for their plans to have 'no significant impact' when they plan to down between 500,000 and 1.2 million trees, then apply pesticides for

4

the next 10 years. By virtue of the fact of this agency's arrogance in its statement that there would be 'no significant impact', we feel any assertion they make must be questioned and researched for facts. In light of this, their request for FEMA wildfire prevention grant funding should not be provided so that it is available for true emergency wildfire prevention work.

OAKLAND MISLEADS

Look at the city's website and you see talk of sustainability and environmental health, and the old pesticide industry line, "best management practices". The words 'pesticides' and 'herbicides' are nowhere to be seen. It would appear the city continues to try to pull the wool over people's eyes as in spite of having what the city attorney likes to call a 'ban' on pesticide use by the city, it uses herbicides citywide on medians, and in some parks, such as on the paths within a few feet of Children's Fairyland, and along narrow roads in the hills on Joaquin Miller Road, among others. In addition, subcontractors use pesticides without oversight by the city, as acknowledged to us by Noel Gallo early in 2005. This results in people not being able easily or accurately to track pesticide use in the city associated with city use as county agricultural records for the city's use do not reflect the subcontractors' use, and records for subcontractors do not have to specify as clearly what products they are using where and when, or in what amounts.

The Oakland city people behind plans to remove eucalyptus seem to miss the irony of the city Office of Parks and Recreation boasting 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 and creek areas and all around the Bay Area.

UC ACQUIRES MONEY FROM PESTICIDE COMPANIES

People would like to believe that a public university system will be devoted to seeking truth in science. UC has contracts with pesticide companies such as Novartis and Syngenta, Dow, Bayer, and Monsanto. Suffice it to say, UC is not objective; it receives masses of money directly and indirectly from pesticide companies so of course it will push pesticides. At the same time, UC has been clearcutting areas of the East Bay Hills and we have pointed out that the reason UC may have set its sights so aggressively on Claremont Canyon's trees is that to get rid of them now clears the way more easily for their Lawrence Berkeley Lab extensions to proceed without getting bogged down later in the EIR process around: trees. UC seems to have a stronghold over the city of Berkeley but it also is apparent that, that stronghold is acquiring breadth with passing time. Oakland has latched on, and a series of agencies with oversight of one area or another in the hills (eg. EBMUD and PG&E) seem to tag along fairly quietly with whatever

UC asserts,

EBRPD DISAPPOINTS, CONFUSES, and IGNORES

EBRPD is expected to be acting in the public and environment's best interest in work it does in the region system and, indeed, its union employees sometimes have taken public stands in support of worker and vi safety, such as their strong resolution opposing the Light Brown Apple Moth pesticides program. See res <http://www.dontspraycalifornia.org/ATSC/MF%202428%20resolution.pdf>. Our experience with the unio rangers throughout the park system is frustration, almost uniformly, with Nancy Brownfield, at the center controversy, who has a misleading title of "Integrated Pest Management Specialist". Ms. Brownfield has pesticide use, to the chagrin of many of the workers who understand that visitors, wildlife, vegetation, so are being endangered. They want money put into hiring more workers, not paying for chemicals.

To make matters worse, EBRPD has jumped headlong into the Spartina Project which uses pesticides in eradicate

5

cordgrass in the Bay (brought in originally by the military). As would be expected, the state and federally California Clapper Rail population has significantly decreased. When reading minutes of the EBRPD's B September 7, 2010 meeting, one might want to assume that this is due simply to the removal of habitat. E insight into the chemicals the Rails are ingesting, inhaling, and absorbing, please see

<http://www.eastbaypesticidealert.org/spartina.html>. You might note that Imazapyr is being used by UC and RoundUp is being used by EBRPD and Oakland. Still, the plan is to continue this pesticide use arou

WHAT IS NATIVE? WHO IS BEHIND 'INVASIVE SPECIES COUNCILS'?

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 such as the FEMA grants requested by these agencies, are 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, some of it ironically native and quite flammable as wildfire historically blazed through these hills bursting seedpods and covering them in what amounted to rich compost. These scare tactics could lead, therefore, to more fire danger in the future as threats continue to build due to mismanagement.

UC, EBRPD, and the city of Oakland have seemed fixated on 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. 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.

David Theodoropoulos, an Invasion Biologist who is deeply 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.jludonseeds.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=543758534586424176>). The fire burnt out before igniting the trees in those areas. Just as we see with many trees in the neighborhood of the San Bruno PG&E gas pipeline explosion and resulting inferno. Many living trees surround burnt homes.

Where agencies mismanaged in the East Bay 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, the hills inferno flourished. But many eucalyptus trees acted as windbreaks that hot, windy day, and the moist, cool forest floor around these trees reduced the potential for ignition in some areas. What we see in

photos of the 2003 Scripps Ranch fire in Southern California is classic; homes full of gas lines and gas appliances, and cars, exploded, completely surrounded by massive, unaffected eucalyptus trees. See photos: <http://graphics7.nytimes.com/images/2003/10/27/national/28fire.1.jpg> and: <http://www.scrippsranh.org/special/Fire2003/Ward/MVC-002F.jpg>. The first shows a whole cul-de-sac of houses and cars exploded, completely surrounded by healthy eucalyptus, the second shows exploded cars and only a chimney of a house left (much like Broadway Terrace in '91), many healthy eucalyptus trees right there, unscathed.

WHO PROFITS IN THIS ATTACK ON “NON-NATIVES”?

The question is, who profits by manufacturing an emergency around getting rid of anything non-native?

6

Pesticide companies, for one, and in the case of felling trees, there are many contracts to be written, much money changing hands already as consultants are sent in to do their studies and estimates, and years of work and money are assured if final decisions reflect taking down a million or more trees, some of the lungs of the earth.

A history of mismanagement is no excuse for allowing further mismanagement, unleashing potent toxins upon us.

Landscape aesthetics are in the eye of the beholder and forcing nature into the aesthetic preferences of a few at the expense of ecological health. Continued widespread removal of trees is leading to mudslides in the hills and whole sections of habitat. As important, pesticides used on and around the stumps remain in the area and innocent pedestrians or bicycle riders in some areas walk or ride through pesticide residues while inhaling (indoors, insecticides can take two weeks to stop floating around and begin to settle down onto furniture, stuffed animals and dishes—source: Designer Poisons, Marion Moses, MD). People track them and spray further as they walk, jog, or bike. Wildlife in the area is exposed through inhalation, absorption and ingestion. One of our considerable concerns is that in the Bay Area we have immigrant populations from Asia who use the hills medicinally as well as for food (blackberry shoots being popular in some cuisines), and people practicing Western Herbalism frequently gather herbs in the hills. They can unwittingly be sickened ironically as they gather Horsetail to aid respiratory distress, or other herbs for other medicinal purposes.

This plan brings to mind the county of Alameda's plan to remove all the century-old Eucalypts along San Leandro Creek, in fact the only wild corridor for miles which links the flatlands and hills. As another story of deception has been revealed, tree by tree, parcel by parcel, we find that the purpose of the county's removal plans is, once again, according to the county's chief arborist, Jim Brown, a “native restoration project”. The grand plan was to quickly clearcut three areas to provide the easiest access/removal areas and spend the next few years chopping down one tree after another, dragging them up the creek further to ruin remaining habitat, then nicely (maybe) replanting some trees. Among those considered by the county is willow, a fine choice if you want to end up with no water at all in the creek. Oh, yes, and pesticide use on the banks of the creek, too, though no one has yet revealed which products after months of requests. And when you read the fine print on their documents, you see that a primary “Reason for Action” to remove the trees again and again is listed as: Tree will require substantial ongoing resources to evaluate and maintain.

Money, time, the hassle factor. Not that they don't have money. In fact, the county hired a “very expensive” (according to a county person) private firm, the same one the state hired to push their Light Brown Apple Moth pesticides program, and an arborist who has created her own ranking system for tree danger, at odds with that used by many certified arborists. One has to wonder why the county would want to rely on a new system while the arborists with her company keep saying they can't guarantee anything. Not that we are expecting many guarantees when dealing with nature. But there are some guarantees in this situation in the hills and the SL creek: down trees and you lose oxygen and gain

carbon, increasing the numbers of people who will be sickened. Change the environment so drastically by removing these trees and you will have a hotter environment, not able to support life which has acclimated over a century. Use pesticides and you will ruin soil and water health and endanger people, wildlife, pets and insects.

WHAT WOULD AN HONEST LOGGER SAY ABOUT THESE PLANS?

As the author of this writing was at work assembling notes for this response she contacted a gentleman who

7

comes from a logging family from the Central Coast area to hear his response to the general plans by these agencies. His response was swift and clear. He pointed out that in spite of herbicides which might be used, stumps are open wounds, attractive to insects and more so as they degrade. They are prone to disease which then endangers the trees nearby left standing. He put it this way, thinking of clearcutting and replants he's seen in the logging world, "In the infant stage replants are attacked by insects gathering at the open wounds of cut stumps. They are still weak in their infant stages, and more so if exposed to herbicides. Disease can spread easily in that environment, building on the stronghold on a stump. The secondary militia creates infection on many standing trees, a disease ward for any trees in the area." He went on to give more perspective. "If there's 300 tree stumps in one area and 500 are nearby, if there are infantile trees nearby many are likely to become diseased. What can happen to the rest of the forest of 2000 surrounding that area? What are the chances of survival?"

CARBON SEQUESTRATION; WHY SHOULD PEOPLE OPPOSED TO PESTICIDE USE CARE?

The East Bay is home to a population considered to have 16.3% already somewhere on the continuum of chemically-sensitive. Those of us with Multiple Chemical Sensitivity (MCS), or concerned about becoming victims of this debilitating chronic disease which can bring with it myriad life-threatening problems such as high blood sugar, high blood pressure, high cholesterol, heart problems, kidney disease, asthma, and hormonal disruption and dysfunction, are concerned about the massive carbon releases which come with felling trees such as old eucalyptus. These trees are lungs for us. They have taken in carbon and given us oxygen. We cannot lose this oxygen and on top of it face yet more carbon.

It is ironic to know that UCSF, home of an acclaimed medical school, is behind plans to remove all the eucalyptus from Mt. Sutro in San Francisco. We were busy assembling our response to UCSF's requests for a FEMA grant for what was being called a 'wildfire prevention project' but was actually another 'native plant restoration' project. Happily, before we could send in our response, we got the good news that FEMA had realized the grant request was not legitimate and refused to grant it this money to UCSF without an EIR. It is ironic that the home of a medical school is not willing to go through that health and environmental process, and instead intends to march ahead, funding the felling of trees itself. A foggy mountain in the city, providing so much needed oxygen, to be decimated by UCSF.

OUR RECOMMENDATIONS

We want FEMA to be clear that these agencies have had information in their hands for many years clarifying dangers of pesticides and offering multiple standard alternatives, easily applied with the funds available through various pools of tax monies in addition to the regular streams of funding for maintenance. They have failed in their most basic maintenance duties.

Too, we want FEMA to remember that there is no emergency here other than the lack of proper maintenance over decades by agencies with lack of competence or interest. That is no reason to grant emergency monies which need to be available for emergencies that arise unexpectedly. What's going on here is entirely predictable and reversible with common sense oversight. FEMA's wildfire prevention

project granting stream should not be used to make up for incompetence if it will result in that incompetence being allowed to remain, and continue, resulting in future wildfire dangers being created.

These agencies have been expected by people living in the hills to do reasonable understory management, a standard expectation in an Urban-Wildland interface. They have failed to act reasonably, and sensibly, to

8

safeguard people and now are ready to release massive amounts of carbon into the environment, completely change habitats in the hills, and try to create native plant nurseries in pesticide-laden soils. The irony is that they seem completely unaware that many native plants which used to thrive in the East Bay Hills are highly flammable. Perhaps it's time to stop assuming that if something is called native it's preferable, and if it's called non-native it's bad. Time to move beyond that severely limited thinking.

Our climate has changed drastically, quickly, and we cannot assume that pulling down a million eucalyptus, acacia, and monterey pine, and planting native plants, or waiting for vegetation to fill in, will mean we will end up with anything actually resembling the East Bay Hills of a century ago. And as one man said some time ago about 'native plant restoration' projects, "Looks a lot like gardening to me." An ongoing maintenance project, exactly what these agencies all seem to want to avoid; maintenance.

What do you teach a toddler if you give her sweets? Don't fill up on healthy foods; leave room for the sugar.

What do you teach these agencies if you give them these FEMA grants? Don't bother with the regular maintenance with which you are charged; let it go and you'll get the spoils.

These agencies' histories of action have violated at least two of the three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, in their not doing reasonable maintenance to create defensible space around homes, and their not limiting hazardous fuels, in fact increasing fuels by pesticing and leaving behind dried out vegetation, as described above.

East Bay Pesticide Alert asks that you deny UC; UCRPD; and Oakland the FEMA 'wildfire prevention project' grants they have requested based on the above points, and on the fact that these are 'native plant restoration' projects being masqueraded as 'wildfire prevention projects', an old game it seems we must keep exposing.

Thank you for your attention to this matter.

Sincerely,

Maxina Ventura
Chronic Effects Researcher
East Bay Pesticide Alert

EBH-EIS-FEMA-RIX

From: Bill Bogert [bill.bogert@gmail.com]
Sent: Thursday, September 30, 2010 7:07 AM
To: EBH-EIS-FEMA-RIX,
Subject: Fwd: Resubmitting FEMA grant opposition, URL's may not open in comments recently submitted
Attachments: EBPA,DSC FEMA, UC, EBRPD,Oak 2.doc

Max asked that I forward this to you to make sure it reaches you.

----- Forwarded message -----

From: Max Ventura <beneficialbug@netzero.net>
Date: Thu, Sep 30, 2010 at 1:08 AM
Subject: Resubmitting FEMA grant opposition, URL's may not open in comments recently submitted
To: EBH-EIS-FEMA-RIX@dhs.gov

To Whom It May Concern:

Once again, I am submitting East Bay Pesticide Alert's comments as a colleague was not able to open links and wondered whether this was related to them being red in the document.

Since I am about to go out of town I will simply try again with the links in the typical blue color and hope these work. Please alert me if they do not and when I return Sunday I will see what can be done to remedy this problem.

I will paste in the document as well as attaching it.

Sincerely,

Maxina Ventura

Chronic Effects Researcher

EBPA



To Whom It May Concern:

East Bay Pesticide Alert, also known as Don't Spray California, is taking this opportunity to respond jointly to FEMA grant requests from the University of California (UC); the East Bay Regional Park District (EBRPD); and the city of Oakland for what the agencies refer to as 'wildfire prevention projects' in the East Bay Hills. For nearly 6 years we actively have opposed these entities' attempts to continue various and related wildfire projects which often include the use of pesticides, and in the case of tree fellings which for these agencies is paired with pesticide use, cause increased fire danger to people, wildlife, structures. These plans violate at least two out of three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, "Wildfire Mitigation Policy for the HMGP and PDM Program".

PESTICIDES, TOXICITY, and FIRE DANGER DUE TO MISMANAGEMENT

UC, EBRPD, and the city of Oakland amply have demonstrated their wildfire prevention protocols in the past and have, in the EIR process of EBRPD quite recently, shown their intentions to continue what has caused fire danger in the hills. Each of these entities' practices, irregardless whether people support more tree fellings or pesticide use, routinely have included spraying pesticides and leaving dead vegetation throughout the hills, a clear fire danger adding to grossly mismanaged understories throughout the hills. These agencies each have acted in negligence, continuing practices which abetted the '91 fire. For this reason alone, they should not be granted FEMA wildfire prevention monies. They have demonstrated incompetence in the past and their future plans would jeopardize the health and wellbeing of people, pets, wildlife, insects, soil, and vegetation, as well as structures, a misuse of public funds. For a flammability study conducted in the East Bay, near Claremont Canyon, please see <http://pesticides.intown.biz/Cherie1%20Response.html>.

Perhaps an example of intention would be enlightening. The only specific general management practices mentioned in the EBRPD's Draft EIR were an inadequate requirement for notification signs, and reference to the size and smoothness of cut tree stumps. EBRPD appears to have no interest in serious notification which might allow people plans to avoid treated areas or better yet make arrangements to stay away from nearby homes for a time period, and seems to be more concerned about the potential for splinters from logged trees than about chemical poisoning from contact, drift, and other mobility of pesticides applied to and around the stumps and other vegetation, a subject they avoid. Please see

<http://twinside.org.sg/title/service76.htm> on Denmark's ban on RoundUp because it was found in groundwater.

ALTERNATIVES to PESTICIDES

These agencies' plans are to cut trees and use pesticides. There is no safe use of pesticides. By nature they kill, cause genetic mutations, neurological problems, hormonal disruption and dysfunction. They translocate and endanger water supplies. We offered them alternatives, most absolutely standard practices, focusing on fuel reduction by employing people who need jobs to do manual labor of understory removal without the use of chemicals. And in the case of any tree fellings, solarization of tree stumps, a standard practice relying on elementary school and backyard bulb gardeners' basic principles of starving plant life of the photosynthesis process. No photosynthesis, no sugars to feed the plant (read: resprouts). A sheet of plastic stapled down is a standard practice, but it is possible to use a natural tar (as opposed to a petrochemically-derived product) instead. Alternatives to pesticides abound, as we made clear in 2005; yet, just days after our presentation, Tom Klatt of UC put out his 10 year plan for Strawberry Canyon and Claremont Canyon, which is enlightening. It says labor and chemicals are about \$100 per acre each of two times per year, expecting it to take 1-1/2 hours per acre. That's probably a crew of several working to apply pesticides (it's only the Licensed Pesticide Applicators overseeing spray projects who make huge salaries; people doing the dangerous work rarely make much above minimum wage). The \$4000 management for \$6716 in labor and \$1125 in chemicals for 45 acres for Claremont Canyon for 10 years may well be part of the Licensed Pesticide Applicator salary of \$125,000 common in 2005. So in the event of tree fellings, a crew going in with weed wrenches for baby trees or weed whackers for resprouts should be able to be paid if instead applying most or all of that "management" \$4000 for their wages, an assertion we have made all these years. Additionally, what is not outlined in Klatt's plan, nor in any of the agencies' project plans or grant requests is who covers the costs of lost productivity for those sickened by pesticide exposures, whether workers applying pesticides or otherwise working in the hills, residents, or visitors to the hills. Without such plans specified it appears that the burden is shifted to individuals, cities, or counties.

SCARE TACTICS

The issue we brought up in 2005 remains today; mismanagement. Even in the few cases of diseased trees which legitimately should be felled if they would be likely to fall in an area where people or homes would be damaged, after fellings these agencies could be cutting back resprouts, solarizing, or employing one of the many other alternatives we offered as examples. But the city of Oakland is a prime example of mismanagement creating fire danger. Eucalypts cut down in Montclair were left to resprout and in 2005, after this resprout museum had grown tall once more, but with multiple sprouts creating fire ladders everywhere, the city council woman who wanted to join in the hills pesticide use pushed by UC and EBRPD used these resprouts as an example to scare people. What scared us was the city's irresponsible behavior in cutting the trees in the first place if they didn't plan to cut them back after, or dig out the stumps. City representatives kept talking about the massive danger of that stand of resprouts but never bothered in that time period to have the sprouts cut back down.

TOXICOLOGICAL PROFILES OF PESTICIDES

In January of 2005, EBPA/ DSC handed representatives of each of these entities toxicology of

the pesticides UC and EBRPD already were using, and pushing Oakland to use in the hills. We offered many quite standard alternatives to pesticide use while pointing out the danger to other species of removing Eucalyptus from the hills (Eucalyptus was the only tree being discussed at public hearings at that time). Please see <http://dontspraycalifornia.org/wpad.html> for more info on our opposition in that time period. Also, please see the toxicology of Monsanto's RoundUp (<http://www.alternatives2toxics.org/catsoldsite/round.htm>), the toxicology of glyphosate, the "active" ingredient of the product called RoundUp (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/glyphosate>), and that of Garlon's triclopyr (<http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/triclopyr>), at least the formulation used at that time. Formulations are changed routinely due to pesticide resistance. In fact, part of the danger of a pesticide approach is that when a pesticide stops performing as expected, use of a new formulation is planned.

What about environmental oversight of new formulations? Is that part of FEMA's oversight when granting

2

monies for wildfire prevention projects? Does FEMA plan to leave oversight around product and formulation use to these agencies if FEMA should grant them public monies to fund their requests? Please see <http://www.eastbaypesticidealert.org/wildfire.html> for details of the other pesticides UC uses in the hills.

LOW DOSE and the NON-MONOTONIC DOSE RESPONSE

New formulations cannot be expected to be "less toxic", though that phrase also has absolutely no legal meaning, which may be why we have seen these agencies use such language trying to assuage the public throughout time as people have opposed pesticide use. In fact, pesticides can hit hardest in small, repeated, cumulative doses which build up in the body, and by the 'non-monotonic dose response'. The NMDR results in a larger response with less of a dose. This is the theory and basis of the practice of the healthcare modality, Homeopathy, practiced around the world; less can be more. Researchers long have described the cumulative effects of low doses of chemicals, which they consider more dangerous than the occasional major exposure in otherwise-healthy individuals. For more detail on low-dose chemical responses, please see <http://web72345.mtx.net/article/gulfwar.shtml> or <http://toxsci.oxfordjournals.org/content/68/1/1.full>. Endocrine disruptors are one example of chemicals that cause a non-monotonic dose response. Or, as the body is secreting 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 fermentation in 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 in people (animal testing was not done to ascertain statistics on farm or domestic animals). 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 a 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 and a "pick up", for many caffeinated coffee has a physically relaxing effect while decaffeinated coffee, containing much

less caffeine, gives them alertness and a burst of energy.

RESPONSE TIME AFTER EXPOSURE

In the case of pesticide applications, people might not have their primary reactions at the time of highest exposure but as the exposure tapers off, they can have even fatal responses. In the case of carbamate and

organophosphate pesticides, commonly people don't experience any significant response until 8-12 hours after exposure, and responses to pesticides can last weeks to years, in the case of a response taking someone past a point of her/his body's ability to metabolize the toxins in question. Just as one person can metabolize a 6-pack of beer quickly, another can be asleep, or otherwise affected, after a sip or two. We, and wildlife and pets, are individual biological beings which variously are damaged by pesticides, as is soil and vegetation. The medical establishment has not been taught to recognize even the most common symptoms of exposure to even the most commonly-found pesticides, and typically is not familiar with appropriate tests such as the cholinesterase test which looks for depressed levels of this enzyme, seen with carbamate and organophosphate poisoning, but must be checked within a few hours of exposure to provide an accurate assessment. Thus, when people die of heart attacks or asthma attacks due to pesticide exposures, their death certificates give no indication of the part pesticides have played. This results in any epidemiological or other health studies and data kept by the Department of Pesticide Regulation (DPR) and other agencies being skewed. It doesn't help statistical understanding that undocumented workers, many who do the dirty work of applying chemicals which can kill them, are not going to be showing up in OSHA (Occupational Safety and Health Administration) files, DPR's source for records on work-related pesticide poisonings, as DPR's staff scientist, Louise Mehler, acknowledged to us in the latter 90's.

3

UNETHICAL ASPECTS of RISK ASSESSMENT

Risk Assessment is the game played by the pesticide industry, busily trying to keep people from thinking critically about pesticide use. Risk Assessment, the methodology used by the chemical industry and authors of Environmental Impact Reports and Statements and seekers of any number of grants for projects including pesticide use, or the downing of trees, for instance, 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 healthcare workers and medical doctors 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 web from which one cannot be spot-removed without endangering the others. In fact, the USDA's Light Brown Apple Moth debacle has 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

Environmental reviews should be based on the Precautionary Principle, which in a nutshell states "better safe than sorry", with a particular view toward 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.

INFORMATION and FACTS IGNORED

Shocking to many is how much information these agencies have been given for years about the dangers of the use of pesticides, and abundant alternatives, but also that their plans for, and execution already, of tree felling is actually a "native plant restoration" project, masked as a wildfire prevention project. Almost 6 years ago we were challenging the city of Oakland over what was very publicly being touted as a "native plant restoration" project alongside the more formal 'wildfire prevention project' titling, pointing out the irony that, using pesticides in Sausal Creek or other hills areas would in fact serve to kill off the web of mycorrhizal fungi which nourish native plants and are an essential part of healthy soil which supports healthy vegetation. Pesticides damage immune systems of all biological beings. In spite of this fact, the city councilwoman, Jean Quan, and Friends of Sausal Creek, continued to push for pesticide use in the creek and on the 1,023 acres the city oversees in the hills, being actively pushed by UC's Tom Klatt and EBRPD's Nancy Brownfield, under whose tenure EBRPD has increased use of pesticides, even taking into consideration acreage added over the years.

ENDANGERED SPECIES in the HILLS

We countered that in fact there are endangered species in the hills, both animal and vegetation and that, pesticides would endanger them. Finally, the city attorney said to us, "Okay, you got us. This does fall under CEQA (the California Environmental Quality Act)." As we continued to attempt to follow up, to make sure plans were not continuing without formal environmental review, including more public, advertised hearings, we were stonewalled. No one contacted at city offices would talk. Later we discovered that apparently to do an end-run around our expose, the city quietly made an alliance with UC and has plowed ahead with plans to cut down healthy trees and use pesticides, in spite of the fact of endangered species in the hills. While the endangered Pallid Manzanita, Alameda Whipsnake, Pallid Bat, and the Red-legged Frog all reside in the East Bay Hills we see no significant plans to protect them nor the raptors who depend on tall trees for their survival. Findings of 'no significant impact' abound in the EBRPD's EIR; yet it is scientifically-impossible for their plans to have 'no significant impact' when they plan to down between 500,000 and 1.2 million trees, then apply pesticides for

4

the next 10 years. By virtue of the fact of this agency's arrogance in its statement that there would be 'no significant impact', we feel any assertion they make must be questioned and researched for facts. In light of this, their request for FEMA wildfire prevention grant funding should not be provided so that it is available for true emergency wildfire prevention work.

OAKLAND MISLEADS

Look at the city's website and you see talk of sustainability and environmental health, and the old pesticide industry line, "best management practices". The words 'pesticides' and 'herbicides' are nowhere to be seen. It would appear the city continues to try to pull the wool over people's eyes as in spite of having what the city attorney likes to call a 'ban' on pesticide use by the city, it uses herbicides citywide on medians, and in some parks, such as on the paths within a few feet of Children's Fairyland, and along narrow roads in the hills on Joaquin Miller Road, among others. In addition, subcontractors use pesticides without oversight by the city, as acknowledged to us by Noel Gallo early in 2005. This results in people not being able easily or accurately to track pesticide use in the city associated with city use as county agricultural records for the city's use do not reflect the subcontractors' use, and records for subcontractors do not have to specify as clearly what products they are using where and when, or in what amounts.

The Oakland city people behind plans to remove eucalyptus seem to miss the irony of the city Office of Parks and Recreation boasting 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 and creek areas and all around the Bay Area.

UC ACQUIRES MONEY FROM PESTICIDE COMPANIES

People would like to believe that a public university system will be devoted to seeking truth in science. UC has contracts with pesticide companies such as Novartis and Syngenta, Dow, Bayer, and Monsanto. Suffice it to say, UC is not objective; it receives masses of money directly and indirectly from pesticide companies so of course it will push pesticides. At the same time, UC has been clearcutting areas of the East Bay Hills and we have pointed out that the reason UC may have set its sights so aggressively on Claremont Canyon's trees is that to get rid of them now clears the way more easily for their Lawrence Berkeley Lab extensions to proceed without getting bogged down later in the EIR process around: trees. UC seems to have a stronghold over the city of Berkeley but it also is apparent that, that stronghold is acquiring breadth with passing time. Oakland has latched on, and a series of agencies with oversight of one area or another in the hills (eg. EBMUD and PG&E) seem to tag along fairly quietly with whatever UC asserts.

EBRPD DISAPPOINTS, CONFUSES, and IGNORES

EBRPD is expected to be acting in the public and environment's best interest in work it does in the regional park system and, indeed, its union employees sometimes have taken public stands in support of worker and visitor park safety, such as their strong resolution opposing the Light Brown Apple Moth pesticides program. See resolution: <http://www.dontspraycalifornia.org/AFSCME%202428%20resolution.pdf>. Our experience with the union and park rangers throughout the park system is frustration, almost uniformly, with Nancy Brownfield, at the center of controversy, who has a misleading title of "Integrated Pest Management Specialist". Ms. Brownfield has pushed pesticide use, to the chagrin of many of the workers who understand that visitors, wildlife, vegetation, soil, and they, are being endangered. They want money put into hiring more workers, not paying for chemicals.

To make matters worse, EBRPD has jumped headlong into the Spartina Project which uses pesticides in efforts to eradicate

5

cordgrass in the Bay (brought in originally by the military). As would be expected, the state and federally-listed California Clapper Rail population has significantly decreased. When reading minutes of the EBRPD's Board's September 7, 2010 meeting, one might want to assume that this is due simply to the removal of habitat. But for more insight into the chemicals the Rails are ingesting, inhaling, and absorbing, please see <http://www.eastbaypesticidealert.org/spartina.html>. You might note that Imazapyr is being used by UC in the hills and RoundUp is being used by EBRPD and Oakland. Still, the plan is to continue this pesticide use around the Bay.

WHAT IS NATIVE? WHO IS BEHIND 'INVASIVE SPECIES COUNCILS'?

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 such as the FEMA grants requested by these agencies, are 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, some of it ironically native and quite flammable as wildfire historically blazed through these hills bursting seedpods and covering them in what amounted to rich compost. These scare tactics could lead, therefore, to more fire danger in the future as threats continue to build due to mismanagement.

UC, EBRPD, and the city of Oakland have seemed fixated on 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.

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.

David Theodoropoulos, an Invasion Biologist who is deeply 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.jhudsonsueeds.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=543758534586424176>). The fire burnt out before igniting the trees in those areas. Just as we see with many trees in the neighborhood of the San Bruno PG&E gas pipeline explosion and resulting inferno. Many living trees surround burnt homes.

Where agencies mismanaged in the East Bay 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, the hills inferno flourished. But many eucalyptus trees acted as windbreaks that hot, windy day, and the moist, cool forest floor around these trees reduced the potential for ignition in some areas. What we see in photos of the 2003 Scripps Ranch fire in Southern California is classic; homes full of gas lines and gas appliances, and cars, exploded, completely surrounded by massive, unaffected eucalyptus trees. See photos: <http://graphics7.nytimes.com/images/2003/10/27/national/28fire.1.jpg> and: <http://www.scrippsrancho.org/special/Fire2003/Wind/MVC-002F.jpg>. The first shows a whole cul-de-sac of houses and cars exploded, completely surrounded by healthy eucalyptus, the second shows exploded cars and only a chimney of a house left (much like Broadway Terrace in '91), many healthy eucalyptus trees right there, unscathed.

WHO PROFITS IN THIS ATTACK ON "NON-NATIVES"?

The question is, who profits by manufacturing an emergency around getting rid of anything non-native?

6

Pesticide companies, for one, and in the case of felling trees, there are many contracts to be written, much money changing hands already as consultants are sent in to do their studies and estimates, and years of work and money are assured if final decisions reflect taking down a million or more trees, some of the lungs of the earth.

A history of mismanagement is no excuse for allowing further mismanagement, unleashing potent toxins upon us.

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 mudslides in the hills, removing whole sections of habitat. As important, pesticides used on and around the stumps remain in the area and translocate. Innocent pedestrians or bicycle riders in some areas walk or ride through pesticide residues while inhaling residual drift (indoors, insecticides can take two weeks to stop floating around and begin to settle down onto furniture and floors, stuffed animals and dishes—source: Designer Poisons, Marion Moses, MD). People track them and spray them around further as they walk, jog, or bike. Wildlife in the area is exposed through inhalation, absorption and ingestion. One of our considerable concerns is that in the Bay Area we have immigrant populations from Asia who use plants found in the hills medicinally as well as for food (blackberry shoots being popular in some cuisines), and people practicing Western Herbalism frequently gather herbs in the hills. They can unwittingly be sickened ironically as they are gathering Horsetail to aid respiratory distress, or other herbs for other medicinal purposes.

This plan brings to mind the county of Alameda's plan to remove all the century-old Eucalypts along San Leandro Creek, in fact the only wild corridor for miles which links the flatlands and hills. As

another story of deception has been revealed, tree by tree, parcel by parcel, we find that the purpose of the county's removal plans is, once again, according to the county's chief arborist, Jim Brown, a "native restoration project". The grand plan was to quickly clearcut three areas to provide the easiest access/removal areas and spend the next few years chopping down one tree after another, dragging them up the creek further to ruin remaining habitat, then nicely (maybe) replanting some trees. Among those considered by the county is willow, a fine choice if you want to end up with no water at all in the creek. Oh, yes, and pesticide use on the banks of the creek, too, though no one has yet revealed which products after months of requests. And when you read the fine print on their documents, you see that a primary "Reason for Action" to remove the trees again and again is listed as: Tree will require substantial on-going resources to evaluate and maintain.

Money, time, the hassle factor. Not that they don't have money. In fact, the county hired a "very expensive" (according to a county person) p.r. firm, the same one the state hired to push their Light Brown Apple Moth pesticides program, and an arborist who has created her own ranking system for tree danger, at odds with that used by many certified arborists. One has to wonder why the county would want to rely on a new system while the arborists with her company keep saying they can't guarantee anything. Not that we are expecting many guarantees when dealing with nature. But there are some guarantees in this situation in the hills and the SL creek: down trees and you lose oxygen and gain carbon, increasing the numbers of people who will be sickened. Change the environment so drastically by removing these trees and you will have a hotter environment, not able to support life which has acclimated over a century. Use pesticides and you will ruin soil and water health and endanger people, wildlife, pets and insects.

WHAT WOULD AN HONEST LOGGER SAY ABOUT THESE PLANS?

As the author of this writing was at work assembling notes for this response she contacted a gentleman who

7

comes from a logging family from the Central Coast area to hear his response to the general plans by these agencies. His response was swift and clear. He pointed out that in spite of herbicides which might be used, stumps are open wounds, attractive to insects and more so as they degrade. They are prone to disease which then endangers the trees nearby left standing. He put it this way, thinking of clearcutting and replants he's seen in the logging world, "In the infant stage replants are attacked by insects gathering at the open wounds of cut stumps. They are still weak in their infant stages, and more so if exposed to herbicides. Disease can spread easily in that environment, building on the stronghold on a stump. The secondary militia creates infection on many standing trees, a disease ward for any trees in the area." He went on to give more perspective. "If there's 300 tree stumps in one area and 500 are nearby, if there are infantile trees nearby many are likely to become diseased. What can happen to the rest of the forest of 2000 surrounding that area? What are the chances of survival?"

CARBON SEQUESTRATION; WHY SHOULD PEOPLE OPPOSED TO PESTICIDE USE CARE?

The East Bay is home to a population considered to have 16.3% already somewhere on the continuum of chemically-sensitive. Those of us with Multiple Chemical Sensitivity (MCS), or concerned about becoming victims of this debilitating chronic disease which can bring with it myriad life-threatening problems such as high blood sugar, high blood pressure, high cholesterol, heart problems, kidney disease, asthma, and hormonal disruption and dysfunction, are concerned about the massive carbon releases which come with felling trees such as old eucalyptus. These trees are lungs for us. They have taken in carbon and given us oxygen. We cannot lose this oxygen and on top of it face yet more carbon.

It is ironic to know that UCSF, home of an acclaimed medical school, is behind plans to remove all the eucalyptus from Mt. Sutro in San Francisco. We were busy assembling our response to UCSF's requests for a FEMA grant for what was being called a 'wildfire prevention project' but was actually another 'native plant restoration' project. Happily, before we could send in our response, we got the good news that FEMA had realized the grant request was not legitimate and refused to grant it this money to UCSF without an EIR. It is ironic that the home of a medical school is not willing to go through that health and environmental process, and instead intends to march ahead, funding the felling of trees itself. A foggy mountain in the city, providing so much needed oxygen, to be decimated by UCSF.

OUR RECOMMENDATIONS

We want FEMA to be clear that these agencies have had information in their hands for many years clarifying dangers of pesticides and offering multiple standard alternatives, easily applied with the funds available through various pools of tax monies in addition to the regular streams of funding for maintenance. They have failed in their most basic maintenance duties.

Too, we want FEMA to remember that there is no emergency here other than the lack of proper maintenance over decades by agencies with lack of competence or interest. That is no reason to grant emergency monies which need to be available for emergencies that arise unexpectedly. What's going on here is entirely predictable and reversible with common sense oversight. FEMA's wildfire prevention project granting stream should not be used to make up for incompetence if it will result in that incompetence being allowed to remain, and continue, resulting in future wildfire dangers being created.

These agencies have been expected by people living in the hills to do reasonable understory management, a standard expectation in an Urban-Wildland interface. They have failed to act reasonably, and sensibly, to

safeguard people and now are ready to release massive amounts of carbon into the environment, completely change habitats in the hills, and try to create native plant nurseries in pesticide-laden soils. The irony is that they seem completely unaware that many native plants which used to thrive in the East

Bay Hills are highly flammable. Perhaps it's time to stop assuming that if something is called native it's preferable, and if it's called non-native it's bad. Time to move beyond that severely limited thinking.

Our climate has changed drastically, quickly, and we cannot assume that pulling down a million eucalyptus, acacia, and monterey pine, and planting native plants, or waiting for vegetation to fill in, will mean we will end up with anything actually resembling the East Bay Hills of a century ago. And as one man said some time ago about 'native plant restoration' projects, "Looks a lot like gardening to me." An ongoing maintenance project, exactly what these agencies all seem to want to avoid: maintenance.

What do you teach a toddler if you give her sweets? Don't fill up on healthy foods; leave room for the sugar.

What do you teach these agencies if you give them these FEMA grants? Don't bother with the regular maintenance with which you are charged; let it go and you'll get the spoils.

These agencies' histories of action have violated at least two of the three parameters of FEMA's Wildfire Mitigation Policy, MRR-2-08-1, in their not doing reasonable maintenance to create defensible space around homes, and their not limiting hazardous fuels, in fact increasing fuels by pesticing and leaving behind dried out vegetation, as described above.

East Bay Pesticide Alert asks that you deny UC; UCRPD; and Oakland the FEMA 'wildfire prevention project' grants they have requested based on the above points, and on the fact that these are 'native plant restoration' projects being masqueraded as 'wildfire prevention projects', an old game it seems we must keep exposing.

Thank you for your attention to this matter.

Sincerely,

Maxina Ventura

Chronic Effects Researcher

East Bay Pesticide Alert

EBH-EIS-FEMA-RIX

From: Claremont Canyon Conservancy [barrypilger@gmail.com]

Sent: Thursday, September 30, 2010 8:55 AM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

The Claremont Canyon Conservancy supports the fire hazard reduction work proposed for Claremont Canyon by the University of California. That proposed work is described in detail in the University's pre-disaster mitigation grant application. It is our wish that the following issues be considered within the scope of the planned environmental impact statement: 1. If the proposed work is not completed (the no-project alternative) or if only a portion of the eucalyptus trees are removed, the EIS should estimate and describe the increase in fuel load that will result. It is our contention that blue gum eucalyptus trees are not only highly flammable and highly invasive, but that their rate of growth is far faster than the oak, bay, and willow trees that are native to the canyon. The amount of fuel in the canyon and the cost of removing that fuel will therefore increase significantly if the no-project alternative is selected or if only a portion of the eucalyptus trees are removed. 2. If the proposed work is not completed (the no-project alternative) or if only a portion of the eucalyptus trees are removed, this EIS should also evaluate the effects of a freeze in Claremont Canyon, such as occurred approximately 40 years ago. It is our belief that such a freeze would again kill all of the above-ground eucalyptus stems, branches, and leaves and force the university to reduce the resultant fire hazard by once again conducting an expensive emergency-based tree removal program such as occurred in the 1970s. Barry Pilger President Claremont Canyon Conservancy 510-843-2226 PO Box 5551 Berkeley CA 94705

EBH-EIS-FEMA-RIX

From: jerry Baer [oldtimerjib@comcast.net]
Sent: Thursday, September 30, 2010 1:18 PM
To: EBH-EIS-FEMA-RIX,
Subject: Response to EIS

Attachments: FEMA Letter 9-29-10.doc



FEMA Letter
9-29-10.doc (49 KB)

Thank you in advance for your consideration. Jerry Baer

EBH-EIS
P.O. Box 72391
Oakland, CA. 94612

Dear Sir,

Regarding the EIS for Hazardous Fire Risk Reduction for Oakland, UCB and the EBRPD, I have the following comments:

When I attended the meeting that FEMA had to present the scope of these projects it became clear that FEMA had done a remarkable job in defining their positions. It has become clear to me after reading the information regarding these projects that none of the three agencies have listened to or taken into consideration the fact that there are currently rules and guidelines that need to be followed.

The projects proposed do not consider the fact that FEMA doesn't finance "**native plant restoration**". It seems clear that they either didn't understand the rules or they have decided to ignore them in the hopes that the FEMA officials in charge of dispersing the money will simply buckle under. This is gross arrogance.

The idea that cutting down trees will stop fires has been proven wrong everywhere in this state. In fact there has never been a fire **started by trees** in the hills of Oakland in all of recorded history. The fires, including the massive '91 Firestorm, were started by people and they are not "native" to this area.

In point of fact, if everyone in the hills kept the land surrounding their homes "fire safe" as required by the fire department, this argument would never come up. My home was partially burned in the '91 Firestorm and was saved from complete destruction because, according to the Orinda Fire Chief who helped put out the fire, our home had 30'-40' of cleared area surrounding it. It wasn't

a matter of what species of tree was there, they were all cut back to allow that space to be there and consequently, a good part of our home was saved.

I worked in the forest industry for 50+ years, first for Southwest Forest Industries in Arizona and then for Georgia Pacific in Georgia. I have never heard such poppy cock as “chipping trees” and leaving 24” of the waste on the ground. It is creating the worst kind of danger, since once the chips catch fire, and they will, they are almost impossible to put out.

I guess what I am saying is that the projects that these three entities have proposed don’t meet the idiot test. They ignore facts, they subvert the FEMA rules and worse of all they will endanger all of us who have already gone through the horror of a Firestorm at least once in our lives.

I ask that FEMA deny them access to their (our) money for what seems to me to be more a change of landscape then Fire Risk Mitigation. And again, I want to thank all of you for your work in helping define what is and what is not Fire Risk Mitigation.

Jerry Baer
1227 Alvarado Road
Berkeley, CA. 94705

EBH-EIS-FEMA-RIX

From: KAREN PERKINS [kper@sbcglobal.net]

Sent: Thursday, September 30, 2010 1:21 PM

To: EBH-EIS-FEMA-RIX,

Subject: Destruction of California Parklands

I strongly oppose the massive removal of trees by East Bay Regional Park District, the City of Oakland, and the University of California at Berkeley. California has had one of the wettest years in recent times and one of the coolest summers in it's history. There has always been a danger of wildfires in California - so why have the above mentioned public agencies, etc. decided now is the time to destroy 100's of 1000's of trees? Clearcutting these trees will remove moisture and shade and leave barren grasslands even more prone to fire danger. It will also leave our public parklands and cities far uglier and less inviting for recreation. Carbon will be released into the atmosphere contributing to climate change. The continual use of pesticides will be detrimental to our health and that of our dogs and animals living in the poisoned environment. The only ones I see who benefit from this massive clearcut and destruction of trees are those who may be using it as a jobs program to increase funding in hard economic times for public agencies and employees. A classic boondoggle!

Sincerely
Karen Perkins
Moraga, California

EBH-EIS-FEMA-RIX

From: bob sand [2rhs07@comcast.net]
Sent: Thursday, September 30, 2010 2:08 PM
To: EBH-EIS-FEMA-RIX,
Subject: Grant Awards: Hazardous Fire Risk Reduction, East Bay Hills, CA ; Docket ID: FEMA-2010-0037
Attachments: DSC_0026 (2).JPG; DSC_0009.JPG

Briefly stated, awards to the 4 subject applicant-areas should not be made. All of the potential awardees have violated FEMA specific requirements, both in practice, and/or their submitted award-seeking descriptions of work.

Basically, for example, the award-seekers emphasize "Fuel Reduction", thus focus on removing large, mature trees, clear-cutting of our environmentally needed urban forest. Studying their submitted documentation, this counter productive activity has been, and will be practiced in areas distant from many structures – housing in particular.

Established US Forestry & Australian fire science has demonstrated that hazardous fires propagate by igniting fine dry fuel – weeds, grasses, brush, tree litter & falls of small, mostly limited to 3" diameter. In wind condition, embers disburse widely, falling into such easy ignitable fuel, and create the hard to control Wild Fire. Surprisingly, the documentation presented by the award-seekers does not emphasize ignition control, and/or avoids commitment to such activity.

It should be noted that the Award-Seekers are all large, high overhead organizations, which cannot operate lean low-cost projects, but can partially justify million dollar awards by practicing what amounts to a logging operation. Additionally, by focusing on the removal of non-native Eucalyptus, the support of native plant enthusiasts is assured – but only if FEMA pays the bill. I'm attaching a couple of pictures to help justify my above words. It's an example of UC work done upon receipt of prior FEMA funds.

My house burned to the ground in 1991 Oakland Hills fire. Since then, I have reviewed pictures of many after-fire events. Typically, the house + contents end as a chest high heap of ashes, with a chimney standing. Consistently, pictures show nearby trees blackened, but still standing. My own house was also such an example. An explanation of this phenomenon appears in the fireman's Fire Prevention Handbook, which states that the small diameter fuels ignite & burn in minutes, whereas the larger diameter trees require 1000 hours (over 41 days) to be consumed.

Admittedly, anything combustible can ultimately burn, but realistically, it's the easy ignitable fuels that presents the greatest hazard.

Since money – FEMA's money – is a great motivator, all award seekers must meet FEMA requirements, and show documented intention and methods to reduce ignition hazard.

Robert H Sand
25 Dartmouth Dr
Berkeley CA 94705





EBH-EIS-FEMA-RIX

From: John R. Shively, P.E. [jrshively@gmail.com]

Sent: Thursday, September 30, 2010 2:28 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

I am writing in response to the invitation for public comment regarding the following two proposed projects sponsored under the FEMA EIS for Hazardous Fire Risk Reduction proposal in the East Bay hills of California. Claremont Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-003): While I concur with the intent of the project, to reduce hazardous fire risk, I am absolutely opposed to stated "...felling of ALL eucalyptus, Monterey pine and acacia trees on approximately 45 acres of UCB property..." This project should be rejected as proposed. It is a wrong headed method of addressing the fire risk issue. Fires do not start in those trees. Fires are most commonly the result of discarded cigarettes and sparks from engine exhausts. The best defense against such fire ignition is clearing and mowing along streets and roads. This is presently is not being done. Such wholesale clearing of trees as proposed will lay the area vulnerable to unprotected soil, mudslides in heavy rain, and major land erosion. Additionally it will destroy the well established century old environmental character of the area. Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011): Again this project calls for "...the felling ALL eucalyptus, Monterey pine, and acacia trees on approximately 60 acres of UCB property..." This project should also be rejected as proposed, for the very same reasons stated for the preceding cited project.

EBH-EIS-FEMA-RIX

From: John Shively [jrshively@gmail.com]
Sent: Thursday, September 30, 2010 3:54 PM
To: EBH-EIS-FEMA-RIX,
Cc: SylviaMc@presto.com; Georgia Wright; Lesley Emmington
Subject: Hazardous Fire Risk Reduction EIS for East Bay Hills, California

The following is written in response to the invitation for public comment on the following two proposed fire risk reduction projects in the East Bay Hills of California.

The Claremont Canyon Vegetation Management Project (PDM-PJ-09-A-2005-003):

This project proposes "...felling *all* eucalyptus, Monterey pine, and acacia trees on approximately 45 acres of UCB property..." ostensibly for the purpose of fire protection. Essentially this is a tree clear cutting proposal, which will not address the root cause of fires in this beautiful hill area. Most accidental fires in such areas start as grass fires, commonly the result of tossed cigarettes or hot exhaust from internal combustion engines along roadways. They do not start in the trees.

This project as proposed would destroy the century old sylvan character of the established trees in this hill area, and unnecessarily so. Furthermore such tree clear cutting would make the area's steep hillsides vulnerable and exposed to damage caused by heavy rains and mudslides.

The best defense against such fires is the mowing of grass along roadways. This is common practice in most states, but for some unknown reason is rarely seen done in California.

The Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011):

This project also proposes: "...felling *all* eucalyptus, Monterey pine, and acacia trees on approximately 60 acres of UCB property..." again ostensibly for the purpose of fire protection. And this proposed project is also a tree clear cutting proposal. It should be rejected as well for the very same reason as the preceding Claremont Canyon proposal.

These two preceding proposed fire protection projects should be rejected absolutely as stated. They should be replaced by two entirely new alternative fire prevention proposals - that would not have such disastrous consequences to the existing natural environment of the area.

EBH-EIS-FEMA-RIX

From: John Shively [jrshively@gmail.com]
Sent: Thursday, September 30, 2010 4:13 PM
To: EBH-EIS-FEMA-RIX,
Subject: Re: Hazardous Fire Risk Reduction EIS for East Bay Hills, California

The following is written in response to the invitation for public comment on the following two proposed fire risk reduction projects in the East Bay Hills of California.

The Claremont Canyon Vegetation Management Project (PDM-PJ-09-A-2005-003):

This project proposes "...felling *all* eucalyptus, Monterey pine, and acacia trees on approximately 45 acres of UCB property..." ostensibly for the purpose of fire protection. Essentially this is a tree clear cutting proposal, which will not address the root cause of fires in this beautiful hill area. Most accidental fires in such areas start as grass fires, commonly the result of tossed cigarettes or hot exhaust from internal combustion engines along roadways. They do not start in the trees.

This project as proposed would destroy the century old sylvan character of the established trees in this hill area, and unnecessarily so. Furthermore such tree clear cutting would make the area's steep hillsides vulnerable and exposed to damage caused by heavy rains and mudslides.

The best defense against such fires is the mowing of grass along roadways. This is common practice in most states, but for some unknown reason is rarely seen done in California.

The Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011):

This project also proposes: "...felling *all* eucalyptus, Monterey pine, and acacia trees on approximately 60 acres of UCB property..." again ostensibly for the purpose of fire protection. And this proposed project is also a tree clear cutting proposal. It should be rejected as well for the very same reason as the preceding Claremont Canyon proposal.

These two preceding proposed fire protection projects should be rejected absolutely as stated. They should be replaced by two entirely new alternative fire prevention proposals - that would not have such disastrous consequences to the existing natural environment of the area.

Respectfully submitted,
John R. Shively, P.E.
Oakland, California

EBH-EIS-FEMA-RIX

From: HCN [inquiries@hillsconservationnetwork.org]
Sent: Thursday, September 30, 2010 5:36 PM
To: EBH-EIS-FEMA-RIX,
Subject: Hills Conservation Network EIS comments

Attachments: eisresponsea.pdf



eisresponsea.pdf
(109 KB)

Attached please find comments to the FEMA EIS for UC, EBBPD, and the City of Oakland proposed wildland fire mitigation projects.

We thank FEMA for the opportunity to provide this input, and hope that as the EIS process unfolds FEMA continues to do the rigorous and professional job its been doing in managing the awarding of these grants.

Dan Grassetti on behalf of the Hills Conservation Network

Hills Conservation Network

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Preserving the East Bay Hills

9/30/10

EBH-EIS
P.O. Box 72391
Oakland, CA 94612
ID FEMA -2010-0037

The Hills Conservation Network has conducted a thorough review of the projects proposed for funding under the EIS currently being scoped and has come to a number of conclusions. Once again, we appreciate the opportunity to participate in this process and are confident that the outcome will be a rational and data-based set of projects.

We have divided our comments into 3 sections, tied to the 4 projects under consideration. The first of these are the 2 PDM projects proposed by the University of California, the next is City of Oakland PDM project, and the last is the EBRPD HGMP project.

Beginning with the 2 UC projects, our position is that for a range of reasons FEMA should categorize these under the No Action Alternative, meaning that they should not be funded as currently proposed.

We come to this conclusion for the following reasons:

1. These projects are not at all consistent with the stated intent and rules that FEMA has provided for this program. Specific violations are as follow:
 - a. FEMA Mitigation Policy MRR-2-08-1 states "FEMA hazard mitigation assistance for wildfires is only focused on long-term and cost-effective actions taken to reduce the risk to specific property or structures from future wildfires." Neither the Strawberry nor Claremont canyon project fit this description. To be clear, the UC facilities nearest to the proposed project areas already have defensible space, and to the extent that they might benefit from more extensive defensible space and improved building materials/fire suppression technologies, this would be appropriate under the PDM grant system.

The problem here is that the proposed project areas are not proximate to UC facilities, and are not near residential properties either. So, there is a fundamental disconnect between the purpose of the PDM grants, as described by FEMA, and what the applicant is proposing these funds be used for.

Per the FEMA guidelines the programs will allow for "hazardous fuels reduction vegetation management, vegetation thinning or reduction of flammable materials to protect life and property beyond the defensible space perimeters, but proximate to at-risk structures. There are simply no at-risk structures near either of these two projects, so they are ineligible for FEMA funding. Again, if these projects were to reduce risk to critical UC structures by enhancing defensible space and/or reducing the susceptibility of these structures to fire, this would be an appropriate use of these funds. But this is not the case. What is being proposed is clearcutting 3 species of trees that are not near either UC or private structures, while offering no fire risk reduction benefits.

b. These projects will not mitigate the threat that these projects claims to mitigate, and as such are ineligible for funding by FEMA under the PDM program. To be clear, there is no conclusive evidence that should lead FEMA to conclude that what is proposed in these two projects will actually reduce the risk of fire. While there is no question that creating vegetation-free buffer zones around structures is an effective means of mitigating wildfire risk (the most effective policy according to experts), the assertion that removing only certain species of trees will mitigate fire risk is simply wrong. Neither the grant applications nor the Strawberry Canyon DEA made the case for the approach that UC is proposing. In fact, the approach that UC is suggesting is highly controversial for a number of reasons:

i. Removing only certain species while leaving others will not reduce the risk of fire from those that remain. In fact, there is plenty of evidence to suggest that removing large trees, which is the effective result of the projects being proposed, will INCREASE the risk of fire.

There are several factors that cause fire risk, one being fuel load and the other being risk of ignition. As has been seen with Angel Island and with the recent oak and grassland fire between Tunnel road and Charing Cross road, grasses and oaks burn really well. In fact it is well known that grass fires produce longer flame lengths than burning eucalyptus trees, not to mention the fact that while eucalyptus trees are very difficult to ignite, grasses are very easy to ignite.

To suggest that somehow the fields of drying chips, dried-out poison hemlock, thistle, and broom don't create a greater risk of ignition than large trees is simply incorrect. And these are the very species that have taken over sites where the methodology that UC is proposing has been used.

Once the canopy has been removed, which is what UC proposes to do, the result has been and will be a proliferation of species that are designed to burn frequently in nature. Adding piles of highly flammable wood chips to the mix creates an even greater fire hazard.

Even if, somehow, the removal of tall trees would miraculously result in "oak and bay woodlands" (an unfounded claim made by project proponents), there is no evidence to suggest that the resultant vegetation would be less of a fire hazard than the eucs, pines, and acacias that were clearcut.

Additionally, the argument that the potential for eucs and pines throwing embers is reason enough for their destruction is simply not supported by the science. There is nothing to say that oaks and bays in similar locations wouldn't pose an identical hazard.

The bottom line is this, FEMA has created these programs to reduce fire risk, but there is scant evidence that what's being suggested by UC will in fact accomplish this goal.

ii. Chipping and scattering up to 24" of material at the site creates a fire hazard. It is well known that piles of drying wood chips are both easily ignitable and once ignited are almost impossible to extinguish. This is the very reason that other large public agencies in the area will not use this technique on their properties.

iii. Clearcutting the trees being targeted will eliminate canopy, and as the results of past projects of this sort in this area have shown, once the canopy is gone there is an invasion of extremely fire prone vegetation such as thistles, poison hemlock, and broom. Experience has shown that once this problem is created it is impossible to manage these hazardous invaders without the use of garlon, roundup and other toxic chemicals...and even so, they come back every year. This is another reason why other large public land owners in this area won't employ these methods.

iv. Given that virtually all of the large fires in this area have occurred on hot Diablo wind days, and given that the fires that have occurred here under these conditions have proven to be completely non-selective in what they will burn, why would any rational person conclude that removing certain species (and suggesting that other more desirable species will somehow move in to replace them) will actually reduce the fire risk? As fire experts make clear, fuel is fuel, especially in a conflagration such as what we experienced in 1991. The problem with what's being proposed here is that there is just no evidence that it will reduce the risk, frequency, or severity of fires in this environment.

c. FEMA Mitigation Policy MRR-2-08-1 states that clearcutting projects are ineligible for funding. Since the vast majority of the trees at these 2 sites are eucalyptus, pines, and acacias, and since the project descriptions call for the complete removal of ALL of these trees, this would be about as obvious a case of clearcutting as exists. While the proponents of these projects will argue that they are "only removing non-natives invasive species," the fact is that in so doing they are effectively performing a clearcut. This sort of project is clearly in violation of FEMA policy for these programs.

d. The FEMA policy clearly states that "projects to address ecological or agricultural issue related to land and forest management" are ineligible for funding. It is clear from what's being proposed in these projects that they are more about "transforming the landscape" than about fire risk mitigation. There is no evidence that fire risk mitigation will result from these projects; in fact there is substantial evidence that fire risk will INCREASE, but there is little question that focusing entirely on 3 species for complete eradication is intended to achieve landscape transformation, at any cost.

It is evident that the project proponents are attempting to acquire FEMA PDM funding to advance a landscape transformation agenda, claiming that fire risk mitigation will result. This is a clear violation of FEMA guidelines that prohibit using these moneys for ecological issues and therefore should not be funded.

e. Additionally, given the need for a cumulative impact analysis as part of the EIS, and given the size of projects planned for the immediately adjacent area, to make no attempt to minimize carbon release through selective tree removal is likely to result in an unacceptable level of carbon release. Additionally, these projects would result in extreme habitat destruction, increasing slide and erosion risk, and call for the application of unprecedented amounts of toxic herbicides over decades. We think that because of their high environmental cost these projects could likely not survive the EIS process and possible subsequent legal challenges, so there is no point in allowing them to move forward.

f. The proponents of this plan make the argument that in removing all of these trees that they are achieving a commensurate reduction in fuels, but this is in fact not the case. The reality is that in virtually all wildland fires in this area, the fine fuels (<3" diameter) burn, but the trees remain standing. So, what's effectively happening by removing ALL trees of certain species is that there is no intelligence being applied to selectively removing trees that have a high combustible fuel load relative to total biomass, instead removing trees that have a very low combustible fuel load relative to total biomass.

The result is the release of enormous amounts of sequestered carbon, while reducing the combustible fuel load relatively little. Again, the claims made by project proponents that by implementing this program they would be removing

an enormous amount of fuel is simply wrong, because the bulk of the "fuel" that is being removed will not burn. The only fuel that is relevant to the fire-risk discussion is the fuel that actually burns. It would be far better to focus on the actual combustible fuel, that with a diameter of less than 3", and reduce combustible fuel loads substantially while minimizing the reduction of non-combustible fuel loads.

Since this level of intelligence is excluded from the proposed action, the net result will be large amounts of carbon un-sequestered, massive habitat destruction, significant increases in the risk of slides and erosion, and the application of unprecedented amounts of toxic herbicides over an extended period, without a commensurate reduction in fire risk. A bad deal all around....unless the objective is to achieve landscape transformation.

We believe that it's unlikely this sort of approach will be justifiable, especially in light of their questionable effectiveness, extreme environmental cost, and the fact that there are better alternatives. We believe that there is little doubt that these projects, as currently defined, will not be acceptable under an EIS, and suggest that FEMA not allow these projects to move forward.

g. Finally, there are several legal issues with these projects. The first is that formal allegations of fraud have been filed with the FEMA Inspector General's office. The assertion is that there were numerous and significant mis-statements made by the grant author (s) for the grants in question, and that these mis-statements were serious enough that they could easily have caused the evaluation panel to select these projects over others that were more deserving. In the even that these projects were to be funded, we believe that there is a high likelihood that the IG would find that the claims of fraud were valid, and would seek financial reimbursement from UC. The problem is that by the time this would happen the damage would have been done. While we understand that this isn't standard practice, we ask that the FEMA IG investigate these claims BEFORE the moneys are awarded so that irreparable damage would not result.

Additionally, there is currently a lawsuit pending against the East Bay Regional Park District over the adequacy of an EIR addressing a large project immediately adjacent to the proposed UC projects. Given that there is clearly a cumulative impact with the EBRPD projects and the UC projects, it would seem imperative that the EBRPD lawsuit be resolved before serious consideration is given to the UC projects.

Next is the Oakland PDM 06 Grant. This one needs to be divided into two sections. The first is the City of Oakland/EBRPD piece for the area immediately above Caldecott Field and the second is the UC portion for the Frowning Ridge area. HCN has reviewed these projects extensively and is making different recommendations for the 2 subprojects. For

the overall grant we recommend that FEMA adopt Alternative 4, with the subgrants as follow.

The first is the UC Frowning Ridge project. We recommend that FEMA adopt the No Action Alternative for this project for the same reasons described above for the 2 UC PDM 05 projects as the methods and issues are identical.

The second is the Caldecott Field Project, which we recommend that FEMA adopt Alternative 3 due to the proximity of private residences at the head of the canyon. While the text of the grant application is similar to that of the UC projects, we have been led to believe by Leroy Griffin of the Oakland Fire Department that the plan for this area is not at all similar to what UC plans for its properties. We ask that this portion of the grant/plan be re-written in such a way as to ensure that there be selective, species-neutral tree removal aimed at reducing combustible fuel loads in a minimally environmentally damaging manner.

Specifically, we propose that OFD employ proven methods including:

- removal of all understory vegetation
- limbing all trees to a minimum of 8 feet above the ground
- targeting small trees for removal, removing no more than 50% of the total
- the removal effort must be species-neutral
- under no conditions may canopy be diminished
- using non-chemical methods for addressing resprout issues

These rules would apply to both Oakland and EBRPD owned properties in the area immediately above Caldecott Field.

Lastly is the EBRPD Brushland Fuels Management Project (HMGP 1731-16-34). Unfortunately, it appears that the title of this project is something of a misnomer. In fact a number of the polygons that would be funded for "treatment" under this project are not brush removal at all, but involve the removal of large trees. As a result of this, we recommend that FEMA adopt Alternative 4 for these projects, allowing funding for the understory and shrub clearing portions of this grant, but not for the tree removal portions (16 polygons). For the tree-removal portions of this grant, following are reasons for our opposition:

1. These projects are not at all consistent with the stated intent and rules that FEMA has provided for this program. Specific violations are as follow:

- a. FEMA Mitigation Policy MRR-2-08-1 states "FEMA hazard mitigation assistance for wildfires is only focused on long-term and cost-effective actions taken to reduce the risk to specific property or structures from future wildfires." Since there are essentially no structures threatened by the vegetation under consideration for removal, the proposed project area does not fit this description.

Per the FEMA guidelines the programs will allow for "hazardous fuels reduction vegetation management, vegetation thinning or reduction of flammable materials to protect life and property beyond the defensible space perimeters, but proximate to at-risk structures. Again, these projects are targeted at removing trees far away from structures, trees that would appear to pose little if any risk to structures, so they are ineligible for FEMA funding.

b. These projects will not mitigate the threat that these projects claim to mitigate, and as such are ineligible for funding by FEMA under the PDM program. To be clear, there is no conclusive evidence that should lead FEMA to conclude that what is proposed in these projects will actually reduce the risk of fire. While there is no question that creating vegetation-free buffer zones around structures is an effective means of mitigating wildfire risk (the most effective policy according to experts), the assertion that removing trees not proximate to structures, and in many cases only certain species of trees, will likely have negligible effect on fire risk mitigation is simply not founded in fact.

There are several factors that cause fire risk, one being fuel load and the other being risk of ignition. As has been seen with Angel Island and with the recent oak and grassland fire between Tunnel road and Charing Cross road, grasses and oaks burn really well. In fact it is well known that grass fires produce longer flame lengths than burning eucalyptus trees, not to mention the fact that while eucalyptus trees are very difficult to ignite, grasses are very easy to ignite; yet the intent of these EBRPD projects is to transform the environment into what has been shown to be a MORE fire-prone environment than what's currently there.

Given that virtually all of the large fires in this area have occurred on hot Diablo wind days, and given that the fires that have occurred here under these conditions have proven to be completely non-selective in what they will burn, why would any rational person conclude that removing certain species (and suggesting that other more desirable species will somehow move in to replace them) will actually reduce the fire risk? As fire experts make clear, fuel is fuel, especially in a conflagration such as what we experienced in 1991. The problem with what's being proposed here is that there is just no evidence that it will reduce the risk, frequency, or severity of fires in this environment.

c. FEMA Mitigation Policy MRR-2-08-1 states that clearcutting projects are ineligible for funding. Since the vast majority of the trees slated for removal by EBRPD are eucalyptus, pines, and acacias, and since the project descriptions in many cases call for the complete removal of ALL of these trees, this would seem to be an obvious example of clearcutting. While the proponents of these projects will argue that they are "only removing non-natives invasive species," the fact is that in so doing they are effectively

performing a clearcut. This sort of project is clearly in violation of FEMA policy for these programs.

d. The FEMA policy clearly states that "projects to address ecological or agricultural issues related to land and forest management" are ineligible for funding. It is clear from what's being proposed in these projects that they are more about "transforming the landscape" than about fire risk mitigation. There is no evidence that fire risk mitigation will result from these projects; in fact there is substantial evidence that fire risk will INCREASE, but there is little question that focusing entirely on 3 species for complete eradication is intended to achieve landscape transformation, at any cost.

It is evident that the project proponents are attempting to acquire FEMA PDM funding to advance a landscape transformation agenda, claiming that fire risk mitigation will result. This is a clear violation of FEMA guidelines that prohibit using these moneys for ecological issues and therefore should not be funded.

e. Additionally, given the need for a cumulative impact analysis as part of the EIS, and given the size of projects planned for the immediately adjacent area, to make no attempt to minimize carbon release through selective tree removal is likely to result in an unacceptable level of carbon release. Additionally, these projects would result in extreme habitat destruction, increasing slide and erosion risk, and call for the application of unprecedented amounts of toxic herbicides over decades. We think that because of their high environmental cost these projects could likely not survive the EIS process and possible subsequent legal challenges, so there is no point in allowing them to move forward.

f. The proponents of this plan make the argument that in removing all of these trees that they are achieving a commensurate reduction in fuels, but this is in fact not the case. The reality is that in virtually all wildland fires in this area, the fine fuels (<3" diameter) burn, but the trees remain standing. So, what's effectively happening by removing ALL trees of certain species is that there is no intelligence being applied to selectively removing trees that have a high combustible fuel load relative to total biomass, instead removing trees that have a very low combustible fuel load relative to total biomass.

The result is the release of enormous amounts of sequestered carbon, while reducing the combustible fuel load relatively little. Again, the claims made by project proponents that by implementing this program they would be removing an enormous amount of fuel is simply wrong, because the bulk of the "fuel" that is being removed will not burn. The only fuel that is relevant to the fire-risk discussion is the fuel that actually burns. It would be far better to focus on the actual combustible fuel, that with a diameter of less than 3", and

reduce combustible fuel loads substantially while minimizing the reduction of non-combustible fuel loads.

Since this level of intelligence is excluded from the proposed action, the net result will be large amounts of carbon un-sequestered, massive habitat destruction, significant increases in the risk of slides and erosion, and the application of unprecedented amounts of toxic herbicides over an extended period, without a commensurate reduction in fire risk. A bad deal all around....unless the objective is to achieve landscape transformation.

We believe that it's unlikely this sort of approach will be justifiable, especially in light of their questionable effectiveness, extreme environmental cost, and the fact that there are better alternatives. We believe that there is little doubt that these projects, as currently defined, will not be acceptable under an EIS, and suggest that FEMA not allow these projects to move forward.

It should be further noted that there is currently pending litigation for the CEQA EIR used to justify these projects, and until this litigation is resolved, it would be impossible to understand the cumulative impact of the proposed actions.

In summary, the Hills Conservation Network recommends the No Action Alternative for the 2 UC PDM applications and the Frowning Ridge portion of the Oakland PDM 06 application. We make this recommendation because it is clear that the projects proposed are not only of questionable effectiveness in mitigating fire risk, but are not in compliance with FEMA guidelines for this program.

We recommend that the Oakland Caldecott Field project be allowed to move forward under Alternative 3, with following the specific guidelines we have proposed.

We recommend that the EBRPD HMGP grant be considered under Alternative 4, allowing for the portions of the project involving understory and ground fuels removal, but not allowing for the portions that involve the removal of trees. This is due to many of the same failings of the 3 UC projects involving failure to comply with FEMA guidelines and failure to demonstrate that these projects will actually mitigate the risk of fires.

Sincerely,

Dan Grassetti
On behalf of the Hills Conservation Network

EBH-EIS-FEMA-RIX

From: isis feral [isisferal@yahoo.com]
Sent: Friday, October 01, 2010 9:12 AM
To: EBH-EIS-FEMA-RIX,
Subject: Comment on FEMA-2010-0037
Attachments: FEMA-EBH-EIS-100110.pdf

Please see attached comments on Docket number FEMA-2010-0037, the East Bay Hill Environmental Impact Statement (EBH EIS).

Return receipt requested.

Thank you.

Isis Feral
isisferal@yahoo.com

**Comments on the East Bay Hills Environmental Impact Statement (EBH EIS)
for the Federal Emergency Management Agency (FEMA)
Wildfire Pre-Disaster and Hazard Mitigation funding requested by
the University of California, City of Oakland, and East Bay Regional Park District
DOCKET FEMA-2010-0037**

Isis Feral - October 1, 2010

The University of California (UC), the City of Oakland, and the East Bay Regional Park District (EBRPD) have applied for FEMA funding for four fire mitigation projects in the East Bay Hills, spanning 2,000 acres in Alameda and Contra Costa Counties.

FEMA funding for these projects should be denied, because the planned actions do not accomplish the purpose of the Pre-Disaster and Hazard Mitigation Grant programs. They do not protect life, but instead increase fire danger and contribute to other environmental hazards.

INCREASED FIRE DANGER

The projects' stated intent is to reduce fire danger, but the proposed actions are more likely to increase fire danger. In addition to clearcutting moisture-rich forests and turning them into dry, flammable grasslands, as well as removing windbreaks, giving Diablo winds free rein to drive fires into our communities, herbicides are planned for use, which increase the flammability of vegetation, and may themselves have flammable components.

The three projects described on UC's projects' page under "In Planning", which includes the project for which the City of Oakland seeks funding (http://oep.berkeley.edu/programs/fire_mitigation/index.html), list Garlon 4, for example, as one of the herbicides to be used in these projects. One formulation of Garlon 4 contains kerosene, which is highly flammable (<http://www.cdms.net/Ldat/mp0B0014.pdf>).

The manufacturer's Material Safety Data Sheet for Stalker, another herbicide to be used, warns that if the product is involved in a fire, toxic vapors will be released (<http://www.cdms.net/LDat/mp01R007.pdf>). This is not an unusual warning for pesticide products, and shows that chemical use in fire prone areas is particularly irresponsible.

Experiments by community activists also showed that herbicides in general make vegetation more flammable than vegetation that was not exposed to herbicides (<http://www.dontspraycalifornia.org/Cherie1%20Response.html>).

ADDITIONAL ENVIRONMENTAL HAZARDS

Pesticides are hazardous to both human and ecological health. Some of the specific dangers of the herbicides listed in the three projects on UC's site:

Garlon <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/triclopyr>

The active chemical ingredient in Garlon is triclopyr. Acute exposure symptoms include, but are not limited to, difficulty breathing, lethargy, incoordination, weakness, and tremors, as well as skin sensitization, increasing

subsequent exposure symptoms. In lab animals an increased incidence of breast cancer, kidney damage, various reproductive problems, and genetic damage, was observed. Triclopyr's breakdown product 3,5,6-trichloro-2-pyridinol (TCP) disrupts nervous system development, and in lab tests, it accumulated in fetal brains when exposed during pregnancy.

Triclopyr also causes complex ecological impacts, including, but not limited to, interfering with nitrogen cycling, and inhibiting the growth of beneficial mycorrhizal fungi that aid nutrient uptake in plants. It has been observed to reduce the diversity of mosses and lichens. The breakdown product TCP is toxic to soil bacteria. Triclopyr is mobile and persistent in soil, has contaminated wells, streams, and rivers, and has the potential to contaminate ground water. Increased growth of algae has been observed after triclopyr applications. It is highly toxic to fish, affects oyster larvae, and disturbs frog behaviors that help them avoid predators. It also decreases the survival of bird nestlings, is toxic to spider mites, and affects other beneficial insects and spiders by killing plants they depend on for food and shelter.

Roundup <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/glyphosate>

The active chemical ingredient in Roundup is glyphosate. Roundup also contains the surfactant polyethoxylated tallowamine (POEA), which is even more toxic than glyphosate, and the combination of the two is more toxic than either chemical on its own. Acute exposure symptoms include, but are not limited to, eye and skin irritation, blurred vision, skin rashes and blisters, headache, nausea, dizziness, numbness, elevated blood pressure, heart palpitations, coughing, congestion, and chest pains. Extended exposures have been associated with non-Hodgkin's lymphoma, miscarriages, premature birth, and other reproductive harm. In lab animals there was an increase in testicular, kidney, pancreas and liver tumors, as well as thyroid cancer. Studies have shown glyphosate to be mutagenic, and to cause chromosome and DNA damage.

Glyphosate also causes complex ecological impacts, including, but not limited to, inhibiting the growth of nitrogen-fixing bacteria and mycorrhizal fungi, reducing seed quality, and making plants more susceptible to disease. Glyphosate drifts extensively, and is mobile and persistent in soil. Its persistence in soil varies widely, from days to months, but has been found to persist on some forest sites for as long as 3 years. It has been found in both ground and surface water, has found its way into streams and rivers, and contaminated wells. Both glyphosate and POEA are toxic to fish. Roundup has been shown to kill various beneficial insects, such as species of parasitic wasps, lacewings, ladybugs, predatory mites and beetles. Glyphosate also reduces the growth of earthworms, and affects other beneficial insects, spiders, birds, and wildlife by killing plants they depend on for food and shelter.

Stalker <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/imazapyr>

The active ingredient in Stalker is imazapyr. Acute exposure symptoms include, but are not limited to, eye and skin irritation. It is corrosive and can cause irreversible eye damage. Acute effects on lab animals included bleeding and congested lungs, congestion of kidneys, liver, and the intestine. Chronic exposure in lab animals caused fluid accumulation in the lungs, kidney cysts, abnormal blood formation in the spleen, increase in brain, adrenal gland, and thyroid cancers. Quinolinic acid, a breakdown product of imazapyr, causes eye, skin, and respiratory irritation, and is a neurotoxin which causes nerve lesions and symptoms similar to Huntington's disease.

Imazapyr is very mobile and persistent in soil. It has been shown to persist in soil for well over a year. It can disrupt nutrient cycling by slowing down the decomposition of plant material. Imazapyr has contaminated both surface and ground water. Ozone degradation, to remove pesticides from drinking water, removes only half of the contamination. Imazapyr is highly toxic to fish.

In addition, herbicides listed in EBRPD's fire plan (http://ebparks.org/files/fireplan/EBRPD_WHRRM_Plan/5-VegMan.pdf) include:

Clopyralid <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/clopyralid>

Clopyralid is an eye irritant. Some products containing clopyralid can cause permanent impairment of vision. In lab animals clopyralid caused substantial reproductive problems, including reduced weight and skeletal abnormalities, as well as excess fluid around the brain, of fetuses. Effects on the stomach, liver, blood, and body weight of animals was also observed.

Clopyralid is persistent in soil, and has been measured in soil for up to 14 months. Residues have also been found in compost and mulches, causing damage to plants where used as soil amendments. Plant damage from clopyralid can be passed on for several generations. Clopyralid is particularly volatile, drifting away from the site of application by evaporating from foliage. It is also very soluble in water and very mobile in soil, and has been found in river basins. It is toxic to several beneficial insects, including species of lacewings, ladybugs, and pirate bugs.

Dicamba <http://www.pesticide.org/get-the-facts/pesticide-factsheets/factsheets/dicamba>

Dicamba exposure symptoms include muscle cramps, shortness of breath, nausea, vomiting, loss of voice, swollen glands, skin irritation and sensitization, as well as severe eye irritation, and can result in irreversible eye damage. It is associated with the inhibition of the nervous system enzyme acetylcholinesterase, as well as non-Hodgkin's lymphoma. In lab animals it has caused weight loss, liver damage, and fetal loss. Dicamba has caused chromosome and DNA damage.

Dicamba evaporates easily and has been shown to drift for miles. It is toxic to some nitrogen-fixing bacteria, as well as some algae that contribute to soil fertility, and it impacts soil nutrient cycling by reducing enzyme activity in soil microbes. It is mobile in soil, and has been shown to persist in soil as long as a year. It has contaminated rivers, ponds, groundwater, and drinking water supplies. Tests show wide variations of toxic effects on fish and other aquatic organisms. Researchers have documented that dicamba reduced germination of oak seedlings.

Undisclosed ingredients and chemical mixtures

In addition to active ingredients and their breakdown products, herbicides contain a large percentage of so-called "inert" ingredients, which are kept undisclosed, protected as "proprietary" by trade secret laws. They are frequently even more toxic than the active ingredients listed on the label, and are specifically designed to interact synergistically to achieve greater toxicity than each chemical by itself (<http://www.zhponline.org/members/2006/9374/9374.pdf>).

Some inert ingredients, such as the surfactant POEA in Roundup, have been identified. POEA causes eye burns, skin redness and swelling, blistering, nausea, and diarrhea. Another ingredient in some Roundup products is isopropylamine, which causes injury to the tissue of the mucous membranes and upper respiratory tract, wheezing, laryngitis, headache, and nausea. The details about most other inert ingredients and their effect is being withheld from the public, including from medical workers.

Contamination during manufacture further adds to the danger of chemical use. POEA is contaminated during manufacturing by 1,4 dioxane, which is recognized as a carcinogen under Proposition 65. Dicamba is contaminated during its manufacture with 2,7-dichlorodibenzo-p-dioxin, which has been shown to cause birth defects and cancer. Dicamba can also be contaminated with dimethylnitrosamine, which causes cancer as well.

Synergistic effects also come into play when herbicide products are being combined, as UC has been known to do. Mixing can also occur when different herbicides are used near each other, and chemicals combine as they drift by air, water, soil, and contact. Because chemical residues can persist in the environment for a long time, subsequent applications of different herbicides can also combine into new mixtures. Synergism can exponentially increase chemical toxicity (<http://www.ourstolenfuture.org/newscience/synergy/mixtures.htm>).

Dose response

Manufacturers and other proponents of pesticides often downplay the dangers, by claiming that they are using a negligible quantity of chemicals. While this is debatable on many levels, it is also irrelevant. Some effects, specifically endocrine disruption, are subject to a non-monotonic dose response, where decreasing exposure levels can actually cause greater impacts (<http://www.ourstolenfuture.org/news/science/lowdose/nonmonotonic.htm>). Disruptions to the endocrine systems are far reaching, and can cause a vast number of reproductive problems, various cancers, and can impair immune and neurological functions.

Body burden studies (<http://www.ewg.org/sites/bodyburden1/>) have shown that chemicals accumulate and persist in our bodies over time, including chemicals to which we were exposed by drift or extensive cross-contamination. Most alarming are the increasing findings that chemical injuries are being passed on by various means over generations (<http://www.organicconsumers.org/Politics/toxins060605.cfm>).

Chemical exposures have harmed countless people, causing fatal or disabling illnesses, including, but not limited to, lung diseases, cancers, neurological disorders, reproductive harm, immune deficiencies, and increased sensitization to chemicals. For millions of people already disabled by exposure to toxic chemicals, the herbicide applications by UC, EBRPD, and the City of Oakland present especially severe health risks and direct obstacles to access. They deny access to local public parks to those of us who most need refuge from urban pollution. Obstacles to access to public space are a violation of the Americans with Disabilities Act.

Native habitat

While the stated intent of the agencies requesting FEMA funding is fire mitigation, their plans specifically single out non-native plant species for eradication. It appears UC, EBRPD, and the City of Oakland are attempting to use federal emergency monies for native plant restoration projects.

Ironically, these projects are actually a threat to already endangered native species in the East Bay Hills. Several of the herbicides threaten the California Red-Legged Frog (<http://www.biologicaldiversity.org/swcbd/PRESS/rIf-10-19-2006.html>), whose habitat is not adequately protected against the drift these chemicals are known for. Both the Alameda Whipsnake and Pallid Manzanita are threatened by the exclusion of fire from their habitat. The Pallid Manzanita specifically cannot reproduce without fire to sterilize the soil and scar its seeds.

These native species are threatened with extinction because of human intervention with chemical vegetation management practices and aggressive wildfire prevention, the very actions these projects propose more of.

So much damage has already been done, that the Berkeley Police recently was caught unprepared by a mountain lion driven into the city, where it posed a substantial threat to a neighborhood a few blocks away from downtown (<http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/08/31/MNV41F6FIP.DTL>). With ever larger areas of habitat disturbed by vegetation removal and poisoning of the environment, communities surrounding the hills will likely see more such desperate, disoriented, and quite possibly poisoned, wildlife wandering into our neighborhoods.

CONTEXT

To consider the full environmental impact of these four projects, they must be understood not only in combination with each other, but also in the context of the series of projects, which these projects are part of, and which affect hundreds of thousands of trees, on thousands of acres. Details about the projects these three agencies are involved in, can be found at the following weblinks:

- UC Berkeley's projects: http://oep.berkeley.edu/programs/fire_mitigation/index.html
- EBRPD's projects: <http://www.ebparks.org/stewardship/fireplan/plan>

- Maps of UC and EBRPD projects: http://www.hillsconservationnetwork.org/Cumulative_Impact.html
- Photos of projects and damage already done: http://www.hillsconservationnetwork.org/Site_Index.html
- Map of Oakland's Wildfire Prevention Assessment District:
<http://www.oaklandnet.com/wildfirePrevention/docs/WPADistrictMap.pdf>

DISHONEST AGENCIES

University of California

UC's request for federal emergency monies appears to be a development scheme in the making: The two areas (http://www.hillsconservationnetwork.org/LBL_and_UC_Link.html) for which UC requests FEMA funding are immediately adjacent to Lawrence Berkeley National Laboratory, which is operated by UC, and is slated for massive expansion (<http://www.lbl.gov/LRDP/>). It is not FEMA's responsibility nor prerogative to fund LBL's Long Range Development Plan.

City of Oakland

Oakland's approach to fire mitigation has also been less than honest: In 2004 the city convinced East Bay Hills residents with brochures that pictured grazing goats, to pay an assessment for wildfire prevention. When the money was collected in 2005, officials suddenly attempted to exempt the Wildfire Prevention Assessment District from the city's pesticide ordinance. After the pesticide proposal was successfully challenged by the public, and the city agreed to conduct environmental impact studies, the city instead quietly entered into a partnership with UC to engage in the exact same actions, in violation of Oakland's pesticide ordinance (http://oep.berkeley.edu/pdf/FireProjects/OtherDocs/ARfire_2005.pdf).

East Bay Regional Park District

EBRPD's Fire Plan and Environmental Impact Report is currently facing legal challenges by East Bay Hills residents (http://hillsconservationnetwork.org/Blog/Entries/2010/5/26_HCN_files_suit_against_EBRPD.html), and as such should not be aided by FEMA.

FEMA GRANT PROGRAMS

FEMA has already recognized that UC mischaracterizes fire danger, and does not have a handle on fire safety, when UCSF applied for a fire mitigation grant for the same kind of project in a similar environment in San Francisco (<http://milliontrees.wordpress.com/2010/09/24/fema-sees-through-the-smokescreen/>). The FEMA grant applications for the East Bay Hills should be denied for the same reasons FEMA representatives expressed concerns during that application process.

The FEMA grant programs specify that the goal is to protect life. Chopping down forests and poisoning the environment accomplish the opposite. These projects do not create defensible space to safeguard homes. The vegetation removal is not limited, but will result in clear cuts. Plants targeted are being vilified as "invasives", which implicitly makes these projects pest control projects, and not eligible for the grants.

The FEMA East Bay Hills Environmental Impact Statement should reflect the real dangers these projects pose to public and environmental health, and put on the environmental record the actions these agencies, under the guidance of UC, are already undertaking, so that they can be held accountable for the environmental devastation they are perpetrating on our ecosystem.

EBH-EIS-FEMA-RIX

From: carole schemmerling [caroleschem@hotmail.com]

Sent: Friday, October 01, 2010 11:42 AM

To: EBH-EIS-FEMA-RIX,

Subject: Request

Attachments: FEMA LTR.rtf

This is our response to the FEMA presentation last month.

STRAWBERRY CREEK WATERSHED COUNCIL

The Strawberry Creek Watershed Council is opposed the funding of the 2 UC PDM grants because they are examples of the worst forestry and fire management practices possible.

* Clearcutting is a practice that leads to erosion, establishment of exotic (ie: European annual rye) grasses and low species which become the fuel of the next big fire. The loss of canopy creates the depletion of moisture in a drought-prone environment.

* Plans to urbanize the ridges above the UC and LBNL Campuses, whether with housing or research are irresponsible to the extreme. Southern California has allowed this practice and suffers huge losses from fire every year. **It should be noted that those areas have no trees.**

* Plans to use pesticides/herbicides are profitable for the manufacturers and the purveyors of these materials, but are a terrible detriment to the ecosystems that will be affected by them. There is no logical reason to use them if proper forestry practices are followed.

* The appropriate practices are:

1. Cull small trees with trunk diameters of less than 6-8".

2. Remove lower limbs of trees having the 8' trunk diameter, but leaving the upper canopy thick enough to shade the floor.
3. Keep the spaces between the large trees (10' plus or minus) clear by weed-wacking in September and October. (Think of all these "green" jobs....much better to hire humans than buying chemicals)

* The species of trees is not as important as long as the appropriate practices are followed. Case in point: in the 1991 Oakland fire, a property owner who lived at the bottom of a grassy slope of at least 200' or more; he also had eucalyptus trees clustered on the side just about 10' above his house , some small live oaks nearby and a couple of redwood trees next to his house. A week earlier he had removed fallen branches and leaves from under the eucalypts and the redwoods. When the fire came roaring down the grassy slope, it went under the trees and burned his house to the ground. **None of the eucalypts or the other trees where burned or even singed.**

* It is important to note that the slopes and headwater streams at the LBNL site are already contaminated by toxics and are prone to landslides. What UC and LBNL want to do up on the ridge, at the top of Strawberry Canyon and Centennial Drive, if allowed, is going to create an even more unsafe, fire prone and landslide prone situation.

Therefore we request that there be NO funding of the UC PDM grants.

Sincerely,

Carole Schemmerling
861 Regal Rd.
Berkeley, Ca 94708
510.524-4005

EBH-EIS-FEMA-RIX

From: Madeline Hovland [mhovland@mindspring.com]
Sent: Friday, October 01, 2010 1:00 PM
To: EBH-EIS-FEMA-RIX,
Subject: East Bay Hills EIS-public comments
Attachments: FEMAcComments-Hovland-10-1-2010.pdf; ATT810487.txt



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vland-10-1-2010...



ATT810487.txt
(153 B)

To: Mr. Alessandro Amaglio

I am a member of the Hills Conservation Network, but this is my comment as an individual and as a resident of the East Bay Hills. I live in Oakland, even though the zip code is Berkeley.

Thank you for the opportunity to comment on these projects.

Please call me if you have any difficulty opening or reading this comment.

Public Comment from Madeline Hovland on EBH-EIS

1

To: Mr. Alessandro Amaglio, Environmental Officer, FEMA Region 9 Docket ID FEMA-2010-0037

PUBLIC COMMENT on EIS for Hazardous Fire Risk Reduction Projects in the East Bay Hills

I live on Alvarado Road in the North Hills of Oakland. On October 20, 1991 my family was fortunate; as I said in my comment at the FEMA public meeting on August 26, 2010, our house is in a group of approximately 15 houses that did not burn in the 1991 Oakland-Berkeley fire. The fire stopped up the street at three giant eucalyptus trees at the edge of Garber Park. (The fire also burned houses on Alvarado below Slater Lane down to Vicente, and on most of Gravatt in our immediate neighborhood.) Those tall, thick-trunked eucalyptus trees (still there) did not ignite despite all of the embers, sparks and debris flying through the air. If any sparks or embers landed in the foliage of other tall eucalyptus or pine trees close to our house, their crowns did not ignite. *However, all of the native oaks, bays, dry grass, weeds and brush across the street, and a redwood standing next to a eucalyptus tree in a neighbor's yard, caught fire and burned to the ground.*

My observations of what had burned—and not burned—around our house during that terrible fire made me question the anti-eucalyptus fervor that broke out in our North Hills community a few years later. Some members of this community may sincerely believe, or have been led to believe, that non-native trees, especially eucalyptus trees, were the primary cause of the 1991 fire, if not the reason why it spread. These theories contradict reports that were done immediately after the fire.

According to Peter Scott, whose house at Alvarado and Amato burned in the fire (see “What Caused the Oakland-Berkeley Hills Fire,” HCN newsletter, September, 2010*), there were several causes, and eucalyptus trees played a very minor role. (Scott's account is based on the Grand Jury investigation that followed the fire and the extensive history of the fire issued by California's Office of Emergency Services, which does not even mention eucalyptus.)

A group of us, including several who had survived the 1991 fire, became increasingly concerned about the anti-eucalyptus rhetoric, especially after we saw the clearcutting that UCB was doing (ironically in the name of fire risk mitigation) in Claremont Canyon. We are not experts in fire science, but we did a lot of research, and what we learned caused us to question UCB's methods, which we now believe to be totally counter-productive to fire prevention. We are convinced that the efforts of UCB and EBRPD to remove non-native trees are directed primarily to advancing the restoration of native plant landscapes, and only secondarily to fire risk mitigation.

I am a member of the Hills Conservation Network, which was organized in late 2007 to advocate with public agencies and residents for cost-effective, environmentally friendly fire risk mitigation. HCN supports the reduction of fuel loading while maintaining species diversity and preserving an environment that will be sustainable in the future.

As a resident of this urban-wildland interface, there is no way I can agree with the Sierra Club's Norman LaForce (in his public comment to FEMA, September 12, 2010) that “natural resource protection [should be] given equal status with fire hazard reduction work.” By “natural resource,” Mr. LaForce means native plants and trees. If Mr. LaForce lived in this area, he might believe, as I do, that nothing is as important as fire hazard reduction work that protects human lives and wildlife.

* All HCN newsletters referred to in this comment may be found at:
http://www.hillsconservationnetwork.org/Additional_Resources.html

Public Comment from Madeline Hovland on EBH-EIS

2

I. COMMENTS ON UCB PROJECTS:

These projects are described as follows:

- The Claremont Canyon Vegetation Management Project (PDM-PJ-09 CA 2005-003) submitted by UCB involves felling all eucalyptus, Monterey pine, and acacia trees on approximately 45 acres of UCB property, chipping the downed trees and scattering the chips in the cleared area, and semi-annually applying herbicides to eradicate eucalyptus tree sprouts.
- The Strawberry Canyon Vegetation Management Project (PDM-PJ-09-CA-2005-011) submitted by UCB involves felling all eucalyptus, Monterey pine, and acacia trees on approximately 60 acres of UCB property, chipping the downed trees and scattering the chips in the cleared area, and semi-annually applying herbicides to eradicate eucalyptus tree sprouts.

I urge FEMA not to implement either of these UCB grants for the following reasons:

1. UCB did not respond to any of the concerns that were raised after the release of the DEA in 2007.

HCN members worked together in January of 2008 to create 39 pages of comments, including five pages of copies of petitions opposing the UCB clearcutting (more than 200 signatures), and an extensive annotated bibliography of books and articles that backed up our comments. Our concerns were based on UCB's methods for reducing wildfire risk: clearcutting non-native trees and chipping the remnants on site, in several places leaving highly ignitable wood chips to a depth of several inches.

Our concerns were and still are valid. The description of UCB's projects in Claremont and Strawberry Canyons has not changed. I believe that these projects are environmentally destructive, and that the management of UCB's "fire mitigation" projects will resist any changes in its goal, which is ultimately to eradicate all the non-native trees on UCB property in the hills, regardless of the effect that landscape transformation might have on the increase in flammable, ignition-prone weeds, and the disastrous effect it would have on wildlife habitat, air quality, erosion and slope stability.

The description of the UCB projects does not comply with FEMA Policy MRR-2-08-1 for wildfire mitigation. In fact, it seems to ignore the FEMA guidelines. FEMA should not fund these UCB projects because they appear to be simply a repetition of the methods and goals of the original DEA submitted by UCB. FEMA has required an EIS for the four East Bay Hills grants in part because UCB did not respond to the concerns raised by that DEA.

2. The UCB projects involve clearcutting.

According to FEMA Mitigation Policy-MRR-2-08-1, clearcutting is a wildfire activity that is not eligible for funding. FEMA should not fund the UCB projects because they involve clearcutting.

Even though the description of the two UCB projects does not describe its method as "clearcutting," we have seen, from UCB work already done in the canyons, that clearcutting is what will be done. UCB intends to remove all of the non-native trees, leaving only stumps behind. Heavy equipment will be used to remove the trees, disturbing the ground and increasing the susceptibility to erosion and slope instability in the coming years when extreme weather conditions (including intense rainstorms) can be

Public Comment from Madeline Hovland on EBH-EIS

3

expected due to global climate change. As reported in the *Washington Post* and in the *San Francisco Chronicle* September 29, 2010, "David Easterling, chief of the Scientific Services Division at the National Oceanic and Atmospheric Administration's Climatic Data Center, said there will be more incidences of extreme weather because the planet is heating up." (<http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/09/29/MN9L1FL45S.DTL>)

3. According to FEMA Mitigation Policy MRR-2-08-1, "FEMA hazard mitigation assistance for wildfires is only focused on long-term and cost-effective actions taken to reduce the risk to specific property or structures from future wildfires."

The Claremont and Strawberry Canyon projects will not "reduce the risk to specific property or structures from future wildfires." Therefore, FEMA should not fund them.

There has never been a wildfire of any significance in either project area. The 1991 Oakland-Berkeley fire (which started in dry grass and brush, and quickly became a structure fire) did not extend to the north side of Claremont Canyon or to Strawberry Canyon. Claremont Avenue acts as a kind of fire break to the north side of the canyon. The danger to vegetation on the north side of Claremont Avenue would be primarily from ignition due to arson, a carelessly thrown cigarette or sparks from a vehicle.

There may be a few widely scattered structures within the area of the Claremont and Strawberry projects, but they could be protected by creating a wide perimeter around those structures, removing or thinning flammable vegetation, cutting trees smaller than 6 inches in diameter (which would remove approximately 70% of the fuel), removing ground fuels, cutting down the understory, and removing tree branches so that they are all at least 8 feet above the ground.

UC Berkeley has not conducted any independent fire risk analyses by professional analysts not affiliated with UCB on the potential for fire in these areas.

The Claremont and Strawberry Canyon clearcutting projects would increase, not reduce, the possibility of ignition. Once the shade is removed, highly flammable weeds, brush and tall grass will grow and thrive in the clearcut areas. (See Jon E. Keeley, "Fire Management Impacts on Invasive Plants," USGS, April 2006.)

Despite the fear of non-native trees that UCB fire managers attempt to inject into the debate about how many of them should be retained (very few in their opinion), many tall, ornamental eucalyptus trees and pines can be seen throughout the UCB campus, some of them with branches overhanging rather dangerously close to roads bordering the campus and along walks crossing the campus. Many of these trees are close to residences and campus buildings, some of them less than 20 feet from structures. UCB might well request FEMA funds to create defensible space and otherwise provide safety zones around those structures rather than attempting to gain funds to cut down trees in forests far from structures, in forests that are not in high-hazard zones.

In an article about the importance of fireproofing homes and buildings, and creating defensible space around them, Jack Cohen, research physical scientist for the U.S. Forest Service, agrees with the FEMA guidelines. He states, "The wildland threat to homes is not where it happens related to wildlands but how it happens related to home ignitability. . . [research] indicates that the wildland-urban interface home fire loss problem is a home ignitability issue largely independent of landscape fuel reduction

Public Comment from Madeline Hovland on EBH-EIS

4

issues. . . ("What is the Wildland Fire Threat to Homes," a research paper presented at the Northern Arizona University School of Forestry, April 2000). According to Cohen, "It is the home ignition zone that principally determines the potential for wildland-urban interface disasters. . ." ("The Wildland-Urban Interface Fire Problem," *Forest History Today*, Fall, 2008.)

It is important to thin and maintain all of the vegetation in the UCB project zones where necessary to achieve fire safety. However, the work should be done in a species-neutral manner; the slender, more flammable trees less than 6 inches in diameter should be removed as well as brush, understory, and fire ladders. Lower branches of all trees should be cut. Species diversity, not a monoculture forest, should be encouraged. Efforts should be made to retain not only the biggest trees, but also a variety of trees.

4. Removing the tall non-native trees listed in the description of the Claremont and Strawberry Canyon projects will increase the fire hazard.

Thick tree trunks are fire-resistant. "Older trees . . . cope with fire through thicker barks that make them relatively immune to flames" (Robin Doughty, *The Eucalyptus*, Johns Hopkins Press, 2000). Tall trees with thick trunks that are well-maintained with branches high above the ground, spaced at a distance from each other of 10-15 feet, will not burn as easily as trees such as native oaks and bays that have branches drooping close to or even touching highly ignitable ground fuels (weeds and brush) or tall dry grass. "Fine fuels (those with a diameter of 1/4 inch or less) and not tree trunks are what contribute to the intensity of wildfire. . . the university has not reduced but compounded its wildfire danger problem in the UC hill area by replacing groves of eucalyptus trees with grassland." (Alexander Kerr, former wildland fire official in Australia, *An Evaluation of the Fire Management Plan for the UC Hill Area*, Unpub. Report, 1991.)

When canopy is removed, flammable weeds, such as dried grass, brush, broom, and poison hemlock that thrive best in the sun will come into the area, as can be observed on sites that UCB has already clearcut in Claremont Canyon.

Small, young trees, not big trees, should be removed in the thinning process. There is paradoxically more fuel in young trees than there is in the older, larger, taller trees. In a fire, all of the shorter, more slender trees, trunk, branches and leaves will be fuel because they are closer to flames on the ground. The trunks of tall trees may be scorched, but it is unusual to have them ignite; even if ignited, the trunks usually do not burn completely. If left standing after a fire, trees may look dead, like blackened poles, but if they are not cut down, in four or five years, new shoots and then new branches appear. Flames will not reach up to the upper branches and leaves of tall trees (with their fire ladders removed) unless there is a Diablo wind-driven fire (in which case everything in the path of the fire may burn). Ann S. Fege, biology professor at San Diego State University, in her interesting report on eucalyptus trees and wildfire risk reduction in San Diego reminds us that "Photos of the 2003 wildfires in Scripps Ranch show that eucalyptus did not burn in canopies." (For Dr. Fage's report, see: http://scrippscentral.com/CitySD_ScrippsRanch_EucTrees_Fege_19jun09%202.pdf See the Scripps Ranch post-fire photos at <http://scrippscentral.com/photos.htm>)

UCB's proposed removal of tall trees will increase the fire danger in Claremont and Strawberry Canyons. Since the goal of FEMA Policy MRR-2-08-1 is to mitigate wildfire, not increase the hazard, FEMA should not fund the UCB projects.

Public Comment from Madeline Hovland on EBH-EIS

5

5. The flammability of vegetation has nothing to do with whether the species is native or non-native.

Flammability depends on the characteristics of a tree, such as how tall it grows, how thick the trunk is, how much moisture it absorbs and contains in its roots, trunk, and foliage, the size, shape, and thickness of its leaves, whether it is evergreen or deciduous, how much oil is in the leaf (vs. the amount of water in the leaf), the presence of oils and resins in the leaves or branches, the branching pattern, and the amount of dead material retained within the tree. (See J. Douglas Doran and others, *Fire in the Wildland-Urban Interface*, USDA Forest Service, 2004, or <https://edis.ifas.ufl.edu/fr147>.)

Much of the information exaggerating the hazards of eucalyptus trees comes from biased, unscientific sources. UCB's current Environmental Projects Manager co-authored a brochure about the "wildfire threat" of blue gum eucalyptus that is frequently referenced by UC, EBRPD, the Sierra Club, the National Park Service, and other groups that consider the restoration of native plant landscapes to be one of their missions.

This brochure includes falsifications about the hazards of eucalyptus trees that are presented as accepted facts. A few examples:

- Eucalyptus flowers suffocate local short-beaked birds.
The fact is: Many species of birds and other animals depend on eucalyptus and other non-native trees for food, and/or nest or roost in them. (See "Birds and Blue Gum: Love or Death," HCN Newsletter, April 2010. This article, supported by several scientific references as well as observations, reports, and photographs from local and Australian experts on birds, completely debunks the bogus claim that eucalyptus trees and flowers are dangerous to birds, bees, and butterflies.)
- The height of euc trees contributes to "convenient fire spread."
The fact is: Tall trees are less likely to spread fire than trees such as oaks and bays with branches hanging close to the ground. What studies have the brochure authors made to corroborate their claim that euc trees spread fire more "conveniently" than other trees?
- Eucalyptus trees "explode" when heated in fire.
The fact is: Scientists have been unable to make a eucalyptus tree, or any other tree species, explode in fire. In a fireplace, a log from a eucalyptus tree is slow to ignite and does not explode. What evidence do the brochure authors have that eucalyptus trees explode?

As long as UCB and other agencies continue to hype the dangers of eucalyptus trees without providing any evidence for their claims, their comments about eucalyptus must be considered biased and nonscientific. (Also see "Pitching Myths and Knocking 'em Down," HCN Newsletter, February 2010.)

I do not deny that eucalyptus was one of many vegetation species that provided fuel for the 1991 Oakland-Berkeley fire. Eucalyptus leaves contain about as much oil as the leaves of California bay trees. Both eucalyptus leaves and bay leaves are flammable. The bark of eucalyptus trees shreds in long pieces and falls to the ground, so the debris under them needs to be picked up on a regular basis as does the debris under oaks, which is drier than euc debris and may be more flammable. "Oak leaves and litter burn much more readily than the litter and leaves of other hardwoods. . . Oak leaves tend to be drier (more xerophytic) than other hardwood species, making them more flammable." (from

Public Comment from Madeline Hovland on EBH-EIS

6

"Managing Fire in Oak Savannas," <http://oaksavannas.org/fire-fuel.html>)

The UCB projects are based on the unscientific, biased premise that native vegetation is less flammable than non-native. Native plant advocates may prefer to remove eucalyptus, pines and acacias to encourage the growth of native oaks and bayes, but some characteristics of native trees make them far from "far-safe." FEMA should not fund the UCB projects because eliminating all of the non-native trees, while preserving flammable oaks and bayes, and extremely flammable native chaparral and grasslands, will do little or nothing to protect life and property in the wildland-urban interface.

6. Chipping the downed trees and scattering the chips, leaving them at a depth of several inches on site, will increase the fire hazard.

Dry wood chips are easy to ignite from a tossed cigarette when wood chips are allowed to dry out. A fire ignited by a spark from a catalytic converter, or a dragging tailpipe can smolder and spread below the surface of woodchips to rise into flames when the wind whips through the area.

Wood chips spread thickly over the ground are bad for the environment, especially for wildlife habitat. Snakes, small creatures, and wild bees that nest or hunt in the ground or hunt need some bare ground to survive. "... some 60-70% of native bees. ... make their nests in the ground and they need access to bare dirt to do so." (See Ron Sullivan, "Too Mulch of a Good Thing," *Berkeley Daily Planet*, April 11-14, 2008.) As the chips decay, they release CO₂, a greenhouse gas that increases global warming.

Weeds come up through the wood chips, increasing the fire hazard, especially as the weeds and brush dry out at the height of the fire season. Crews with pesticide packs have been observed spraying weeds (broom and poison hemlock) with pesticides (probably Garlon 4 Ultra or Roundup) in areas previously clearcut by UCB. Weeds grow and thrive wherever shade has been lost when tall trees are removed. The pesticides cause the weeds to die back (where they are left to dry on the ground) and provide more fuel for ignition).

Chipping downed trees on site was someone's idea to save money; this practice is bad for the environment and it creates a fire hazard. FEMA should not fund the UCB projects because UCB methods specify chipping on site and spreading wood chips in deep layers over the ground.

7. Toxic pesticides are dangerous to people, wildlife, and the environment.

It has become standard practice to spray or paint Garlon 4 Ultra on cut stumps of eucalyptus trees. To prevent eucalyptus trees from resprouting, the companies that manufacture pesticides claim that it is necessary to paint every stump twice a year for more than 10 years. No studies have been done to determine whether all cut stumps—regardless of the age or size of the cut tree—would resprout. These studies should be done because it is important to decrease the amount of pesticides used. Several large eucalyptus stumps that were cut down in my neighborhood within the last 5 years, have not resprouted, even though they were not painted with Garlon 4 Ultra.

Hand labor can be used to cut off sprouts on a regular basis, if and when sprouts appear. There is observational evidence that, after sprouts are cut off for two or three years, the stump no longer grows sprouts. Pesticides should not be used, as they are now, on stumps close to streams, roadsides,

Public Comment from Madeline Hovland on EBH-EIS

7

and trails. In some cases, crews from UCB have been observed spraying pesticides close to roadsides. No signs were posted to warn the public even though signage of pesticide spraying is required by law.

According to SF's Dept. of the Environment, Garlon 4 Ultra (triclopyr) is a highest hazard pesticide in the "limited use, special concern" category. (See www.SFEnvironment.org/IPMchecklist.) The EPA describes it as "very mobile in soil" with "the potential to leach to ground water." Laboratory tests have shown that triclopyr significantly increases the frequency of breast cancer in laboratory animals. "There is no such thing as a safe herbicide; all herbicides have the potential to cause adverse effects at some level of exposure. . . Triclopyr (Garlon) poses the highest risk to workers, the general public, and most aquatic and terrestrial wildlife." (Marin Municipal Water District Herbicide Risk Assessment, Draft, August 26, 2008.)

To kill the thickets of weeds that move into the area after shade canopy is removed, Roundup (glyphosate), a pesticide that has been linked to Hodgkin's lymphoma and multiple myeloma, is typically used. A study from the University of Caen in France, published in January, 2009, says 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. Syndicated columnist and entomologist Richard Fagerlund wrote, "It is my opinion that Roundup should not be used in any public area. . . where people can unknowingly come in contact with it." ("Roundup's Dangers Confirmed in Report," *SF Gate*, July 8, 2009.)

The use of pesticides to prevent resprouts is highly controversial in this community.

FEMA should not fund the UCB projects because UCB has done no independent studies to determine the effects of Garlon 4 Ultra or Roundup on the health of humans and wildlife.

8. It is important to the climate and to wildlife to retain as many tall, large trees as possible.

Large, healthy trees sequester CO₂, one of the greenhouse gases that causes global warming. Brought about by the greenhouse effect, global warming itself increases the risk of fire. Drought conditions create a situation where fire, once ignited, can spread with tremendous speed. ". . . the sum of evidence, plus common sense and basic biological theory, suggests that the more forests we retain, and the more new forest we plant, the better." (Colin Tudge, *The Tree: a Natural History of What Trees Are* . . . Crown, 2006.)

UCB's grant applications do not quantify the net carbon impacts of removing so many trees. (In fact, it is impossible to find out how many large trees will be cut down, and the size of each tree.) Although it cannot be expected that UCB will measure every tree, it certainly should provide some estimates as to how much carbon storage will be lost when the big trees are removed. It is not logical or accurate to say that there will be no change in carbon sequestration because the area will be reforested. Even if oak-bay woodlands should magically arise (through the woodchips) in the places where non-native trees have been removed, those native trees would be smaller, even at full maturity, and less competent at absorbing and storing CO₂ than the large eucs that would be removed. It would take many years (if ever) for oaks and bays to thrive in those areas, particularly since it is highly unlikely that they ever grew there—even 250 years ago. In fact, nobody knows what grew long ago in many areas where non-native trees now stand. ". . . from the diaries of the early explorers the picture we get is of a moist, even swampy land. . . Water was virtually everywhere. . ." (Malcolm Margolin, *The Ohlone Way*, Heyday

Public Comment from Madeline Hovland on EBH-EIS

8

Books, 1978.)

Tall trees are important for the survival of several species of birds, especially raptors. They also serve as windbreaks and help to keep the local climate cool and moist. "Moisture from the air condenses on the [eucalyptus] leaves and the drippage keeps the groves moist and cool even during the dry season." (Caitlin Bean and others of the Global Invasive Species Team, The Nature Conservancy in the article "Eucalyptus Globulus" from *Bugwood Wiki*.)

II. COMMENT ON THE OAKLAND FUEL MANAGEMENT PROJECT, SUBMITTED BY THE CITY OF OAKLAND (PDM-PJ-09-CA-2006-004):

This project involves various vegetation thinning and eradication techniques on approximately 325 acres owned by the City, UCB, and EBRPD. Each agency would be responsible for implementing the project on its own property. Fuel management techniques would vary by agency.

I oppose the transfer of responsibility and management of any part of this project from Oakland to UCB because UCB's fire-mitigation policies and methodology are environmentally destructive.

I support funding to remove vegetation that might provide fuel for fires that could threaten structures in this area, especially the houses in Montclair uphill from the Caldecott Sports Field. The trees throughout these 325 acres should be thinned and/or removed in a species-neutral manner. All of the brush fuels and understory of trees should be removed.

Since the sports field is used by children and adults, and dogs are often walked there, it is especially important to avoid the use of pesticides in this area. If studies show that resprouting can be stopped by using hand labor to cut off resprouts, that is the method that should be preferred. It cannot be emphasized enough that the little that is known about the effects of pesticides is quite alarming. And what is known about the inert ingredients in Roundup, for instance, is scary. "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.'" (Crystal Gammon, "Weed-Whacking Herbicide Proves Deadly to Human Cells," *Scientific American*, June 23, 2009.) I am sure that parents would be very unhappy if they knew that dangerous chemicals were being used in places where their children play.

III. COMMENT ON EBRPD'S BRUSHLAND FUELS MANAGEMENT PROJECT (HGMP 1731-16-34):

This project involves the treatment of approximately 590 acres of EBRPD property to reduce fuel load through brush removal (mechanical and hand clearing), chemical treatment, limbing, mowing, thinning, and grazing.

1. This grant should not be funded until HCN's CEQA case is settled or the lawsuit is resolved.

Sixteen of the RTAs (polygons) included in this grant are in Measure CC polygons (RTAs), where the vegetation management methods are being contested by HCN.

2. FEMA should not grant funds for this project unless it is really about clearing and removing brush.

Public Comment from Madeline Hovland on EBH-EIS

9

not non-native trees.

The title of this project, "Brushland Fuels Management," is reassuring since most fires in California start in dry brush and grass. "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." (C.J. Fotheringham, Jon Keeley and Philip Rundel, "Blazed and Confused," *NY Times*, November 3, 2007.)

However, most of the EBRPD polygons in the grant request to FEMA include non-native trees, and the stated goal has been to "landscape scrub and oak woodlands" or to encourage "perennial and annual grassland, oak-bay woodland."

If this project is about clearing brush, I would have no problem with it. But the descriptions of the work planned for these areas seems to involve landscape transformation, clearing the trees to encourage native vegetation. **FEMA Mitigation Policy MRR-2-08-1 specifically excludes granting funds for the purpose of ecological issues related to land and forest management.**

3. Much of this work would remove trees far from any structures, which is in direct opposition to FEMA Mitigation Policy MRR-2-08-1.

As pointed out in 2. above, according to the project description, the goal of the project is supposed to be brush removal. Where the removal of non-native trees is involved, as it seems to be, they should be thinned or removed "to protect life and property beyond defensible space perimeters, but proximate to at-risk structures."

Where structures are not residences, which, of course, should be protected, EBRPD should be required to provide ratings of how critical these structures are.

Instead of removing large trees, it may be more cost effective to create defensible-space perimeters around buildings and residences.

According to FEMA Policy guidelines, projects that do not protect homes, neighborhoods, structures or infrastructure are ineligible for funding.

4. Where EBRPD is hoping that oak-bay woodland or oak savanna, or brush and shrub dominated (including chaparral) communities will "succeed" when non-native trees are removed, EBRPD should provide scientific and objective evidence that such vegetation will be less flammable than thinned trees.

It is illogical and unscientific to assume that native plants and trees are less flammable than non-natives simply because they are native. EBRPD has a point of view on native grasslands, brush and shrub dominated "communities" (including chaparral) and trees, that appears to bias some of their treatment decisions.

EBRPD consultants assumed at the beginning of their study that eucalyptus and pine trees, for instance, should have negative points assigned to them because they "cast embers." They ignored the fact that all vegetation is capable of casting embers. Were their conclusions based on anecdotal evidence from the

Public Comment from Madeline Hovland on EBH-EIS

10

1991 Oakland-Berkeley fire? It is clear from FEMA's excellent reports 919 and 060 on the fire that many different materials (wood shingles, books, pieces of bark, tree branches) created burning brands that were projected through the air. It is rather unscientific, to say the least, that eucalyptus trees and pines cast all or even most of the embers. Yet EBRPD consultants blame non-native trees and recommend cutting them down apparently to prevent embers from being cast ever again. It is amazing to view the complicated tables, graphs, and charts with bonus points added for characteristics of native trees and negative points subtracted for immigrant trees. Eventually these inputs are fed into a computer to arrive at "preferred treatments," but who can believe the results?

I respect most of the EBRPD employees I have met and I believe they are ethical people. It seems to me, however, that consultants who analyzed and weighed the evidence started with some assumptions that biased the results that they presented to EBRPD staff—which accepted those results because of pressures from environmental groups that advocate transformation to native plant landscapes. And any non-believers in the superiority of native plants to withstand flame may have rationalized that some fuel reduction was better than none.

FEMA funds should not be granted for landscape transformation since this type of activity is ineligible for funding.

There are other points of view that are not represented in UCB's or EBRPD's vegetation management policies.

- When EBRPD and UCB consider the flammability of tree species, they put eucalyptus trees into a category separate from other hardwoods, apparently because most of the hardwoods in these forests are native: coast live oak, California bay, buckeye, madrone, etc. Yet each of these hardwood species has different flammability characteristics. Glenn Keator in *Plants of the East Bay Parks* (Mount Diablo Interpretive Association, 1994) divides plant communities into grasslands (open places), shrublands, and wooded places (forests—with complete canopy—and woodlands—with gaps or openings between trees). It is interesting to note that books about fire in California by reputable authors (not connected with UCB or EBRPD) do not even mention eucalyptus. See, for instance, David Carle, *Introduction to Fire in California*, UC Press, 2008; yet Carle devotes many pages to California chaparral and grassland wildfires.
- According to information in the Hills Emergency Forum's Management Recommendations, grasslands (with flame lengths ranging from 12 to 38 feet) cover 20% of the wildlands in the Berkeley-Oakland hills; brush and shrub dominated communities (with flame lengths ranging from 14 to in excess of 69 feet) account for 24% of the wildlands in this area; mixed hardwood woodlands (mostly native trees) cover 27% of the North Hills, and have flame lengths ranging from 1 foot to 34 feet; eucalyptus, with flame lengths of 6 to 21 feet, represent about 12% of the wildland vegetation; and pines, with flame lengths of 2-16 feet, account for only 6% of the wildland in the North Hills.

Why is there so much emphasis, then, on eradicating eucs and pines (which are still planted as ornamentals close to houses!) when native shrub and brush communities and grasslands are both more prevalent in the North Hills and more dangerous? Why do native plant advocates demonize eucs and pines while conferring sainthood on any shrub, grass, or tree, no matter how flammable, as long as it's native? Here are two descriptions of chaparral from writers who like it, but are not blind to its

Public Comment from Madeline Hovland on EBH-EIS

11

susceptibility to fire:

"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. . . it's designed to burn." (Peter Fish, "Chaparral," *Sunset* magazine, April 1994.)

"Fire is an intrinsic part of the chaparral as it has been for many thousands of years, and it is up to us individually and collectively to take responsible action recognizing this inevitability. . . As summer wears on, chaparral shrubs become progressively drier and more flammable. . . The fine dead branches inside maturer 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." (Ronald Quinn and Sterling Keeley, *Introduction to Chaparral*, UC Press, 2006.)

- Most fires in California are grass and brush fires that can "crown" and throw embers. "In grasslands, spot fires are fairly common up to 100 meters or so ahead of the flame front. . ." (R. H. Luke and A.G. McArthur, *Bushfires in Australia*, Division of Forest Research, Australian Government Printing Office, 1978.)
- Oak savanna (grassland with widely spaced oaks in shady draws) is more flammable than non-native trees, limbed up, with understory removed. Both oak savanna and oak-bay woodland tend to have overhanging branches. They contain more fuel ladders and flammable understory than tall trees. "Oak woodlands, the combination of oak trees and other hardwood tree species with continuous ground cover, 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." (General Guidelines for Creating Defensible Space, CDF, 2006.)

Wherever brush and trees are removed, they should be removed to reduce hazardous fuel, and they should be removed in a species-neutral manner, not to promote and restore native plant landscapes. Otherwise, FEMA should not grant funds for EBRPD 's Brushland Fuels Management project.

CONCLUSIONS:

1. The cumulative impact of these four projects must be analyzed to determine impacts on air quality, climate change, ground instability, human health and the health of wildlife and the environment.
2. The use of pesticides must be reduced and eventually eliminated.
3. Large trees should be retained because of the carbon storage and other environmental benefits they provide.
4. FEMA should fund only projects that meet its policy guidelines, thinning vegetation or reducing flammable materials (without regard to whether they are native or not native), and "to protect life and property beyond defensible space perimeters, but proximate to at-risk structures." Only if these East Bay Hills projects can be revised to conform to FEMA Mitigation Policy MRR-2-08-1, should they be considered for FEMA funding.

In our fire-prone area, we depend on FEMA to provide funding only for projects that will result in fire-

Public Comment from Madeline Hovland on EBH-EIS

12

risk mitigation, not for projects that might increase the risk of fire.

In the words of the late evolutionary biologist and paleontologist Stephen Jay Gould, "... 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 ... bring both delight and utility to humans." ("An Evolutionary Perspective on Strengths, Fallacies, and Confusions in the Concept of Native Plants," *Nature and Ideology*, Dumbarton Oaks, 1997.)

Madeline (Lynn) Hovland
October 1, 2010

ATT810487

Madeline Hovland
781 Alvarado Rd.
Berkeley, CA 94705

1:00 p.m. October 1, 2010

EBH-EIS-FEMA-RIX

From: Lech Naumovich - EBCNPS [conservation@ebcnps.org]
Sent: Friday, October 01, 2010 3:20 PM
To: EBH-EIS-FEMA-RIX;; Amaglio, Alessandro
Subject: Formal Comments on docket FEMA-2010-0037 - Hazardous Fire Reduction NOP/NOI
Attachments: FEMA Hazardous Fire Risk NOP comments EBCNPS.pdf



FEMA Hazardous
Fire Risk NOP c...

Please accept our attached comments on FEMA-2010-0037.
Please confirm receipt of comments to conservation@ebcnps.org

Thank you.

—
Lech Naumovich
Conservation Analyst

California Native Plant Society
East Bay Chapter
510.734.0335
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EBCNPS
PO Box 5597
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"Dedicated to the conservation of native flora"

**California Native Plant Society**

East Bay Chapter
Conservation Committee

October 1, 2010

Office of Chief Counsel, Federal Emergency
Management Agency, 500 C Street, SW.,
Room 835, Washington, DC 20472-3100

RE: Docket ID: FEMA-2010-0037, Hazardous Fire Risk Reduction, East Bay Hills, CA

Dear Sir/Madam:

The East Bay Chapter of the California Native Plant Society (EBCNPS) appreciates the opportunity to comment on the Notice of Intent for the Environmental Impact Statement on **FEMA-2010-0037, Hazardous Fire Risk Reduction, East Bay Hills, CA**. The California Native Plant Society (CNPS) is a non-profit organization of more than 10,000 laypersons, professional and academic botanists organized into 33 chapters throughout California. The mission of the CNPS 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.

The East Bay Chapter of CNPS (EBCNPS) has been involved with protecting and conserving native plant resources in the East Bay Hills for some 47 years now. These East Bay Hills are rich with native vegetation and rare and unusual plants that often are found nowhere else in the two-county East Bay area. The East Bay Hills are home to a large number of endangered, threatened, and locally rare plants which could be affected by fuels management projects. EBCNPS wants to ensure that the EIS will address potential impacts to these plants. Appendix A provides a list of CEQA protected A-ranked plants, or plants that are locally rare, including federally listed and state listed plants.

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 [excerpted from our paper, "Managing the East Bay Hills WUI to Preserve Native Habitat and Reduce the Risk of Catastrophic Fire", Appendix B].

This paper, co-authored with Sierra Club and Golden Gate Audubon, was submitted to the East Bay Park District during their Fuels Management EIR process. We believe that it is applicable to this project and helps provide insight and information from three environmentally motivated organizations. In addition to providing this paper and other letters to responsible parties, EBCNPS continues to be in contact with landowners and land managers in the East Bay Hills, including the City of Oakland and EBRPD, helping ensure that the fuels management plans for these hills will not negatively impact native vegetation. In fact, in many cases we're working

East Bay Chapter - California Native Plant Society - P.O. Box 55197, Elmwood Station, Berkeley, California 94705

EBCNPS Conservation Committee

together to produce a win-win situation wherein both fuel reduction goals are met while native plant habitat is maintained and even improved in some situations.

EBCNPS supports many of the concepts presented in the Sierra Club (SC) letter (Norman LaForce, September 12th, 2010) submitted during this project scoping process. EBCNPS has been working assiduously with a number of local conservation groups, including the Sierra Club, Golden Gate Audubon Society, Friends of Sausal Creek, and the Claremont Canyon Conservancy, to help identify resources and educate the public and decision-makers about the ecological value of these resources. We firmly agree with the second (2) point in the SC letter that the EIS needs to be grounded in “verifiable wildfire science, reliable resource protection/management science, and expert opinions”.

The role of FEMA, as a potential funder of these wildfire reduction plans, should be to review the documents submitted not only for the quality of the project presented, but also for the foundation upon which the proposals were written. We hope that FEMA would uphold grantees to an extremely high standard and require the projects to explicitly state their assumptions and the background information they have used to inform the proposed project. Although we understand that all of the projects highlighted in the scoping session (e.g., City of Oakland, University of California, EBRPD) have already submitted proposals, we believe that it is not too late to assess the quality of these projects for the following parameters:

1. What type of fuel model is used to create the recommendations for fuels treatment? Is the model generalized from another area or is it based on vegetation found in the East Bay Hills and on an understanding of local weather phenomena?
2. Was the project proposal written with a demonstrated knowledge of the *site-specific* natural resources and land conditions for each project? Did the project proposal team include an ecologist, biologist, and botanist in order to help ensure that the project will not create additional impacts to the environment? Was vegetation mapped at the appropriate scale for each project? Since many projects will occur on a small scale, it should be required that vegetation is mapped to the standards of the *Manual of California Vegetation – 2nd Edition*, so that resources and impacts to resources can be assessed at the proper scale.
3. Do the proposals mention that they are working in “living landscapes”? Do these proposals take into account the fact that the living environment will “respond” to the changes proposed in each fuels management plan? The response of a living landscape to perturbation isn’t always easy to predict, therefore, does the proposed project include a number of possible scenarios that will occur 1, 5, and 10 years after the initial fuels treatment? Does the project proponent have access to stable funding that will be able to deal with costs of additional contingencies (i.e., erosion, invasive species spread, etc.) that might arise after the FEMA funds are spent? How are these additional funds to be spent if everything proceeds as planned?

EBCNPS Conservation Committee

4. Does the project proponent offer a clear and complete maintenance and monitoring plan that will be initiated once the initial treatment is concluded?
5. Each project should have an approved Environmental Impact Report, or similar duly prepared legal document, that has been properly noticed to the public and approved by the proper agencies. The completion of the environmental review process, by the applicant, should be a requirement before any project commences.
6. What is the track record of the applicant to finish projects as proposed? Since all of the applicants have some history with fuels management work, how will past performance be assessed for each applicant?
7. Does the applicant have an informed program for contending with weed and invasive species that may colonize the site after fuels treatment?
8. Does the applicant have a technical advisory committee that would be helpful when potential problems arise with fuels treatments or follow up monitoring?

General Considerations

FEMA's EIS is required to consider all potential impacts that may occur from the act of FEMA funding fuels reduction projects in the East Bay Hills. Given the history of fire in the East Bay Hills, fear is a strong motivator for action that will help minimize the risk of catastrophic fire. Although we agree that FEMA should act as quickly as possible, it does serve public safety or our ecological heritage to act too quickly without considering the long-term consequences of this scale of environmental manipulation. There are many associated impacts that could be exaggerated with a poor fuels management plan, including but not limited to, flooding, erosion, deterioration of water quality, deterioration of habitat for native flora and fauna, increased land slides, and most importantly, increased risk of fire. We hope that FEMA clearly understands its responsibilities if a fuels project has unintended consequences. We would like the document to clearly outline FEMA's actions after a project is approved, from contracts to reporting to follow-up and enforcement.

FEMA's EIS should include information on cumulative impacts to habitat. Since this project will fund several million dollars of fuels work in the East Bay Hills, we believe that the funder of this work should be required to take a landscape scale perspective of the greater proposed project area. In this case, it seems likely that almost all of the impacts will fall upon a relatively small area – the Berkeley and Oakland "Hills" areas where the urban areas are carved into steep hills and lie adjacent to wildlands (parks, preserves, watershed lands). EBCNPS asks that the EIS clearly state the acreage of each habitat type that will be affected and what habitat types will replace these. We request that vegetation mapping be done at a fine scale and that vegetation be reported as a vegetation type in accordance with the *Manual of California Vegetation - 2nd Edition*.

EBCNPS Conservation Committee

FEMA's EIS should include an impact analysis on the increase of the spread of invasive plants from the proposed action. In addition, to help minimize the potential of increasing weed invasion, we hope the EIS will clearly outline Best Management Practices as mitigation for all grantees and contracts and enforce penalties if those BMPs are not implemented as agreed. At least two mechanisms, with regard to invasive species spread, will be at play when a fuels reduction project is undertaken. First, the actual act of bringing in machinery for fuels treatment purposes poses a risk to the site. The equipment may be contaminated with seeds or vegetative plant parts from another site and deposit weeds that were previously not known from the immediate site. Second, the process of soil disturbance is one of the major factors in increasing weed populations, as well as introducing new colonizers. Barren soil or soil that has been disturbed by machinery or mechanical tools is more likely to be colonized by invasive species than soil which remains intact. Most of our invasive plants thrive in disturbed soils, and fuels management work therefore provides a vector by which weeds can spread. In some cases, the implications of increased weed biomass can be significant. Many weeds are extremely competitive and produce large amounts of biomass that crowd out native plants. As a result, often the weeds can be as great or greater a fire hazard than the native vegetation that was managed for fuel load. EBCNPS believes that this scenario needs to be addressed in the EIS and FEMA should be clear about monitoring requirements over the course of 2-5 years to ensure that this will not be the outcome of the proposed projects. We believe FEMA should require annual project reports for 3 to 5 years and require that the grantee make these reports easily available to the public.

FEMA's EIS should require monitoring for all projects that it approves and funds. As stated in the above points, monitoring will help ensure that projects are compliant with FEMA standards, and even more importantly, that environmental conditions have not been degraded for resources, people, or wildlife at the cost of fuels management. Although FEMA has clearly stated that its funding cannot go towards monitoring and follow-up activities, it should require that an agency has matching funding at a rate of 1:3 or 1:4 for monitoring and follow-up activities that are needed for a successful project. Projects that lack monitoring and follow-up often produce less desirable results and can negatively impact the project site. FEMA's EIS should clearly state that the funding for any approved project has the appropriate matching funds (at a reasonable ratio) so that monitoring and follow-up tasks can make FEMA-funded projects successful and accountable to the community in which they take place.

Thank you for your consideration of the above comments. Please do not hesitate to contact me with questions at (510) 734-0335.

Sincerely,

Lech Naumovich
Conservation Analyst
California Native Plant Society
East Bay Chapter
conservation@ebcnps.org

EBCNPS Conservation Committee

APPENDIX A: CEQA protected A-Ranked Plants known from the East Bay Hills

East Bay Rarity Rank	Species Name	Common Name	Habitat
A1	<i>Acer negundo</i> var. unknown (var. <i>californicum</i> is the most common)	box-elder	Riparian
A2	<i>Adiantum aleuticum</i> (A. <i>jordanii</i> is more common)	five-finger fern	Riparian
A1	<i>Agoseris apargioides</i> var. <i>apargioides</i>	seaside agoseris	Forest; Grassland; Scrub; Sand or Sandstone
A2	<i>Allium falcifolium</i>	sickle-leaved onion	Rock, Talus or Scree; Serpentine
A2	<i>Alnus rubra</i> (A. <i>rhombifolia</i> is more common)	red alder	Riparian
A1	<i>Ammanita coccinea</i>	long-leaved ammanita	Riparian areas; Misc. Wetlands
A1x	<i>Amsinckia douglasiana</i> (historical-1938)	Douglas' fiddleneck	Dry Open Slopes; Rock, Talus or Scree
*A2	AMSINCKIA LUNARIS	bent-flowered fiddleneck	Grassland; Woodland; Misc. habitats
A1	<i>Anisocarpus madioides</i> (<i>Madia madioides</i> in Jepson Manual)	woodland madia	Forest; Redwood Forest; Woodland
A2	<i>Apiastrum angustifolium</i>	wild celery	Chaparral; Scrub
A2	<i>Arctostaphylos glandulosa</i> ssp. <i>glandulosa</i>	Eastwood manzanita	Chaparral
*A1	ARCTOSTAPHYLOS PALLIDA	pallid manzanita	Chaparral; Sand or Sandstone
A2	<i>Asclepias speciosa</i> (A. <i>californica</i> is more common)	milkweed	Misc. habitats
A2	<i>Aster lanceolatus</i> ssp. <i>hesperius</i>	marsh aster	Riparian areas; Misc. Wetlands; Misc. habitats
*A1	ASTRAGALUS TENER VAR. TENER	alkali milk-verch	Alkali areas; Grassland; Vernal Pools; Misc. Wetlands
A1x	<i>Atriplex patula</i> ssp. <i>obtus</i> (historical-1897)	spear saltbush	Alkali areas
*A1	BALSAMORHIZA MACROLEPIS VAR. MACROLEPIS	big-scale balsamroot	Grassland; Serpentine
A1x	<i>Calamagrostis nutkaensis</i> (historical-1877)	Pacific reed grass	Coastal Strand; Freshwater Marsh; Forest; Redwood Forest
*A2	CALOCHORTUS UMBELLATUS	Oakland star-tulip	Chaparral; Scrub; Woodland
A1	<i>Calycadenia multiglandulosa</i>	sticky calycadenia	Rock, Talus or Scree; Scrub
A2	<i>Camissonia graciliflora</i>	hill sun cup	Dry Open Slopes; Grassland; Scrub; Woodland
A1	<i>Carex brevicaulis</i>	short-stemmed sedge	Rock, Talus or Scree; Sand or Sandstone areas
A2	<i>Carex densa</i>	dense sedge	Misc. Wetlands; Misc. habitats
A1	<i>Carex deweyana</i> ssp. <i>leptopoda</i>	short-scaled sedge	Misc. Wetlands; Misc. Habitats
A1	<i>Carex dudleyi</i>	Dudley's sedge	Misc. Wetlands
A1	<i>Carex globosa</i>	round-fruited sedge	Misc. habitats

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A1x	<i>Carex gracilior</i> (historical-1939)	slender sedge	Forest; Grassland; Misc. Wetlands; Misc. habitats
A2	<i>Carex multicastrata</i>	many-ribbed sedge	Misc. habitats
A1	<i>Carex obnupta</i>	slough sedge	Misc. Wetlands
A1	<i>Castilleja ambigua</i> ssp. <i>ambigua</i>	Johnny-nip	Coastal Bluff; Grassland
A2	<i>Castilleja subinclusa</i> ssp. <i>franciscana</i>	Franciscan Indian paintbrush	Chaparral; Scrub
A2	<i>Ceanothus thyrsiflorus</i> var. <i>thyrsiflorus</i>	blue blossom; California-lilac	Misc. habitats
A1	<i>Chorizanthe polygonoides</i> var. <i>polygonoides</i>	knotweed spineflower	Gravel; Sand or Sandstone
A2	<i>Chrysopsis chrysophylla</i> var. <i>minor</i>	golden chinquapin	Chaparral; Forest; Sand or Sandstone
A2	<i>Cirsium quercetorum</i>	brownie thistle	Grassland; Woodland
*A1	CLARKIA FRANCISCANA	Presidio clarkii	Serpentine
A2	<i>Clarkia purpurea</i> ssp. <i>viminea</i> (ssp. <i>quadrivulnera</i> is more common)	large godetia	Misc. habitats
A1	<i>Clintonia andrewsiana</i>	red clintonia	Redwood Forest
A2	<i>Collomia heterophylla</i>	varied-leaved collomia	Rock, Talus or Scree; Sand or Sandstone areas
A2	<i>Coralorrhiza maculata</i> f. <i>maculata</i> (forma <i>immaculata</i> is more common)	spotted coralroot	Forest; Woodland
A1	<i>Coralorrhiza striata</i> (C. <i>maculata</i> is more common)	striped coralroot	Forest; Woodland
A1	<i>Coreopsis stillmanii</i>	Stillman's coreopsis	Chaparral; Grassland; Serpentine; Woodland
A1	<i>Cryptantha micromeres</i>	minute-flowered cryptantha	Chaparral; Woodland
A2	<i>Cryptantha muricata</i>	prickly cryptantha	Rock, Talus or Scree; Sand or Sandstone areas
A2	<i>Cryptantha torreyana</i>	Torrey's cryptantha	Dry Open Slopes; Forest
A2	<i>Cyperus erythrorhizos</i>	red-rooted cyperus	Riparian
A2	<i>Deinandra corymbosa</i> ssp. <i>corymbosa</i> (Hemizonia <i>corymbosa</i> in Jepson Manual)	coast tarweed	Coastal Bluff; Grassland
A2	<i>Dendromecon rigida</i>	bush poppy	Burns; Chaparral; Scrub
A2	<i>Deschampsia cespitosa</i> ssp. <i>holciformis</i>	tufted hairgrass	Misc. Wetlands
A2	<i>Dicentra formosa</i>	bleeding heart	Forest; Redwood Forest; Misc. habitats
A1?	<i>Dichelostemma volubile</i> (?)	twining brodiaea	Scrub; Woodland
*A2	DIRCA OCCIDENTALIS	western leatherwood	Forest; Riparian; Scrub
A1?	<i>Disporum smithii</i> (?) (D. <i>hookeri</i> is more common)	large-flowered fairy bell	Forest; Woodland
A2	<i>Echinodorus berteroi</i>	burhead	Freshwater Marsh
A2	<i>Elymus glaucus</i> ssp. <i>jepsonii</i> (ssp. <i>glaucus</i> is more common)	blue wildrye	Grassland
A2	<i>Elymus X hansenii</i>	Hansen squirreltail	Grassland
A1	<i>Eragrostis mexicana</i> ssp.	Orcutt's eragrostis	Riparian areas; Sand or Sandstone

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	<i>virescens</i>		areas; Misc. habitats
A2	<i>Ericameria arborescens</i>	golden-fleece	Chaparral; Forest; Woodland
A2	<i>Erigeron petrophilus</i> var. <i>petrophilus</i>	rock daisy	Rock, Talus or Scree; Serpentine
*A1	<i>ERIOGONUM LUTEOLUM</i> VAR. <i>CANINUM</i>	Tiburon buckwheat	Grassland; Serpentine
A2	<i>Eriogonum luteolum</i> var. <i>luteolum</i>	golden carpet	Gravel; Sand or Sandstone; Serpentine
*A2	<i>ERODIUM MACROPHYLLUM</i>	round-leaved filaree	Grassland; Scrub
A2	<i>Festuca elmeri</i>	Elmer's fescue	Riparian
*A1	<i>FRITILLARIA LILIACEA</i>	fragrant fritillary	Grassland; Serpentine; Vernal Pools
*A2	<i>GALIUM ANDREWSII</i> SSP. <i>GATENSE</i>	serpentine bedstraw	Chaparral; Serpentine; Woodland
A1	<i>Gaultheria shallon</i>	salal	Forest; Redwood Forest
A2	<i>Githopsis diffusa</i> ssp. <i>robusta</i>	southern bluecup	Burns; Misc. habitats
A2	<i>Gnaphalium bicolor</i>	Bioletti's cudweed	Dry Open Slopes; Sand or Sandstone
A2	<i>Gnaphalium canescens</i> ssp. <i>microcephalum</i>	white everlasting	Chaparral; Dry Open Slopes
*A2	<i>HELIANTHELLA CASTANEA</i>	Diablo helianthella	Chaparral; Grassland; Woodland
A2	<i>Hesperolinon californicum</i>	California dwarf flax	Grassland; Rock, Talus or Scree; Serpentine
A1x	<i>Hierochloa occidentalis</i> (historical-1987 but not seen since)	vanilla grass	Forest; Redwood Forest
A2	<i>Hoita macrostachya</i>	California hemp	Freshwater Marsh; Riparian
A1x	<i>Hoita orbicularis</i> (historical-1936)	round-leaved psoralea	Riparian areas; Misc. habitats
*A1x	<i>HOITA STROBILINA</i> (HISTORICAL-1865)	Loma Prieta hoita	Chaparral; Woodland
A2	<i>Hordeum jubatum</i>	foxtail barley	Misc. habitats
A1	<i>Horkelia californica</i> ssp. <i>californica</i>	California horkelia	Grassland; Scrub
*A1x	<i>HORKELIA CUNEATA</i> SSP. <i>SERICEA</i> (HISTORICAL-1894)	Kellogg's horkelia	Grassland; Scrub; Sand or Sandstone
A1	<i>Hypericum formosum</i> var. <i>scouleri</i>	Scouler's St. John's wort	Freshwater Marsh; Riparian
A2	<i>Iris douglasiana</i>	Douglas iris	Misc. habitats
A1	<i>Iris longipetala</i>	field iris	Misc. habitats
*A2	<i>LATHYRUS JEPSONII</i> VAR. <i>JEPSONII</i>	Delta tule pea	Brackish Marsh; Freshwater Marsh
A2	<i>Layia gaillardoides</i>	woodland layia	Scrub; Woodland
A1x	<i>Layia glandulosa</i> (historical-1983 but not seen since)	white layia	Sand or Sandstone
A2	<i>Layia hieracioides</i>	tall layia	Misc. habitats
A1x	<i>Lepidium oblongum</i> var. <i>oblongum</i> (historical-1937)	wayside pepper-grass	Misc. habitats
A1	<i>Ligusticum apifolium</i>	Pacific lovage	Coastal Bluff; Grassland; Scrub; Woodland
A2	<i>Lilium pardalinum</i> ssp.	leopard lily	Freshwater Marsh; Riparian

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	<i>pardalinum</i>		
*A1	LINANTHUS ACICULARIS	bristly linanthus	Chaparral; Grassland; Woodland
A1	<i>Linanthus liniflorus</i>	flax-flowered linanthus	Scrub; Serpentine; Woodland; Misc. habitats
A2	<i>Lithophragma bolanderi</i>	Bolander starflower	Misc. habitats
A2	<i>Lomatium caruifolium</i> var. <i>caruifolium</i>	caraway-leaved lomatium	Grassland; Vernal Pool; Misc. habitats
A1	<i>Lotus stipularis</i> var. <i>stipularis</i>	stipulate lotus	Chaparral
A1	<i>Lupinus affinis</i>	lupine	Misc. habitats
A1	<i>Lupinus bicolor</i> var. <i>tridentatus</i> (var. <i>umbellatus</i> is more common)	miniature lupine	Misc. habitats
A1	<i>Lupinus varicolor</i>	bluff lupine	Coastal Strand; Grassland; Sand or Sandstone
A2	<i>Madia elegans</i> ssp. <i>vernalis</i> (ssp. <i>densifolia</i> is more common)	common madia	Grassland
A1x	<i>Meconella linearis</i> (historical-1983 but not seen since)	narrow-leaved meconella	Dry Washes; Grassland; Sand or Sandstone
*A2	MECONELLA OREGANA	Oregon meconella	Grassland; Misc. habitats
A1?	<i>Melica bulbosa</i> var. <i>bulbosa</i> (?)	oniongrass	Forest; Rock, Tallus or Scree
*A1	MICROPUS AMPHIBOLUS	Mt. Diablo cottonweed	Dry Open Slopes; Grassland; Rock, Tallus or Scree
A1x	<i>Micropus californicus</i> var. <i>subvestitus</i> (historical-1930) (var. <i>californicus</i> is more common)	slender cottonweed	Dry Open Slopes; Misc. habitats
A1x	<i>Microseris bigelovii</i> (historical-1891)	coast microseris	Coastal Bluff; Coastal Strand; Sand or Sandstone
A2	<i>Mimulus douglasii</i>	Douglas monkeyflower	Chaparral; Gravel; Rock, Tallus or Scree; Serpentine; Woodland
A2	<i>Monardella douglasii</i> ssp. <i>douglasii</i>	Fenestra monardella	Chaparral; Grassland; Serpentine; Woodland
A1	<i>Monardella sheltonii</i>	Shelton's monardella	Chaparral; Forest; Rock, Tallus or Scree; Serpentine; Woodland
*A2	MONARDELLA VILLOSA SSP. GLOBOSA (ssp. <i>villosa</i> is more common)	robust monardella	Chaparral; Woodland
A1	<i>Monolopia gracilens</i>	woodland monolopia	Chaparral; Grassland; Serpentine; Woodland
A2	<i>Myrica californica</i>	wax myrtle	Forest; Redwood Forest; Scrub
A2	<i>Oxalis albicans</i> ssp. <i>pilosa</i>	hairy wood-sorrel	Chaparral; Grassland; Scrub
A1	<i>Oxalis oregana</i>	redwood sorrel	Redwood Forest
A1	<i>Perideridia oregana</i>	yampah	Dry Open Slopes; Rock, Tallus or Scree; Woodland; Misc. habitats
A2	<i>Petunia parviflora</i>	wild petunia	Dry Washes
A2	<i>Phacelia divaricata</i>	divaricate phacelia	Chaparral; Grassland; Woodland
A2	<i>Phacelia tanacetifolia</i>	tansy phacelia	Gravel; Sand or Sandstone
A1x	<i>Phalaris angusta</i> (historical-1912)	Narrow canary grass	Misc. Wetlands

EBCNPS Conservation Committee

A2	<i>Phalaris arundinacea</i>	reed canary grass	Riparian areas; Misc. Wetlands
A1x	<i>Phalaris californica</i> (historical-1943)	California canary grass	Grassland; Woodland
A1	<i>Phalaris lemmonii</i>	Lemmon's canary-grass	Misc. habitats
A2	<i>Pinus attenuata</i>	knobcone pine	Chaparral; Forest; Sand or Sandstone
A2	<i>Piperia elongata</i>	elongate piperia	Forest; Scrub
A1	<i>Piperia unalasensis</i>	Alaska piperia	Forest; Scrub; Woodland
*A1x	PLAGIOBOTHRYS CHORISIANUS VAR. CHORISIANUS (historical-1890)	Choris's popcorn flower	Chaparral; Grassland; Scrub
*A1	PLAGIOBOTHRYS DIFFUSUS	San Francisco popcorn flower	Grassland; Misc. Wetlands
A2	<i>Plagiobothrys tenellus</i>	slender popcornflower	Misc. habitats
A1	<i>Polypodium scolieri</i>	leather-leaf fern	Coastal Bluff; Misc. habitats
A1	<i>Polystichum californicum</i>	California sword fern	Misc. habitats
A1	<i>Polystichum imbricans</i> var. <i>imbricans</i>	rock sword fern	Misc. habitats
*A1	POTAMOGETON FILIFORMIS	slender-leaved potamogeton	Freshwater Marsh; Riparian; Misc. Wetlands
A1	<i>Prunella vulgaris</i> var. <i>lanceolata</i> (var. <i>vulgaris</i> is more common)	selfheal	Forest; Riparian; Woodland; Misc. Wetlands
A1	<i>Psilocarphus tenellus</i> var. <i>globiferus</i> (var. <i>tenellus</i> is more common)	round woolly-marbles	Vernal Pools; Misc. Wetlands
A1	<i>Quercus parvula</i> var. <i>shrevei</i>	island scrub oak	Chaparral; Woodland
A1	<i>Ranunculus orthorhynchus</i> var. <i>bloomeri</i>	Bloomer's buttercup	Misc. Wetlands
A1	<i>Ribes amarum</i>	bitter gooseberry	Chaparral
A1	<i>Ribes speciosum</i>	fuchsia-flowered gooseberry	Chaparral; Scrub
A2	<i>Rorippa palustris</i> var. <i>occidentalis</i>	marsh yellow-cress	Misc. Wetlands
A1	<i>Rosa nutkana</i> var. <i>nutkana</i>	Nootka rose	Misc. habitats
A2	<i>Rumex maritimus</i>	golden dock	Brackish Marsh; Salt Marsh
A2	<i>Rumex salicifolius</i> var. <i>denticulatus</i>	willow dock	Misc. Wetlands
A1	<i>Sagittaria latifolia</i>	arrowhead	Freshwater Marsh
A2	<i>Salix scouleriana</i>	Scouler's willow	Misc. Wetlands
A1	<i>Sambucus racemosa</i> var. <i>racemosa</i>	red elderberry	Riparian
A1x	<i>Sanicula arctopoides</i> (historical-19??)	footsteps-of-spring	Coastal Bluff
A2	<i>Sanicula laciniata</i>	coast sanicle	Chaparral; Scrub; Woodland
A1x	<i>Scoliopus bigelovii</i> (historical-18??)	fetid adder's tongue; slink pod	Redwood Forest
A2	<i>Scutellaria californica</i>	California skullcap	Scrub; Woodland; Misc. habitats
A2	<i>Spergularia macrotheca</i> var. <i>macrotheca</i>	large-flowered sand spurry	Alkali areas; Coastal Bluff; Rock, Talus or Scree; Misc. Wetlands
A1	<i>Spiranthes porrifolia</i>	western ladies' tresses	Misc. Wetlands
A1	<i>Spiranthes romanzoffiana</i>	hooded ladies' tresses	Coastal Bluff, Freshwater Marsh
A1?	<i>Stachys bullata</i> (?) (S.)	California hedge nettle	Dry Open Slopes; Misc. habitats

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	ajugoides var. rigida is more common)		
A2	Stephanomeria elata	stephanomeria	Dry Open Slopes
*A2	STREPTANTHUS ALBIDUS SSP. PERAMOENUS	most beautiful jewel-flower	Chaparral; Dry Open Slopes; Grassland; Serpentine
A1x	Thermopsis macrophylla var. macrophylla (historical-1929)	false-lupine	Chaparral; Grassland; Woodland
A2	Thysanocarpus radicans	ribbed fringe pod	Misc. habitats
A1	Tolmiea menziesii	pig-a-back plant	Riparian
A2	Trifolium macraei	double-headed clover	Sand or Sandstone; Misc. habitats
A2	Trifolium wormskoldii	cow clover	Misc. Wetlands
A2	Trillium ovatum ssp. ovatum	white trillium	Forest; Redwood Forest
A2	Triodanis biflora	Venus' looking-glass	Misc. habitats
A2	Triphysaria versicolor ssp. faucibarbatata	smooth owl's-clover	Grassland
A2	Trisetum canescens	tall trisetum	Forest; Misc. habitats
A2	Tropidocarpum gracile	slender tropidocarpum	Alkali areas; Grassland
A1x	Vancouveria planipetala (historical-1898)	inside-out flower	Forest
A2	Vicia hussei	slender vetch	Grassland; Scrub
A1	Viola adunca	western blue violet	Forest
A2	Viola glabella	stream violet	Forest; Riparian
A1	Viola sempervirens	evergreen violet	Redwood Forest

NOTE: Some of these plant species are only known from the area historically and have not been reported for quite some time. It should not necessarily be assumed, however, that they no longer exist here as they may be on private land or hard-to-reach areas where surveys have not been done for a long time, if ever. In recent years, several plant species have been rediscovered in the East Bay that had not been reported in the area since the late 1800's or early 1900's.

Dates indicated for historical species in the species name column refer to the last known record in the Alameda-Contra Costa Counties area, not necessarily the area described in the title.

Explanation of Ranks

***A1 or *A2:** Species in Alameda and Contra Costa counties listed as rare, threatened or endangered statewide by federal or state agencies or by the state level of CNPS.

A1x: Species previously known from Alameda or Contra Costa Counties, but now presumed extirpated here.

A1: Species currently known from 2 or less regions in Alameda and Contra Costa Counties.

A2: Species currently known from 3 to 5 regions in the two counties, or, if more, meeting other important criteria such as small populations, stressed or declining populations, small geographical range, limited or threatened habitat, etc.

A1?: Species with taxonomic or distribution problems that make it unclear if they actually occur here.

EBCNPS Conservation CommitteeAPPENDIX B: Green Paper on Fuels Management in the East Bay HillsManaging the East Bay Hills Wildland/Urban Interface to
Preserve Native Habitat and Reduce the Risk of Catastrophic FireAn Environmental Green Paper- March 27, 2009Sierra 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 PRINCIPLESBackground

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.

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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.

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.

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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.

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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 too common during the past two decades, and global warming with its extremes of weather will make this century even more risky.

EBCNPS Conservation Committee

- 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 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 fire's 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.

EBCNPS Conservation Committee

- 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 too 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.

EBCNPS Conservation Committee

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 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

EBCNPS Conservation Committee

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

EBCNPS Conservation Committee

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 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

EBCNPS Conservation Committee

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

EBCNPS Conservation Committee

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.

- 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.

EBCNPS Conservation Committee

- 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

EBCNPS Conservation Committee

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 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

EBCNPS Conservation Committee

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.

EBCNPS Conservation Committee

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

EBCNPS Conservation Committee

(West facing) above homes to allow these spaces to convert to native-like vegetation that is less prone to spectacular wildfire behavior.

- 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.

EBCNPS Conservation Committee

- 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 be 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

EBCNPS Conservation Committee

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
- 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.

EBCNPS Conservation Committee

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.

EBCNPS Conservation Committee

- 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 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 Blswell 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 Outlay. 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

EBCNPS Conservation Committee

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 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."

EBH-EIS-FEMA-RIX

From: Emilie Strauss [desertpeach@earthlink.net]
Sent: Friday, October 01, 2010 3:22 PM
To: EBH-EIS-FEMA-RIX,
Subject: FEMA Firebreak
Attachments: FEMA firebreak.pdf

Please accept my comments regarding the firebreak EIS.

Thank you,

Emilie Strauss

EBH-EIS
POB 72391
Oakland, CA 94612

OCT. 4, 2010

Dear FEMA

I am writing regarding the EIS for
Hazardous Fire Reduction, East Bay
Hills.

I support the "No Action Alternative",
Removing trees and applying herbicide
to a significant portion of
ridgeland on our public (EBRPD/UC,
lands is non-mitigatable. I am
a frequently user of Miller-knox,
Tilden, Wildcat Canyon, and Strawberry
Canyon,

Instead, homeowners should ~~be~~
keep tall vegetation (on fire-prone)
away from structures if they
reside near parklands. This should
be a mandate and be enforced,

Sincerely,
Emilie A. Strauss

Emilie A. Strauss
1468 Grizzly Peak
Blvd.
Berkeley CA 9470

EBH-EIS-FEMA-RIX

From: Nicole Courtet [NicoleCourtet@yahoo.com]

Sent: Friday, October 01, 2010 3:45 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

Comments on fire risk reduction projects in the East Bay Hills We agree with and command your intent and goal of fire risk reduction in the East Bay Hills, something we think is long overdue. However we also want to express our concerns about what we see as contradictions and counter-productive effects of some of the proposed approaches for the removal of invasive and highly flammable introduced plant species in the area. My husband and I have been residents of Berkeley / North Oakland for 35 years. We are also hikers, and regularly walk on the east Bay Hills trails, including U.C. Strawberry Canyon, all of the East Bay Regional Parks, and the Claremont Canyon Preserve. We care and try to keep informed and educated about our community, our environment and their wellbeing. We see them as interconnected. We are mostly concerned about the following: "application of herbicides": If we can judge by what has been done at the beginning of July 2010 in U.C.Strawberry Canyon, herbicide spraying might make the fire risk even greater by killing the weeds and letting them stand or lie on the ground, completely dry, and thus lengthening the fire risk period. In addition, from what we witnessed, herbicide spraying also kills the greener more fire resistant native plants which should be encouraged to take over in the long run. Preference should be given to the physical removal of highly flammable invasive trees and plants wherever and whenever possible, in order to: - actually and permanently reduce the fire risk and the period of high flammability of plants; - minimize health risks to people, including children who frequently walk on the trails with their family; - promote the replacement of highly flammable introduced plants by safer native species. This should be the long term goal for both fire risk reduction and the health of the environment and people. - minimize health risks to people, including children who frequently walk on the trails with their family; "chipping the downed trees and scattering the chips in portions of the cleared area": . Covering the soil with "a mulch" of wood chips from cut trees, especially eucalyptus -highly resistant to rot, extremely slow to decompose and toxic to other plants- is contrary to the long term goal which should be the progressive replacement of highly flammable invasive trees and plants by safer and healthier native species. We appreciate and thank you for the sincerity and openness you displayed in the public hearing. We thank you in advance for taking into account our concerns and comments, which we know are shared by many other residents of our area. We hope that you take them seriously in making any decisions. Nicole Courtet NicoleCourtet@yahoo.com Frank Gruliow fgruliow@yahoo.com 6519 Tremont Street Oakland, CA 94609

EBH-EIS-FEMA-RIX

From: nicolecourtet [nicolecourtet@yahoo.com]
Sent: Friday, October 01, 2010 3:49 PM
To: EBH-EIS-FEMA-RIX,
Subject: Comments on fire risk reduction projects in the East Bay Hills

Comments on fire risk reduction projects in the East Bay Hills

We agree with and command your intent and goal of fire risk reduction in the East Bay Hills, something we think is long overdue. However we also want to express our concerns about what we see as contradictions and counter-productive effects of some of the proposed approaches for the removal of invasive and highly flammable introduced plant species in the area.

My husband and I have been residents of Berkeley / North Oakland for 35 years. We are also hikers, and regularly walk on the east Bay Hills trails, including U.C. Strawberry Canyon, all of the East Bay Regional Parks, and the Claremont Canyon Preserve. We care and try to keep informed and educated about our community, our environment and their wellbeing. We see them as interconnected.

We are mostly concerned about the following:

"application of herbicides":

If we can judge by what has been done at the beginning of July 2010 in U.C.Strawberry Canyon, **herbicide spraying might make the fire risk even greater by killing the weeds and letting them stand or lie on the ground, completely dry, and thus lengthening the fire risk period.** In addition, from what we witnessed, herbicide spraying **also kills the greener more fire resistant native plants** which should be encouraged to take over in the long run.

Preference should be given to the physical removal of highly flammable invasive trees and plants **wherever and whenever possible**, in order to:

- **actually and permanently reduce the fire risk and the period of high flammability of plants;**
- **minimize health risks to people**, including children who frequently walk on the trails with their family;
- **promote the replacement of highly flammable introduced plants by safer native species.** This should be the long term goal for both fire risk reduction and the health of the environment and people.
- **minimize health risks to people**, including children who frequently walk on the trails with their family;

"chipping the downed trees and scattering the chips in portions of the cleared area":

Covering the soil with 'a mulch' of wood chips from cut trees, especially eucalyptus -highly resistant to rot, extremely slow to decompose and toxic to other plants- is **contrary to the long term goal which should be the progressive replacement of highly flammable invasive trees and plants by safer and healthier native species.**

We appreciate and thank you for the sincerity and openness you displayed in the public hearing.

We thank you in advance for taking into account our concerns and comments, which we know are shared by many other residents of our area. We hope that you take them seriously in making any decisions.

Nicole Courtet NicoleCourtet@yahoo.com
Frank Grulow fgrulow@yahoo.com
6519 Tremont Street
Oakland, CA 94609

EBH-EIS-FEMA-RIX

From: Save Strawberry Canyon [savestrawberrycanyon@gmail.com]
Sent: Friday, October 01, 2010 3:55 PM
To: EBH-EIS-FEMA-RIX,
Subject: Comments Hazardous Fire Risk Reduction Environmental Impact Statement East Bay Hills, California
Attachments: FEMA letter Sept 10 pdf.pdf
Please find attached, thank you

SAVE STRAWBERRY CANYON

P.O. BOX 1234
BERKELEY, CALIFORNIA 94701

Save Strawberry Canyon is a citizens' group that seeks to preserve and protect the watershed lands and cultural landscape of Strawberry Canyon. Save Strawberry Canyon was formed out of the urgent need to take action in response to the threat of intrusive, inappropriate development on the Canyon lands.

Strawberry Canyon, opposite the Golden Gate, is a unique link to the East Bay Regional Park District lands and, by its streams and views, to San Francisco Bay. The Canyon itself with its streamside vegetation, oak-bay woodlands, grasslands, and surrounding slopes, is a rich repository of wildlife directly adjacent to the dense urban populations of the UC Berkeley Campus and the cities of Berkeley and Oakland.

Save Strawberry Canyon seeks to inform the public about the impacts of proposed developments, to encourage location of such developments in more suitable sites, and to promote better public access to the beautiful Canyon with its wildlife and scenic resources. Mission Statement

September 30, 2010

Alessandro Amaglio, Environmental Officer
U.S. Department of Homeland Security
Federal Emergency Management Agency (FEMA), Region 9
111 Broadway, Suite 1200
Oakland, California 94607-4052 EBH-EIS-FEMA-RIX@dhs.gov

Re: Comments for Draft Environmental Impact Statement (DEIS) for Hazardous Fire Risk Reduction East Bay Hills, California, and Recommendation of Alternative to Reject PDM-PJ-09-CA-2005-011 and Reject Partially PMD-PJ-09-CA-2006-004

Dear Mr. Alessandro Amaglio:

This letter comes first to express appreciation for FEMA's effort to involve the public and seek input in accordance with the purpose of the National Environmental Policy Act (NEPA). The two Public Scoping Meeting sessions held on August 26, 2010, including the materials shared, were informative and stimulating toward a public understanding of the four proposed individual projects and their potential environmental impacts.

Save Strawberry Canyon recommends not funding the University of California (UC) project PDM-PJ-09-CA-2005-011 and not funding the UC project component of PMD-PJ-09-CA-2006-004. These proposals together comprise a contiguous landscape that crests both Strawberry and Blackberry Canyons, contributing to the defining ridge of the East Bay Hills. Indeed, the 1930 Olmsted Brothers' "Report on Proposed Park Reservations for East Bay Cities (California)," prepared to advocate the establishment of the East Bay Regional Park District, recognized this ridge as integral to the creation of a great public, scenic, and natural resource.

It is relevant to recognize that at the time of the Olmsted Brothers' "Report" the once seasonal "native" condition of the hillsides and its ridges, being once either a beautiful green in the rainy season or "golden brown" in the dry months, had, in fact, already been changed by the planting of non-native trees such as the eucalyptus. The visual and aesthetic effects of an altered landscape were transforming, but not to the detriment or loss of value of a magnificent open space. Furthermore, the fact that UC designated the area, in whole or in part, to be an Ecological Study Area would seem to

mandate a careful reappraisal of the matured landscape, now well established as integral to the area's ecology, including its trees, plants, mammals, birds, reptiles, and insects.

Any DEIS discussion of these two projects must delineate with precise care their boundary lines. It is conspicuous that the maps prepared for the scoping comments do not specifically cite Strawberry Canyon. Strawberry Canyon is significant landscape feature in the broadest of strokes, defining the spectacular geological formation and surrounds of the San Francisco Bay. Directly opposite the Golden Gate, Strawberry Canyon is a dramatic vista point that creates a natural gateway into the Diablo Range beyond.

Strawberry Creek, too, must be delineated. It is an important water body that discharges year round into the waters of the San Francisco Bay. Strawberry Creek's headwaters flow not only from the top of Strawberry Canyon, but also from the top of Blackberry Canyon — the location of the North Fork of Strawberry Creek — to join below the UC campus. Its underground sources seep or spring forth from reservoirs of water that are known to exist deep within the steep hillsides. Any abrupt change to the topography of the canyon ridges deserves careful assessment regarding potential environmental effect on water quality and soil erosion.

Because PDM-PJ-09-CA-2005-011 proposes "...felling all eucalyptus, Monterey pine, and acacia trees on approximately 60 acres..." at the top of Strawberry Canyon there is a cumulative factor that must be acknowledged. Below the ridge there are working facilities, including a large nanotechnology laboratory and a hazardous waste facility, and/or abandoned facilities that contain contaminated and biological materials, all having the potential to threaten environmental and human health. Given the probable occurrence of extreme weather patterns, or of landslides that do by definition occur in the Canyon, or of radical shifts in the earth due to fault activity on either the Wildcat Canyon Fault or the Hayward Fault, the proposal to *clear-cut established tree growth* above deserves very careful risk assessment.

But, the main objective of the proposal is questionable in itself. There is good reason to be concerned that an undertaking to clear-cut mature trees and leave wood chips would *not insure hazardous fire risk reduction at all*. Rather, the removal of established and mature groves of trees in one blow, could potentially become a more serious fire risk scenario. The residue of dry chips and/or the new growth of various non-native invasive brush, grasses, and young trees is, in fact, a more threatening potential for fueling urban wild fires that could rapidly spread out of control.

In regards to PMD-PJ-09-CA-2006-004, it is relevant to cite that the final version of UC's 2020 Long Range Development Plan (LRDP) contains several changes that were removed from an earlier draft of the LRDP proposing to construct 100 units of faculty housing in this hill area. The question must arise whether this FEMA proposal request is a pretext to resurrect, in due time, a new development proposal.

Most emphatically Save Strawberry Canyon joins a growing chorus of concerned citizens regarding the use of herbicides and pesticides in any region of the East Bay Hills. Because the four proposals, each, assume that there is a need for such harmful substances after large tree removal, it puts the entire project in question.

In regards to PDM-PJ-09-CA-2005-011 and PMD-PJ-09-CA-2006-004, a full assessment of the potential effects of the use of herbicides and pesticides must be fully evaluated. To apply toxic substances upon these landscapes at the crest of Strawberry and Blackberry Canyons, the source of Strawberry Creek flowing year round into the San Francisco Bay, is cause for serious concern. Because it can be assumed that Strawberry Creek is an already impaired body of water, any application of toxics within its watershed deserves full scrutiny.

Save Strawberry Canyon encourages an alternative that manages the landscape to reduce fire risk in a careful, thoughtful manner, embracing a long-term plan that establishes a continuum of hand labor, forestry training, and wise-use practices without any quick fixes depending upon clear-cutting or chemicals.

In closing let us express a query regarding whether URS is the most appropriate consultant to conduct this NEPA review. It may or may not be well known that there have been direct connections between URS, the Board of Regents, Lawrence Livermore Laboratory, and elected officials. Such connections could potentially cloud or compromise the thorough assessments needed for this major project review.

Thank you for your careful attention given to this application on behalf of NEPA and the public's expressed concerns.

Sincerely,

Lesley Emmington Jones, for
Save Strawberry Canyon

From: Dan Grassetti <dan.grassetti@gmail.com>
Date: October 1, 2010 2:04:00 PM PDT
To: Alessandro Amaglio <alessandro.amaglio@dhs.gov>
Subject: another shot of the EBMUD property above Grizzly peak

Please note the lack of understory and the resultant lack of fuel ladder. While it's unlikely that there would be a ground-level fire at this site, due to the clearing of the understory, even if there was it would be all but impossible for the fire to travel into the canopy due to the lack of a fire ladder.

B

Name:	Photo 004
Date:	Sep 25, 2010 4:12 pm
Map: (valid until Oct 25, 2010)	View on Map
iPhone/ iPod Map:	Maps Application
Location:	
Latitude:	37° 52' 18" N
Longitude:	122° 13' 07" W
Altitude:	646 ft

There are three files attached to this email:

"Photo 004.kmz"

A Google KMZ waypoint that can be displayed in Google Earth or Google Maps.

"Photo 004.gpx"

An Open Standard waypoint that can be displayed by select mapping software.

"Photo 004.jpg"

A picture attached to the waypoint by Dan.



From: Dan Grassetti <dan.grassetti@gmail.com>
Date: October 1, 2010 2:01:57 PM PDT
To: Alessandro Amaglio <alessandro.amaglio@dhs.gov>
Subject: Fwd: MotionX-GPS Waypoint: Photo 006

Mr. Amaglio. This is an example of how eucalyptus groves can be maintained in a fire safe manner without canopy loss, habitat destruction, or the use of herbicides. EBMUD has been managing their properties on the ridgeline above Grizzly Peak boulevard in this manner for a number of years with great success. We don't understand why UC is so opposed to adopting similar techniques that would be very fire safe (far more so than what UC proposes) without clearcutting and massive habitat destruction.

Name:	Photo 006
Date:	Sep 25, 2010 4:13 pm
Map: (valid until Oct 25, 2010)	View on Map
iPhone/ iPod Map:	Maps Application
Location:	
Latitude:	37° 52' 17" N
Longitude:	122° 13' 07" W
Altitude:	1,355 ft

There are three files attached to this email:

"Photo 006.kmz"

A Google KMZ waypoint that can be displayed in Google Earth or Google Maps.

"Photo 006.gpx"

An Open Standard waypoint that can be displayed by select mapping software.

"Photo 006.jpg"

A picture attached to the waypoint by Dan.



EBH-EIS-FEMA-RIX

From: William McClung [williammcclung@mac.com]
Sent: Saturday, October 02, 2010 7:44 AM
To: EBH-EIS-FEMA-RIX,
Subject: FW: Comments
Attachments: 10_1_2010 McClung Statement to FEMA.doc

Sirs:

I sent the attached statement before the deadline, but mis-addressed it as below. I hope it can still be considered.

William McClung

----- Forwarded Message

From: William McClung <williammcclung@mac.com>
Date: Fri, 01 Oct 2010 17:29:56 -0700
To: <EBH-EIS-FREMA-RIX@DHS.GOV>
Conversation: Comments
Subject: Comments

Sirs:

The attached statement is submitted. Please acknowledge

William McClung

----- End of Forwarded Message

1 October 2010

Federal Emergency Management Agency
EBH-EIS
P.O. Box 72391
Oakland, CA 94612

PUBLIC COMMENT on EIS for Hazardous Fire Risk Reduction Projects submitted by UC Berkeley (45 acres in Claremont Canyon; 60 acres in Strawberry Canyon), the City of Oakland (325 acres of projects), and East Bay Regional Park District (590 acres of brushland fuels management).

FROM: by William J. McClung, Berkeley Fire Commissioner, 1994-1996; Principal of Shelterbelt Builders, an open land management and restoration company, 1998-2009; Board member, Claremont Canyon Conservancy, 2001-2009; Co-chair Vegetation Management Committee, North Hills Community Association, 2010.

1. 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.
2. The great fires of 1923, 1946, 1970, and 1991 in the East Bay Hills grew to overwhelming scales in wildland vegetation before they became catastrophic residential fires in three of those four fires. Major studies of wildfire mitigation strategies have followed those fires and the three agencies that are the largest open land owners and applicants for these grants have considerable expertise and a long-term commitment to working to reduce the wildfire risks to our community.
3. There has also been a substantial effort to assess the environmental consequences of wildfire vegetation management and to seek environmentally benign techniques of strategic fuel reduction. Since the 1995 Vegetation Management Consortium's FIRE HAZARD MITIGATION PROGRAM & FUEL MANAGEMENT PLAN FOR THE EAST BAY HILLS there have been extensive and productive discussions among local experts and agencies on these complex issues for 15 years. During that time, many recommended fuel management projects have been postponed for lack of funding or because of debates among stakeholders on what vegetation modifications should be done. We have fortunately been spared another catastrophic wildfire since 1991, but as large public areas long-identified as high hazard remain untreated, we cannot be sanguine about our odds in the next few years.
4. The four projects under review cover over 1000 acres of land, much of it within or close to our community. Prudent fuel management projects for such large areas are an enormous and costly challenge; the environmental impacts of such work are equally large and challenging. Agencies and individuals have devoted many years to trying to strike a reasonable balance between these challenges. The issuing of the EAST BAY

REGIONAL PARK DISTRICT WILDFIRE HAZARD REDUCTION AND RESOURCE MANAGEMENT PLAN and ENVIRONMENTAL IMPACT REPORT, approved in April 2010, followed 10 years of discussions since the first EIR scoping sessions were held in 1999. The EBRPD recommended treatment areas cover some 3,000 acres and apply many of the same strategies and techniques as the proposed FEMA projects.

5. There will be continuing debate about what is to be done to mitigate this known hazard of wildland fires close to our community. The search for environmentally benign and more effective treatments is an ongoing process, but FEMA and its consultants should recognize that the EIS process for these grants is substantially redundant to the recently completed EBRPD EIR process.

For these reasons, I urge that some of the funds for these FEMA-supported projects be released expeditiously and that a good faith effort be made to hasten the completion of the EIS without needlessly repeating agency and expert studies done in the last 10 years.

EBH-EIS-FEMA-RIX

From: Gay Sweet Scott [GayScott@sbcglobal.net]

Sent: Monday, October 04, 2010 4:09 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

In this time of budget crisis there must be wiser uses of funds. I am completely opposed to the "Hazardous Fire Risk Reduction" plan. I am with a short walk of Claremont Canyon and enjoy walking the East Bay hills many days a week. Clear cutting and the application of herbicides endangers all life forms, not just those some one with a budget deems undesirable.

EBH-EIS-FEMA-RIX

From: Madeline Hovland [mhovland@mindspring.com]

Sent: Tuesday, October 05, 2010 12:02 PM

To: EBH-EIS-FEMA-RIX,

Subject: EISCA Autogenerated Email

I submitted a public comment on EBH-EIS by e-mail on October 1. I have not received acknowledgment that my comment was received. I know that at least 16 other comments were sent that were mostly opposed to FEMA's granting funds for the 4 EBH projects. I notice that comments that were sent to the address in the Federal Register notice have been posted on <http://www.regulations.gov> under the docket number FEMA 2010-0037. Will my comments be posted on the federal website, or on the regional website? Or not? Should I be worried that I have not received acknowledgment that my comment was received? Others who sent comments are also concerned.

EBH-EIS-FEMA-RIX

From: Max Ventura [beneficialbug@netzero.net]

Sent: Tuesday, October 05, 2010 5:38 PM

To: EBH-EIS-FEMA-RIX,

Subject: confirmation of receipt requested

To Whom It May Concern:

I have not yet received confirmation of receipt of comments in response to FEMA wildfire grants requested by UC; East Bay Regional Park District; and Oakland.

East Bay Pesticide Alert sent comments originally sent 9/2/2010; then resubmitted 9/28 and 9/30 due to problems found with broken URL links within the comments.

Comments were sent to the above email address to which other comments were sent, and confirmed received, by a colleague.

Thank you for confirming receipt.

Sincerely,

Maxina Ventura
East Bay Pesticide Alert

Letters Received



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 9th, 2010

RECEIVED

JUL 12 2010

BY: _____

Alessandro Amaglio REO
FEMA, Region IX,
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

Subject: Scoping Comments for the East Bay Hills Hazardous Fire Risk Reduction in
Alameda and Contra Costa Counties, California.

Dear Mr. Amaglio:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

EPA supports the Federal Emergency Management Agency (FEMA) goals of reducing hazardous fuels adjacent to highly populated areas in the East Bay Hills. We encourage FEMA to minimize any adverse environmental impacts to the full extent possible. EPA recommends that the EIS evaluate a range of alternatives, including an alternative that minimizes adverse impacts to water quality, cumulative watershed effects, aquatic resources, and air quality.

Tree-Removal

EPA recommends that FEMA commit to limiting tree-removal to only non-native species for all four hazard mitigation projects evaluated in the Environmental Impact Statement (EIS). Include a commitment to leave trees greater than a specific DBH in size, and identify how this would be implemented. Diameter and height are, in effect, measures of tree resistance to fire damage. Large diameter trees are generally more able to withstand wildfire, assuming that surface and ladder fuels have been reduced and the severity of the fire is not extreme. By leaving the largest trees and treating surface and ladder fuels, fire tolerant forest conditions can be created.

Water Resources

The NOI describes chipping the downed trees and scattering the chips. The DEIS should include a plan to insure that chipping activities avoid streams and areas prone to flooding. In the event that any portions of projects have unavoidable impacts to waters of the United States (WOUS) an Army Corp of Engineers Clean Water Act Section 404 permit may be required. EPA encourages FEMA to include an extensive evaluation of the impacts of herbicides on the affected

environment. The evaluation should include a description of the type of herbicides, licenses required and methods to apply the chemical. The DEIS should include a description of application strategies to ensure herbicides do not enter WOUS.

The DEIS should also provide information on CWA Section 303(d) impaired waters in the project area, if any. The document should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

To fully characterize the potential impacts to aquatic resources, EPA recommends that the DEIS include the following:

- Provide a baseline assessment of the functions and values of the waters of the U.S. in the project area.
- Quantify (i.e., acreage) anticipated temporary and permanent impacts in waters of the U.S. in each identified water of the U.S. for each alternative comparatively.
- Identify specific actions that will occur in each identified waters of the U.S. (i.e., number of bridge replacements, culvert expansion, and dewatering activities) per alternative to access project areas.
- Include the estimated acreages of temporary and permanent impacts and specific actions for affected water bodies in a table to provide a visual comparison of each alternative.
- Describe specific avoidance and minimization measures and proposed best management practices (BMP) to reduce impacts to waters of the U.S. and to address increased stormwater.
- Describe the effects the project will have on specific functions and values and how the proposed mitigation will offset those impacts.

Biological Resources

EPA is concerned that the use of herbicides could have adverse affects on sensitive species, habitats and habitat connectivity. EPA suggests FEMA include a complete evaluation of species affected by project activities in the DEIS. In the event that threatened and endangered species and special status species are present, EPA recommends FEMA consult with the United States Fish and Wildlife Service and California Department of Fish and Game.

Cumulative Impacts

Cumulative impacts analyses examine “the impact of the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions “(40 CFR Part 1508.7). We recommend the DEIS include an

extensive list of projects identified as part of the cumulative impacts analysis. EPA recommends that the following be incorporated into the DEIS:

- Identify cumulative impacts study areas relative to the resources of concern and a baseline from which impacts will be measured;
- Disclose the past, present, and reasonably foreseeable impacts on resources of concern from past, present and foreseeable activities and analyze the rate of loss and magnitude (size and relative importance) of impacts to resources;
- Incorporate other reasonably foreseeable projects planned in the area, as identified above;
- Address the incremental effects to environmental resources, specifically water and biological resources;
- Incorporate resources protected by any local conservation or resource area plans, affected city plans, and other restoration efforts in the project area.

We appreciate the opportunity to review this NOI. When the DEIS is released for public review, please send one hard copy and one CD ROM to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3800 or munson.james@epa.gov.

Sincerely,


James Munson, Environmental Protection Specialist
Environmental Review Office
Communities and Ecosystems Division

Norman La Force
Law Office of Norman La Force
802 Balra Drive
El Cerrito, CA 94530
510-295-7657
Email: n.laforce@comcast.net

July 10, 2010

Environmental Officer
Region IX, FEMA
1111 Broadway, Suite 1200
Oakland, CA 94607

Re: Notice of EIS for East Bay Hills for
Strawberry Canyon Vegetation Management Project
Claremont Canyon Vegetation Management Project
City of Oakland Vegetation Management Project
East Bay Regional Park District Vegetation Management Project

Dear Sir/Madam:

Please put this office on your list for sending required public notices of any and all actions regarding this EIS and these projects. Send the notices to:

Norman La Force
Law Offices of Norman La Force
802 Balra Drive
El Cerrito, CA 94530

Sincerely yours,



Norman La Force

Peter Sorcher
Mill Valley, CA
peter@sonjherkins.com

14 September 2010

East Bay Hills – EIS
FEMA
PO Box 72391
Oakland, CA 94612

RE: Public Scoping, EIS for FEMA Hazard and Pre-Disaster Mitigation Grants in the East Bay Hills

Dear FEMA Officials:

I am writing to comment on the "public scoping" in preparation for the Environmental Impact Study for FEMA Hazard and Pre-Disaster Mitigation grants in the East Bay Hills.

I am familiar with projects like these because in Marin County, where I live, the National Park Service has been destroying non-native trees as they "restore" their properties to native plants. In the past these projects were straight-forward native plant restorations, such as the massive restoration of Redwood Creek. More recently, in order to qualify for federal stimulus funding, the Park Service is in the process of destroying hundreds of thousands of trees using "fire hazard mitigation" as the justification. Therefore, the strategy of the East Bay applicants for FEMA funding is familiar to me. The proposed grant projects are native plant restorations masquerading as fire hazard mitigation and should not be funded because they will not reduce fire hazard; in fact, it actually makes conditions less fire safe.

Based on our local experience with a wildfire in 2004, we observed that the eucalypts played an important role in stopping that fire; they drink much of the ground water and are waterlogged. Since the eucalypts also provide a windbreak, they can stop a wind-driven fire by blocking the wind that carries the fire. Any "native" species burned in seconds. That was our local experience in 2004.

The eucalypts perform many valuable functions in our landscape. In addition to providing a windbreak, they are a sound barrier and a visual screen between our community and the busy highway through our community.

Since we have experience with the destructive projects of the Park Service, we know the end result of these projects. The areas being cleared or drastically thinned of trees are not being replanted. Those areas are quickly occupied by grassy weeds that are far more flammable than the trees that were removed. These grassy weeds ignite more readily and the fire spreads more quickly through them. And adding insult to injury, they are an unsightly mess. The shade of the tall trees retards the growth of these grassy weeds. Both visually and from the standpoint of fire safety, the trees are the preferable landscape.

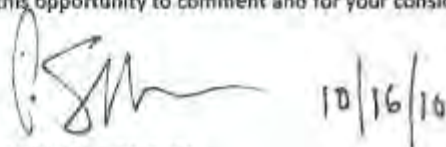
If FEMA denies these grants on the grounds that they will not reduce fire hazard, I ask that the National Park Service be informed of this decision. If federal funds for the purpose of fire hazard mitigation are not appropriately used for the East Bay projects, they should not be available in Marin Country either.

Thank you for this opportunity to comment and for your consideration.

Sincerely,

Peter Sorcher

1046 Erica Rd. Mill Valley, CA 94941



P. Soriano
1046 E HCA RD.
MILL VALLEY, CA.
94941

NORTH BAY CA 949
NOV 20 2010 PM 3:10



EAST BAY HILLS - EIS
FEMA
PO BOX 72391
OAKLAND, CA 94612

Dave Maloney
PO Box 475776
San Francisco, CA 94147

15 September 2010

East Bay Hills – EIS
FEMA
PO Box 72391
Oakland, CA 94612

RE: Public Scoping, EIS for FEMA Hazard and Pre-Disaster Mitigation Grants in the East Bay Hills

Dear FEMA Officials:

Before I retired from the Fire Service, I was Chief of Fire Prevention at the Oakland Army Base, Oakland, California. I was a member of the Mayors' Task Force on Emergency Preparedness and Community Restoration, which was formed to determine the causes of the Oakland-Berkeley firestorm of 1991, and make recommendations to prevent its recurrence.

Based on my professional understanding of the principles of Fire Science, my experience, my knowledge of the 1991 fire, and the results of the Task Force's investigation, I can assure you that the 1991 firestorm was not caused by non-native trees. It was caused by highly combustible material used in the construction of houses within the affected area. The Task Force's conclusions resulted in significant changes to the California State Fire and Life Safety Regulations and Building Standards.

This letter is asking you to reject the applications by the University of California, the East Bay Regional Park District, and the City of Oakland for FEMA funding of projects which claim to mitigate fire hazard in the East Bay Hills. These are land transformation projects which are clumsily disguised as fire mitigation projects. These land transformation projects are ideologically driven, and if allowed to become a reality, they will actually *increase* fire hazards in the East Bay hills. Unless these projects are substantially revised to address real fire hazards, they should not be funded.

Sincerely,


David Maloney

attachment

September 15, 2010

FROM:

David Maloney
PO Box 475776
San Francisco CA 94147
E mail: david.maloney@rocketmail.com

TO:

East Bay Hills – EIS
FEMA
PO Box 72391
Oakland CA 94612

Dear FEMA Officials:

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.

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.

The East Bay Regional Park District's Wildfire Hazard Mitigation Plan, and EIR do all three. They omit important Fire Science principles, disseminate misinformation about selected fuels, and ignore data that would be contrary to its aim of land transformation.

I

Maloney response to Wildfire Mitigation Plan

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 disregarding that removing an overstory canopy will severely reduce the amount of moisture in the grasses that were under the canopy, and result in these grasses becoming much more volatile.

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 by eliminating the trees that produce the canopy. Clear cutting is a tool of land transformation. Therefore the Plan has a prominent self-contradiction

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.

(It was the logging of trees, and the consequent destruction of the tree canopy on Angel Island in 1999, that caused the massive fire spread of 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.

2

Maloney response to Wildfire Mitigation Plan

MOISTURE

"Fuel moisture content is overwhelmingly crucial to forest fire behavior." Fire in Forestry, Vol. I, pg. 33, Chandler, et. al.

"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, size 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 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 is to be used..

Additionally, there is no mention of the specific hygroscopicity, 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 the most important factor 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, because no moisture measurements were taken on the ground with a hygrometer, 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.

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 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.

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?

4.

Maloney response to Wildfire Mitigation Plan

Again, this Plan treats prescribed burning in a cavalier manner, which is inconsistent with safe wildfire hazard mitigation.

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 ideological 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."

"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 Eucalyptus leaves and barks are not mentioned because they are not as flammable as the oils and resins of the needles of coniferous trees.

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."*

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."

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.

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 Eucalyptus 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."

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.

The fuel hazard ratings in the Plan relative to Eucalyptus trees are ideologically 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.

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.

"The third most important characteristic of a fuel particle with respect to its combustion rate is its surface/volume ratio which, for a given particle density, is directly related to particle thickness."

Fire in Forestry, vol. I, pg. 11.

"Thin fuels ignite more easily than thick fuels because they have less mass to be heated."

Fire in Forestry, Vol. I, pg.10

Grasses are thin fuels. Trees, regardless of species, are thick fuels.

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.

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/unknown- 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.

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 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 ideology ahead of fire science; and imperils the public.

Peter Gray Scott
architect

1047 Alvarado Road
Berkeley, California 94705
Phone or Fax 510-843-3082

John Hamill

23 September 2010

FEMA

EBH – EIS

P.O.Box 72391

Re: Vegetation Management projects

Oakland, Ca 94612

in the East Bay hills

Dear Mr. Hamill:

This addresses the EIS process that has now been required for the UCB Strawberry Canyon project, as well as the City of Oakland and East Bay Regional Parks District projects to follow.

I am disturbed that the engineering firm selected to draft the EIS is URS, the same firm that wrote UCB's Environmental Assessment (EA) as well as earlier assessments for the EBRPD. In the past URS has produced sloppy, inadequate and misleading reports; it has simply been a mouthpiece for the advocates for transforming the hills environment into a replica of circa 1830's landscape: bare grass slopes with spotted oaks, plus oaks, bays and buckeye in the draws.

The goal of FEMA-funded work should be to mitigate the risk of ignition and fire in the wildland-urban interface, with the least possible environmental damage. Clearly, the "oak savannah" does not meet that criteria. Recognize that an oak savannah is primarily flammable grass and brush, and the trees are ground-hugging fire ladders.

First, none of the proposed vegetation management projects include any plan for planting replacement trees, or proactively introducing new (safer?) grass species. It is imagined that this new growth will magically evolve once the tall tree canopy is removed – and then will be a permanent, stable environment from then on – presumptions that are clearly not true.

Second, the oak savannah is assumed to be a more fire safe environment, when no credible supporting evidence is presented. It is in fact more ignition-prone, especially in the high fire season. It contains a higher percentage of fine fuel; fire-fighters will not challenge a grass/brush fire because it travels and changes direction faster than they can – and in a Diablo wind, the flame lengths are twice those of a healthy tall tree forest. Why would one want create a landscape resembling Southern California's that burns so fiercely and frequently? Also, there is no scientific basis for the claim that native plants are more fire-resistant than non-natives.

Third, the proposed projects have not adequately addressed significant, irreparable environmental damages: habitat, climate change, air quality, erosion, long-term use of pesticides, aesthetics, etc. EBRPD actually completed an alternative vegetation management protocol in Claremont Canyon (Mid-Canyon, phase 2) that was less expensive and less environmentally damaging, but it was not considered as a viable alternative by any agencies in their proposed Plans.

I live in the Claremont Canyon. My house nearly burned in the '70 fire, and did burn in the '91 fire (my mother died). After rebuilding, I instigated the Alameda County Grand Jury investigation of the fire, spent 13 years on Oakland's CORE task force. I am currently a member of the Claremont Canyon Conservancy, on the executive board of the **Hills Conservation Network**, and am co-chair of the Vegetation Management Committee of the North Hills Community Association. **No one is more passionate in reducing the risk of ignition and fire in our hills, and the sooner the better.** I recognize FEMA is getting a lot of pressure to rush the EIS process, but because URS (not credible) is doing the EIS, **I recommend just the opposite: hold EIS' feet to the fire!** Insist on modifications to the Plan(s) until URS and the sponsoring agency substantiates their assumptions and proposes a Plan that actually reduces fire risk, and doesn't just chop down mature healthy trees.

Please let me know if you have questions or comments.

Yours truly,

A handwritten signature in dark ink, appearing to read "Peter Scott", with a stylized flourish at the end.

Peter Scott



Peter Gray Scott, architect
1047 Alvarado Road
Berkeley, California 94705

OAKLAND, CA 94612
24 SEP 2010 PM 7 L



John Hamill
FEMA
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94612+8531





23 September 2010

Mr. John Hamill
Federal Emergency Management Agency
EBH-EIS
P.O. Box 72391
Oakland, CA 94612

PUBLIC COMMENT on the 2010 FEMA EIS regarding the Hazardous Fire Risk Reduction Projects submitted by UC Berkeley, City of Oakland, and the East Bay Regional Park District.

The North Hills Community Association (NHCA) recommends that FEMA and the applicant agencies complete the NEPA process in the minimum time necessary to define environmental mitigations. NHCA further recommends that subsequent wildfire reduction actions proceed as soon as possible.

The NHCA recognizes there will be continuing debate about what is to be done to mitigate the known wildfire hazards close to our community. We acknowledge that the search for more effective and more environmentally benign treatments will be an on-going process.

However, the time required to develop the new FEMA EIS must be balanced with the fact that fuel load maintenance actions are being delayed once again. The NHCA strongly urges a swift EIS review to avoid continuing delays that increase the already-severe wildfire risk to lives and property.

The Board of the North Hills Community Association

David Kessler (Chair)
John Colbert
Jim Dexter
Maria Distler
Teresa Ferguson
Nancy Lane
William McClung and Peter Gray Scott, co-chairs Vegetation Management Committee
Nancy Mueller
Barry Pilger
Pam Swafford



Office of Chief Counsel, Federal Emergency
Management Agency, 500 C Street, SW.,
Room 835, Washington, DC 20472-3100

September 25, 2010

Docket ID: FEMA-2010-0037
Hazardous Fire Risk Reduction, East Bay Hills, CA
AGENCY: Federal Emergency Management Agency, DHS

This packet contains scoping comments and information submitted to FEMA by Jerry Kent as part of the Environmental Impact Statement (EIS) process for hazardous fuel reduction grant projects in the East Bay Hills. This letter and attachments are intended to be part of the public record for the EIS.

For the most part, I have limited my scoping comments to general wildfire safety issues, and to hazard mitigation topics involving eucalyptus and pine groves because tree projects have frequently generated the most passion and controversy. However, trees are not at the top of my list of priorities for reducing wildfire risks in the East Bay Hills. I would rate the following priorities at the top.

1. Requiring all homeowners in high-risk areas to make their homes more resistant to flames and burning embers, and not just for new construction.
2. Creating appropriate defensible and survivable space around homes and neighborhoods to make them more fire adapted. Unfortunately, 30 feet of defensible space still seems to be the standard in LRA areas of the hills when the state requires a minimum of 100 feet in SRA areas.
3. Significantly improving multi-agency firefighting capability, equipment, and tactics for containing one day "sprint" Diablo wind wildfires.
4. Implementing a state-of-art wildfire evacuation plan and program for the East Bay Hills.

Passion, priorities, and controversy aside, the following FEMA grant projects address a wide range of important fire hazard reduction projects for agency lands. I urge FEMA and its consultants to thoroughly review each project, base recommendations on sound science and experience, complete the EIS process with appropriate mitigation, and quickly release requested funding to allow the following projects to be completed.

PDMC-PJ-09-CA2005-011: UC Berkeley, Strawberry Canyon- 60 acres

PDMC-PJ-09-CA-2005-003: UC Berkeley, Claremont Canyon- 45 acres

PDMC-PJ-09-CA-2006-004: City of Oakland, Regional Fuel Management Project- 325 total acres made up of: (North Hills Skyline 68 acres), (Caldecott Tunnel 54 acres), (UC Berkeley 84 acres) (Tilden Grizzly 60 acres), (Sibley Island and Triangle- 42 acres), (Claremont Stonewall 17 acres)

HMGP 1731-16 EAST BAY REGIONAL PARKS DISTRICT MANAGEMENT PROJECT- 550 total acres made up of: (Sobrante Ridge 4.1 acres), (Wildcat Canyon- 65.7 acres), (Tilden Park 96.7 acres), (Claremont Canyon 21.5 acres), (Sibley Preserve 43.6 acres), (Huckleberry Preserve 17.5 acres), (Redwood Park 58.2 acres), (Leona Canyon 4.6 acres), (Anthony Chabot 222.6 acres), (Lake Chabot 32.9 acres), (Miller/Knox 22.2 acres)

ATTACHMENT K

note:
the video included in the
packet sent to Washington D.C. was
immediately and arrived blank. I said a
copy would be shown to the Oakland office
for their use. *(J. Kern)*



Dear FEMA Representative,

I am writing you as a long term resident and hiker in the East Bay hills who is absolutely opposed to the proposed grants to UC Berkeley and the EBRPD for "hazardous mitigation assistance." I have already seen the results of previous "mitigation" projects in the Berkeley hills, and the word is clearly a euphemism for clear cutting and pesticide dumping.

A well-considered plan of fire mitigation would put the focus on clearing underbrush, and perhaps very selective thinning of trees close to structures. What UC and the EBRPD are proposing is a broad "slash and chip" operation which would be devastating to the current ecosystem. I'm talking about the disruption of wildlife habitat, the increased sedimentation of streams as the topsoil runs off the clear cut hillsides, the pesticide run-off poisoning our waters, and the *increased* fire danger from the undergrowth that will fill the stump-filled landscape, and then dry out without the canopy to shade it.

Please do not fund such folly.

Sincerely,

A handwritten signature in black ink, appearing to read 'Anna Griffin', with a long horizontal flourish extending to the right.

Anna Griffin

626 El Dorado Avenue, #1
Oakland, CA 94611

URGENT**Committee to Minimize Toxic Waste**

Federal Emergency Management Agency
Region IX
Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

September 28, 2010
Mailed via USPS:
to: EBH, P.O. Box 72391
Oakland, CA 94612

Attn: Mr. Alessandro Amaglio, Environmental Compliance Officer
via FAX: (510) 627-7270
Mr. David N. Kennard, H.I.R.A. Branch Chief, Mitigation Div.
via FAX: (510) 627-7147

RE: Scoping Comments on the Hazardous Fire Risk Reduction
Environmental Impact Statement (EIS) East Bay Hills, California
Project.

Dear Sirs,

These comments are specifically addressing 3 of the 6 components
of the above referenced project, i.e.:

1. UC Berkeley (UCB), PDM-PJ-09-CA 2005-003
2. UC Berkeley (UCB), PDM-PJ-09-CA 2005-011
3. UC Berkeley (UCB), PDM-PJ-09-CA 2006-004

We are respectfully asking that you DO NOT FUND any of the 3 grant
applications submitted by UC Berkeley for the following reasons:

In the UCB 2020 Long Range Development Plan (LRDP) EIR, all these
3 areas: the Northwest Promontory, Chapparal Hill and Claremont
Canyon, were designated for Faculty (Family) Housing (100 units of
2,3, and 4 bedroom housing), a Campus Retreat Center for Conference
Venues and continued expansion /construction of research facilities
extending outward from the Silver Space Sciences Laboratory,
the Mathematical Science Research Institute, the Field Station for
Behavioral Research (a controversial Hyena project) etc., all
along the narrow, winding Grizzly Peak Boulevard next to Tilden
Regional Park to Claremont Canyon.

It is clear that UCB is intending to use FEMA funds for clearcutting
these 3 areas in anticipation for future development and expansion,
which is in direct opposition to the FEMA guidelines, as is the
clearcutting, which the guidelines prohibit.

Continued development on the ridges of Strawberry and Claremont Canyons
only increase the fuel load and FEMA should have NO part in
facilitating UCB's ill-conceived plans!

In addition, the headwater streams of both the North and South Fork of Strawberry Creek originate from the areas no. 2 and 3 (see above) of UCB's grant application. Clearcutting in these areas would create erosion, and the application of Garlon or any other herbicide must be absolutely forbidden near headwater streams!

UCB should continue the management and reduction of fire risk on their own lands with their own budgets, using goats, as has been the case in the past, eliminating tall grasses and underbrush.

All large trees should be left in place (no tree greater than 8" in diameter should be cut) so that the tree canopies can continue to prevent the growth of flammable, invasive weeds and shrubs! The spaces between large trees should be about 10 feet.

In conclusion, please DO NOT include any of the 3 UCB grant proposals in the EIS process. These funds $\longrightarrow$ should be reserved in favor of other more deserving projects.

Sincerely,



Pamela Sihvola, Co-Chair
CMTW
P.O. Box 9646
Berkeley, CA 94709

PS. I am enclosing the text of a petition signed by hundreds of neighbors in 2004 fighting UCB's proposal to build 100 high-density (2, 3 and 4 bedroom) housing units in the Northwest Promontory (area 2, see above) of the current application for FEMA funds. As a result of the community opposition one section of the housing project was changed to "reserve" (for future development) and the other was changed to research (potentially for immediate development)



SAVE SUMMIT ROAD/GRIZZLY PEAK BOULEVARD NEIGHBORHOOD FROM UC DEVELOPMENT/ENCROACHMENT

- 1. STOP Further Destruction of the Upper Strawberry Creek Watershed. UC Berkeley is proposing to build 100 high-density (2,3 and 4-bedroom) housing units at the intersection of Grizzly Peak Boulevard and Centennial Drive, i.e. the cul-de-sac at the end of lower Summit Road, along Grizzly Peak Boulevard south of Centennial Drive (Site H1) and in the parking terraces across from Lawrence Hall of Science (site H2).**
- 2. MAINTAIN adequate firebreak and buffer zone, ready access and egress at Grizzly Peak Boulevard and Centennial Drive, between the regional parklands, University of California property and our neighborhood – in the high-risk fire zone.**
- 3. PREVENT more traffic congestion and loss of parking in our neighborhoods.**
- 4. UTILIZE existing available housing, and research sites on and near campus to prevent further degradation to the community from increasing traffic gridlock, un-taxed use of city services (sewer, utilities, emergency, police and fire agencies), elimination of open space/ natural habitat.**

We, the undersigned, oppose the University of California Berkeley's 2020 Long-Range Development Plan as seriously flawed and harmful to our community safety and well being. We urge UC to work with the City of Berkeley, and its community organizations and stop further development in our neighborhoods and adopt the alternatives for expansion we have proposed in our May 24, 2004 comment letter to Jennifer Lawrence at UC's Facilities Services.

PAMELA SIHVOLA
CMTW
P.O. BOX 9646
BERKELEY, CA 94709



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FEMA / EBH-EIS
P.O. BOX 72391
OAKLAND, CA 94612

94612+6331



Dear FEMA,

I went to the first meeting and it was clear to me that those asking for money for this project are simply interested in conning FEMA for money, and are not interested in the safety of people or the environment. I believe that the well-intentioned people who support the project don't know the details of what will happen if it is implemented. (This won't be the first time than many people in good faith supported something that was the opposite of what they were told.)

This plan will not only not prevent fire danger, but will make the East Bay far more vulnerable to devastating fires.

The tall exotic Monterey pines, Eucalyptus, Acacias, etc., precipitate inches of water from the fog during the dry season – preventing, not causing fires, and providing moisture for native animals and plants. (Go under these trees even in the summer and see how green the ground is with plants supported by the non-native trees.) One woman at the meeting said she'd seen the Nineties firestorm come right up to her home and surround her old enormous Eucalyptus, yet the tree didn't even begin to catch fire, disproving the myth of Eucalyptus' flammability.

Fires typically begin in grasslands, which is where the 1991 Firestorm started. This project will result in extensive new dry grasslands in the East Bay hills, once the 1000 acres of beautiful trees are destroyed. These grasses are also not native and are far more flammable than the trees. The erosion and resulting landslides will be catastrophic. At that point, FEMA money will REALLY be needed.

We have an established eco-system that our native animals have adapted to. Once the trees are destroyed, the already-burdened wildlife will die, from hunger and loss of habitat. I'm also not seeing any mention of the harm done to the environment from eliminating so many oxygen-producing trees, and how much carbon will be released by their corpses. Also, are they planning to chip and mulch the hills, effectively eliminating the bare ground needed by native bees? I'm not only horrified by the plan to kill 1000 acres of trees in an environment that desperately needs more trees, but also by the apparent lack of awareness of our local eco-system.

Do people not understand what the plan is or do they really not care? Everyone I've spoken with believes that only a few dead or dying trees will be eliminated, and do not know the actual plan to clear cut much of our beautiful wilderness, so close to our cities in the East Bay hills, stretching from Richmond to Castro Valley. The devastation from the heavy equipment that will be used is being ignored also.

Most people also don't even seem to know the plants involved or the local environment. They haven't seen how raptors, woodpeckers, and other birds use the dead trees for their survival. They haven't watched how young pines are growing up from the base of their dead mothers, keeping the hills green with new trees. They are also not remembering that many native trees are dying from Sudden Oak Death and that we should be grateful for having these resistant, beautiful exotic trees.

The people who are not going to monetarily benefit from this plan believe the myths and have no idea the devastation that will result. Most people don't know that large sections of our parks in the East Bay hills are almost entirely exotic trees and that their clear-cutting will leave bare, ugly hillsides with poisoned stumps, impending erosion and landslides, the wildlife left homeless, many native plants destroyed, the topsoil damaged, and the beauty gone forever. Few urban areas have such amazing wilderness. What a tragedy to mindlessly destroy it.

I've seen re-planting of native trees in parks, but have yet to see these trees doing very well. Many die, wasting more money and creating more habitat for exotic broom that people so hate.

I believe most people would object to this clear-cutting plan as well as the plan to continuously apply herbicide to the stumps of the butchered trees, if they knew the details. Eucalyptus will take an enormous amount of poison to stop its attempts to stay alive and resprout. And what about the acacias? You cut one down, and you have dozens sprouting along the ground, yards away from the original tree. They continue to try to live years after their mother tree was killed.

I do not believe any herbicide or the other petrochemicals added to it are safe. Every banned pesticide was once declared safe from studies funded by the pesticide industry. Some Bay Area counties refuse to use herbicides, while others still do, ignoring the hazards. I've seen California Newts dying horrible deaths after crawling through roadside areas sprayed with "safe" herbicides. I believe that "applying" herbicides across the hills will result in incalculable deaths of native animals, including protected species, as well as contaminating the earth, reservoirs, groundwater, streams, and bay. Some of the poison will evaporate into the air, adding to our air pollution problem. How many cases of cancer, auto-immune and other illnesses will result from the use of these poisons? I also believe this plan won't work, knowing the amazing regenerative capabilities of these magnificent trees. So the use of poison will be far more continuous than planned.

It's also being ignored that many native species have become dependent on and prefer non-native trees, shrubs, herbs, etc.

I want to ask, "Why the selective logging?" For those who want our parks and UC Berkeley lands clear-cut, I suggest they start with the expensive ornamental non-

natives that are the majority trees at the UC Botanical Gardens, Oakland Zoo, and people's private gardens and yards – which, like the hills, would leave almost no vegetation since most of the green we see are from non-natives. Why the inconsistency – why are those businesses being spared? At the East Bay Regional Park headquarters where the meeting was held, there were many introduced ornamentals. Those olive trees, *Arbutus Unedo*, etc, aren't going to be eliminated, so why destroy the trees on trails that many of us know personally and love? Why doesn't the plan include annihilating all the non-native trees in people's yards in the hills, or even elsewhere? Let's be fair and cut down every non-native plant, including all street trees, and the expensive landscaping at federal, state, county, and city areas, city parks, etc. Why should only the native animals suffer?

There will be many persuasive arguments for committing this irreparable environmental devastation, but please don't believe them. I've seen terrible harm already done in the name of environmentalism, such as the boardwalk constructed in the middle of the endangered clapper rail habitat at Abbott's Lagoon, Pt. Reyes, which was supposedly for the rail, but I don't see them there any longer. (The previous trail was along the edge of the habitat). "Experts" told Audubon to cut down every plant (they didn't know native from non-native) in the tiny Burrowing Owl habitat at Cesar Chavez Park in Berkeley. Those of us who had been watching the owls for years knew that was the opposite of what the owls need and want. When the owls arrived, one left immediately, while the other two stood forlornly by the stumps of their shrubs from the previous year. Weeding the water plants in the Japanese pool at the UC Botanical Gardens several years ago resulted in almost the entire year's eggs of California Newts being killed. I go to the pond every year and have never seen the numbers of newts there as there were previously. A few hours of well-intentioned work can result in permanent ecological damage.

For those in the hills who do want the trees cut, I suggest we trade houses and they live in the tree-denuded wasteland that is much of the East Bay.

For those who insist on eliminating non-native plants, I suggest we start with the humans, dogs, and cats. (Each cat is capable of killing 800 small animals a year, which is why many species of small animals are missing from neighborhoods and even the parks where cats hunt.) And why not kill all the honeybees as well since they're from Europe?

The animals, as well as the trees, are not just "things" in humans' territory. We are planning the killing of living, feeling beings. When people are often depressed from the dark and rain in winter, the gorgeous acacias bloom brilliant golden for two months. The broom with their yellow, exquisitely fragrant blossoms bloom for months during winter and spring.

Please learn who this project will actually benefit. Find out the details before it's too late.

Please know that if this "project" begins, it will be far more destructive than they have told anyone. Expect the worst.

Expect to look up into the hills and see burnt grass where we know see extensive woodlands. Recognize the trees in the parks you love and realize some parks will be completely empty of trees. Expect catastrophic fires and terrible landslides when the trees are gone. Expect damage to the waterways from the erosion.

The FEMA money is desperately needed elsewhere. Please don't waste this money by making a few people rich at the expense of the people, animals, environment, beauty of our parks. Please don't create a new environmental disaster under the guise of preventing one.

Ariel Spilsky
415-459-6969
Ariel Spilsky
PO Box 1194
Woodacre, CA 94973

PUBLIC SUBMISSION

As of: October 05, 2010 Tracking No. 80b16532 Comments Due: July 12, 2010

Docket: FEMA-2010-0037

Hazardous Fire Risk Reduction, East Bay Hills, CA

Comment On: FEMA-2010-0037-0001

Environmental Impact Statements; Availability, etc.: Hazardous Fire Risk Reduction, East Bay Hills, CA

Document: FEMA-2010-0037-0002

Comment Submitted by Mary McAllister

Submitter Information

General Comment

I am writing in support of FEMA's requirement that an EIS be prepared for the four Pre-Disaster Mitigation Grants referenced in this docket in the East Bay hills of the San Francisco Bay Area. As this docket describes, these are large, destructive projects that will destroy tens of thousands of non-native trees, spray them repeatedly with toxic herbicides and cover the denuded hills in flammable wood chips. These and other methods used in this project will have a profound impact on the environment and the animals—including humans—who live in it.

More importantly, these projects are in addition to similar projects already completed and even larger projects planned in the future for which FEMA grant applications have not been applied. The cumulative impact of all of these projects will have devastating effects on the environment and its inhabitants.

I am planning to attend the scoping meetings for this EIS and hereby request that I be notified of the date, time, and place of these meetings.

Thank you for this opportunity to comment on this issue. I have asked what comment is appropriate at this stage of the process, but have not received a reply to my question. Therefore I am making my best guess about what comment is appropriate at this time. I hope this will be adequate to inform you of my support for and my interest in the EIS for these projects.



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September 12, 2010

Office of Chief Counsel,
Federal Emergency Management Agency,
500 C Street, SW., Room 835
Washington, DC 20472-3100

Docket ID: FEMA-2010-0037

Hazardous Fire Risk Reduction, East Bay Hills, CA

AGENCY: Federal Emergency Management Agency, DHS.

Dear Sir/Madam:

I represent the Sierra Club and make the following comments on behalf of the Sierra Club in regard to the Environmental Impact Statement (EIS) draft that will evaluate the environmental impacts of funding a combination of hazardous fuel reduction projects within the East Bay Hills area of Alameda and Contra Costa Counties, California.

1. We urge FEMA to discount the views of any individual or group that uses sophomoric name calling tactics in the press or in their FEMA scoping comments to categorize people or advocacy groups as "nativists" (or other similar pejorative labels) that confuse and abuse. We will be civil during this FEMA process, but will also be aggressive in protecting and expanding our local native species that make up more than 80% of the complex and varied plant communities found today in the East Bay Hills. We obviously prefer our local native species and plant communities when compared to planted groves of introduced species from Australia or Monterey that will likely be labeled as fire hazards in the FEMA EIS, just as they were in the 1995 Hills Emergency Forum Fire Hazard Mitigation Plan and the 2010 Park District Fire Plan/EIR.

Sierra Club Letter to FEMA
September 12, 2010

1

2. We urge FEMA to ensure that the Environmental Impact Statement (EIS) is based on verifiable wildfire science, reliable resource protection/management science, and expert opinions in ways that will provide a sound foundation for recommended project work. We also urge that the EIS fully and carefully evaluate agency recommended projects as well as alternative fire and resource management projects to determine their effectiveness and environmental impacts. Solutions should be founded on peer reviewed science, and reliable long-term agency objectives, goals, and sound land management practices. Alternatives and recommendations for each grant should not be limited by project work that might look awful for the first 1 to 5 years, but will mature to eventually blend in with adjacent desired long-term vegetation.

3. We urge FEMA to ensure that the EIS will be based on factual wildfire history and not on revisionist "fire history" developed to support someone's personal agenda for protecting planted "exotic" trees. Descriptive reports are available for fire behavior in grassland fires of the early 1990s as well as fire behavior in planted forests and for local native vegetation during the past 80-years. Reliable information about dramatic and frightening fire behavior in hill residential areas is also available.

4. We urge FEMA to ensure that the EIS will include reasonable predictions about how fire behavior will change for project areas over the next 100-years as vegetation matures, becomes more dense and flammable, and is effected by global warming. We suspect weather extremes will have impacts on vegetation and potentially increase fire risks. The events of the 20th Century suggest that it would not be unreasonable to forecast three Diablo Wind mega-fires, seven minor Diablo Wind fires, possibly as many as 400 "normal" West or no-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.

We know that there have been four major freezes in the past century that have damaged or even killed eucalyptus trees, and that many fires have killed pine trees. In both cases, substantial seedling and sprout growth resulted to groves of increased fire hazard. The best we can say at this point is that we do not always know how native-like wildland plant communities will respond in detail to future fires, weather extremes, and climate change. However, we prefer to limit the possibilities for changes to our natively evolved regional flora and to not retain species of distant origins that will complicate the process and remain as potential high-risk fire hazards.

5. We urge FEMA to ensure that the EIS will be based on accurate and understandable fire behavior attributes for local conditions in our hills during Diablo winds. Federal agencies will be familiar with and want to use American fire behavior models that are often based on vegetation from other areas of this country. As a result, the fire attributes that we have seen for flame lengths, rates of spread, and spotting distances that were

developed with BEHAVE and FARSITE computer modeling in the 1995 HEF Plan and the 2010 Park District Plan continue to be questioned, confusing and incomprehensible when extrapolated for use in the East Bay, especially for eucalyptus. Unfortunately, there has been little research into the important factors that affect ignition and fire behavior for our unique and various plant communities, and they are thus 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 local communities, they are often collapsed into generic categories and assigned fuel characteristics from other species and areas. We would prefer models actually based on our local vegetation. However if that is not currently possible, we at least urge FEMA to incorporate and use the most recent Project Vesta research from Australia to develop comparative attributes for fire behavior in blue gum eucalyptus forests after applying local weather and topography inputs for the East Bay Hills.

6. We urge FEMA to ensure that the EIS fully describes and requires appropriate mitigation for protected species based on the required biological opinions and recommendations of other Federal Agencies and includes the restoration of native habitat for areas where vegetation removal occurs. We also urge FEMA to ensure that natural resource protection is given equal status with fire hazard reduction work when final projects are being developed. Baseline data layers for the study area should include the distribution of listed and important plant and animal species. It will be important to consider ecological communities along with the required focus on rare, threatened or endangered species. Ecological communities represent much greater ecosystem complexity than do individual species, and should be mapped with fire behavior attributes developed for each community.

Shrub-dominated communities

- a) Wet North Coastal scrub (a.k.a. Northeast-facing scrub or North Coastal Franciscan scrub) - This community is a high priority for protection because it supports one of the highest levels of biodiversity of any shrub habitat type in the East Bay hills. The reasons for this level of diversity are complex but include structure, extent and food value (high percentage of fruit/nut bearing species).
- b) Dry North Coastal scrub (a.k.a.) Southwest-facing scrub or Coyote Brush-Sagebrush scrub) - This community occurs commonly on southwest facing slopes in the study area. It is occasionally found without Coyote Brush, dominated by California Sagebrush such as on the flanks of Wildcat Peak. The fire hazard associated with this community is markedly higher than wet north coastal scrub largely due to the influence of aspect and species composition.

- c) Manzanita-Chinquapin Chaparral – This “hard chaparral” is relatively uncommon in the study area and is known for the significant number of rare and protected plant species it supports, including the Alameda Manzanita (*Arctostaphylos pallida*). This community is fire adapted and can burn with great intensity, similar to related communities in southern California.
- d) Emergent Coyote Brush scrub – This community most frequently occurs where grazing or fire have been removed from the landscape and represents general succession a grass-dominated to shrub-dominated community. It presents significant fire management challenges because of aspect, vegetation structure and the tendency to accumulate drier, flammable material as the stands mature in the absence of disturbance.

Grass-dominated communities

- e) Serpentine grassland - Uncommon in the study area, this community is significant because of the high percentage of rare and protected endemic species it supports.
- f) Predominantly native grassland (may contain red or Idaho Fescue, California Brome, Wild Rye, Purple Needlegrass, California Melic and California Oatgrass) – This community and elements of it occur sparingly in the study area. Isolated patches of this community that have a high percentage of native species are remnants of the coastal prairie vegetation that once dominated the east bay hills.
- g) Emergent Coyote Brush grassland – This community is normally encountered where fire and grazing have been removed from grassland communities, most often non-native grasslands. This stage of development, to monocultural Coyote Brush, is a transition from earlier grazed grasslands. There is evidence, however, that it provides a nursery for emerging Live Oak-Bay Woodlands on north and east facing slopes.

Forest or Woodland communities

- h) Live Oak-Bay Woodland - This community is a high priority for protection because it also supports one of, if not the highest levels of biodiversity of any forest or woodland habitat type in the East Bay hills. Importantly, this habitat type has a high resistance to wildland fire.

- i) Redwood Forest – This community is encountered only in Redwood Regional Park and areas immediately adjacent and is widely regarded as the most spectacular forest type in the East Bay.
- j) Willow-Riparian Forest - This and related communities are high priorities for protection because of their biological significance and low fire hazard potential. They are important as wildlife corridors. The flowing water provides habitat for a number of listed and candidate species including Steelhead Rainbow Trout, Red-legged Frog and Western Pond Turtle.

Rare Plant Associations

- k) Prunus woodlands – This rare native plum (*Prunus emarginata*) occurs in small dense stands in a few locations within the study area. One well-known stand occurs within the Caldecott Corridor.
- l) Woodland and brushland habitats containing Western leatherwood – Western leatherwood (*Dirca occidentalis*) is one of the best known of the rarer shrubs in the East Bay.

Non-native Communities

- m) Eucalyptus Forest – This introduced forest community is highly controversial because of the extreme fire behavior it can generate and because the number of native species have adapted to it a variety of circumstances
- n) Monterey/Bishop Pine Forests – This transplanted plant community occurs in dense stands and as individual specimens in several areas within the study area.
- o) Predominantly non-native grasslands – These are the most common grassland communities in the East Bay. They are most often managed through livestock grazing. Non-native grasslands have largely replaced native grasslands in the East Bay, although native species can often be found within this community-type. Wildland fires occur in these grasslands more than other plant communities because of the relative ease of ignition, yet they are generally less difficult to suppress than fires occurring in heavier fuels. Many native vertebrate and invertebrate species have adapted to this community.

- p) Broom - (French, Scotch, Spanish and Canary Island Broom). These introduced species escaped from freeway plantings and have been aggressively invading the native plant communities for decades. They invade and establish monocultures with exceptionally low biodiversity and high fire hazard potential. It is important to map their occurrence to facilitate removal, and to avoid spreading them through fire hazard reduction activities.

Other Landscape Features

- r) Springs and Seeps - These upland wetlands often represent the only sources of water during the East Bay "Mediterranean" summer. As a result they are generally indicators of high diversity, frequently contain listed species and are highly regulated.
- s) Landslides – These common features of the east bay hills are an important element of biodiversity because of the "disturbance" they provide to the environment. Their occurrence in the study area is particularly significant when they occur in proximity to urban development. Vegetation management in these areas must take into account the potential activation of landslides that may threaten dwellings. These areas may need management after slides occur due to changes of vegetation types and species, which are often weedy or fire-prone.
- t) Ecotones – These are biologically significant areas that often support increased biodiversity as two or more communities intersect. Management activities in ecotones, including wildlife corridors, can have significant impacts on species movements and subsequent genetic viability. Ecotones occur throughout the study area.
- u) Disturbed Areas (trails, roads, developed use areas, etc.) - These highly managed features that are significant because of they can facilitate invasion by non-native weedy and woody species, contribute to sediment and pathogen transport and are a frequent site of wildland fire ignition. Trails and fire roads are also important because they facilitate human access through the landscape for maintenance, firefighting, recreation and related activities. Grazed areas help to prevent the spread of wildland fire. Wildlife movements can be both facilitated and impeded in these areas depending on the circumstances.

- v) Landscaped areas (homes, golf courses, etc) - These are also highly management areas that can serve both as fuel breaks (i.e. golf courses and appropriately landscaped homes) or important ignition sources for urban wildland fires. Residential communities next to the regional parks are one of the main drivers for fuel break development. It is also important to note that proper fire hazard management (i.e. fire hardening of structures, fire safe residential landscaping, etc.) in these areas is a critical element in protecting fire spread from these residential areas. As with disturbed areas, developed areas can both facilitate and impede wildlife movements depending on circumstances.

7. We urge FEMA to ensure that the EIS fully describes and evaluates alternative fire safety and ongoing management actions for hazardous eucalyptus and pine forests for the purpose of determining project effectiveness and environmental impacts for managing these high-risk species. A small but vocal group has been opposing thinning or conversion of eucalyptus and pine trees even when they are in unnaturally dense and flammable groves. It may be impossible to arrive at a complete public consensus, but we urge that the recommendations in the EIS are based on peer-reviewed science by qualified experts. These introduced forest communities are highly controversial because of the extreme fire behavior that can be generated, because residents value tall trees and forests, and because of the number of native species that have adapted to them.

We offer the following suggestions for consideration.

- 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.
- 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 public woodlands, and to allow these areas to convert to native-like vegetation that will require little ongoing maintenance other than exotic weed control.
- c) Groves that are thinned to retain mature eucalyptus trees should keep 30 to 50 trees per acre with selected native shrubs and trees preserved, and ground fuel maintained by hand at less than two tons per acre. 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 retained native- 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.
 - 1) 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.
 - 2) 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.
 - 3) When there is sufficient native grass cover and/or seedbank in areas to allow for establishment of good quality grasslands, these areas can be carefully restored and managed by grazing or mowing to prevent re-succession of shrublands. However, in the absence of a good quality grass seedbank, weeds will dominate the resulting "grassland" unless over-seeded with desirable replacement grassland species occurs soon after project disturbance.
- 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 an agencies 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 be the objective.

8. We urge FEMA to ensure that the EIS addresses controversial stump treatment chemical issues in light of the experiences and capabilities of our local agencies. Considerable flexibility for choosing treatments must be allowed based on project size, agency capability, and the existence of successful, established integrated pest management policies or programs. We are not currently opposed to the careful use of Garlon as a stump treatment on eucalyptus or even broom when applied by a licensed applicator that will prevent spread into adjacent soils or waters. However, we also urge and continue to support alternative solutions that do not rely on chemicals.

9. We are very concerned about any project disturbances that will increase weed invasions and fire risks, and recommend that this issue be given full review and consideration for all recommended projects in the EIS. We also urge FEMA to ensure that the EIS will address ongoing concerns about goat grazing in project areas will that increase flammable weed invasion and damage native flora. We know that goats seem like a cheap solution at \$700 per acre, but they are non-selective in their browsing and interfere with restoration of sustainable native habitat. We also do not believe that they are currently cost effective given the amount of mowing and weedeating that is now being done by agency employees or by small contractors working at reasonable cost for agencies or homeowners. On public lands, we would prefer to see more people with appropriate training and skills working on plant conversions and habitat restoration instead of paying for goats.

10. We urge FEMA to include as its guiding principles those that are found in the attached document entitled, "Managing the East Bay Hills Wildland/Urban Interface to Preserve Native Habitat and Reduce the Risk of Catastrophic Fire." The Sierra Club worked with California Native Plant Society and Golden Gate Audubon Society to develop these principles for the East Bay. They reflect solid science and analysis.

Sincerely,



Norman La Force,

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

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.

**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 too 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

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 fire's 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 too 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 residents 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

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

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.

- 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

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.

- 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 be 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

- 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

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

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."

Office of Chief Counsel, Federal Emergency
Management Agency, 500 C Street, SW.,
Room 835, Washington, DC 20472-3100

September 20, 2010

Docket ID: FEMA-2010-0037
Hazardous Fire Risk Reduction, East Bay Hills, CA
AGENCY: Federal Emergency Management Agency, DHS.

Dear Sir/Madam:

Does FEMA have a policy within either the Pre-Disaster Mitigation (PDM) program, the Hazard Mitigation Grant Program (HMGP) program, or in any federal policy or law that would prevent the use of FEMA grant funds for removal of high fire-risk Australian blue gum eucalyptus forests in the East Bay Hill wildland/urban interface while converting to more fire-safe native oak/bay woodland?

This question is timely because FEMA is beginning a two-year environmental impact statement process that will be controversial and undoubtedly covered in the media. For the past two years we have witnessed the media trying to interpret the controversy surrounding the Strawberry Canyon EA project as argued by FEMA, the University of California, and a vocal group of eucalyptus tree advocates.

The University wanted to remove the overstory of eucalyptus trees on its property to achieve a long-term conversion to an understory of native oaks and bays similar to what U.C. has successfully done in Claremont Canyon along the South side of Claremont Ave. Unfortunately, the media in short articles, never got beyond quoting a FEMA representative saying that the University had not convinced FEMA that its project was more fire-safe, and that it "doesn't favor one tree over another".

While difficult to precisely calculate, the fuel load cross-section for the Claremont Canyon U.C. project has been reduced by more than 80%, and the tons of fuel load today have been reduced by more than 90%. I recognize the fact that the fuel models used in American Forestry are not finely tuned to compare eucalyptus forests and oak/bay woodlands because the models are generic with almost no research done specifically on east bay vegetation on steep slopes. I recently used two fire hazard models from Australia, and found that flame lengths, rates of spread, and maximum spotting distances were ten times greater for eucalyptus than for oaks when using the same inputs for east bay fire weather. Several Australians who I have taken on tours of Regional Parks, where they observed local eucalyptus forests, also have said east bay forests are more dense and flammable than Australian eucalyptus forests.

I know that the EIS process will provide a more detailed basis for FEMA's eventual decision, and that the EIS process will not be a debate about which tree FEMA favors or which type of forests or woodlands FEMA feels are equal from a horticultural or landscape perspective. Hopefully, FEMA at the outset, isn't implying that our typical East Bay Hill Australian blue gum eucalyptus forest would be favored equally in terms of wildfire risk to a typical California live oak woodland.

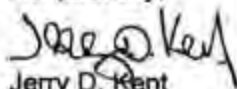
Wildfire is, and always has been, a natural part of wildland areas in the East Bay Hills where people now live in high-risk locations. Wildfires, when fueled by a build-up of dry vegetation, especially under densely planted pine and eucalyptus trees on ridges or on steep slopes above homes and driven by hot, dry winds, are extremely dangerous and in many instances impossible to control until the winds slow.

Of course, some individuals will argue that eucalyptus trees in dense groves should be made safe and retained in the hills. Australians have tried for years to make their eucalyptus forests safe by burning every five years or so for the purpose of removing the tons of flammable bark, branches, leaf debris, and understory vegetation that gather under these extremely flammable forests. Yet, this practice is so controversial that they can't seem to burn often enough to prevent the horrendous fires that keep reoccurring on an irregular cycle. Prescribed burning in East Bay eucalyptus groves has been advocated many times during the past 40-years, but prescribed fire in eucalyptus groves, for a number of reasons, has not been a practical or politically acceptable technique at the wildland/urban interface.

The FEMA Environmental Impact Statement will be the perfect vehicle for enriching public knowledge about fire safety in the East Bay Hills, and for bringing the best available wildfire science and verifiable resource management to the eucalyptus forest and oak/bay woodlands alternatives debate. Selections about which alternative to use should rest with each agency for each specific location to achieve the best short and long-term wildfire reduction strategy for a century where global warming will bring longer periods of extreme weather and a more fire-prone future.

The past news articles on the Strawberry and Claremont Canyon debates may have resulted in false impressions about FEMA's restrictions and intentions. So, the public needs clarification about which FEMA rules will govern tree options during the EIS process. It appears to me that FEMA has already expressed a preference for thinning during the Strawberry EA process that was not acceptable to U.C., and may or may not be realistic or preferred by other agencies for all locations. Therefore, at the onset of the environmental impact process, it would be especially helpful to know if FEMA has a policy or set of regulations under either the Pre-Disaster Mitigation (PDM) program, the Hazard Mitigation Grant Program (HMGP) program, or any existing federal rule that would prevent the removal, following certification of the required EIS, of high fire-risk Australian blue gum eucalyptus forests while converting to more fire-safe native oak/bay woodlands?

Respectfully,



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Office of Chief Counsel, Federal Emergency
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September 24, 2010

Docket ID: FEMA-2010-0037
Hazardous Fire Risk Reduction, East Bay Hills, CA
AGENCY: Federal Emergency Management Agency, DHS.

Scoping comments submitted to FEMA by Jerry Kent, concerning its Environmental Impact Statement (EIS) for hazardous fuel reduction grant projects in the East Bay.

For the most part, I have focused and limited my scoping comments to general wildfire safety issues, and to hazard mitigation topics involving eucalyptus and pine groves because tree projects have frequently generated the most passion and controversy. However, trees are not at the top of my list of priorities for reducing wildfire risks in the East Bay Hills. I would rate the following priorities at the top.

1. Requiring all homeowners in high-risk areas to make their homes more resistant to flames and burning embers, and not just for new construction.
2. Creating appropriate defensible and survivable space around homes and neighborhoods to make them more fire adapted. Unfortunately, 30 feet of defensible space still seems to be the standard in LRA areas of the hills when the state requires a minimum of 100 feet in SRA areas.
3. Significantly improving multi-agency firefighting capability, equipment, and tactics for containing one day "sprint" Diablo wind wildfires.
4. Implementing a state-of-art wildfire evacuation plan and program for the East Bay Hills.

Passion, priorities, and controversy aside, the following FEMA grant projects address a wide range of important fire hazard reduction projects for agency lands. I urge FEMA to thoroughly review each project, base recommendations of sound science and experience, make changes only for substantial issues, complete the EIS process with appropriate mitigation, and quickly release requested funding to allow the following projects to be completed.

PDMC-PJ-09-CA2005-011: UC Berkeley, Strawberry Canyon- 60 acres

PDMC-PJ-09-CA-2005-003: UC Berkeley, Claremont Canyon- 45 acres

PDMC-PJ-09-CA-2006-004: City of Oakland, Regional Fuel Management Project- 325 total acres made up of: (North Hills Skyline 68 acres), (Caldecott Tunnel 54 acres), (UC Berkeley 84 acres) (Tilden Grizzly 60 acres), (Sibley Island and Triangle- 42 acres), (Claremont Stonewall 17 acres)

HMGP 1731-16 EAST BAY REGIONAL PARKS DISTRICT MANAGEMENT PROJECT- 550 total acres made up of: (Sobranite Ridge 4.1 acres), (Wildcat Canyon- 65.7 acres), (Tilden Park 96.7 acres), (Claremont Canyon 21.5 acres), (Sibley Preserve 43.6 acres), (Huckleberry Preserve 17.5 acres), (Redwood Park 58.2 acres), (Leona Canyon 4.6 acres), (Anthony Chabot 222.6 acres), (Lake Chabot 32.9 acres), (Miller/Knox 22.2 acres)

I urge FEMA to ensure that the EIS process for the above grants will:

1. **Recommend approval of the list of above projects, with required modifications and mitigations, to reduce wildfire hazards for area that has a history of one-day wildfires that have destroyed significant numbers of homes and resulted in deaths.**

SUMMARY FIRE HISTORY

The 1923 Berkeley Diablo-Wind fire held the dubious record for the most homes destroyed in a California wildfire until surpassed by the 1990 Paint fire in Santa Barbara County. The very next year the 1991 Oakland/Berkeley Diablo-Wind fire regained the record now held for the past 19-years for the most homes and lives lost in a single wildfire. The East Bay Hills have held the state's record for having the most homes lost in single wildfires for 86 of the past 87 years.

Fire records for the East Bay Hills are sketchy, yet newspaper clips and old fire planning studies document the following active fire history (also see the attachment A map). Losses from any Diablo wind fire today in these same locations, or for that matter any area that has not yet experienced a wildfire, would be disastrous because of the number of homes that have now spread across the hills.

Freezing weather and Diablo winds are major environmental factors connected to many fires. Freezes occurred in 1922, 1931, 1949, 1972, and 1991. In some cases, fire reports noted both a freeze and winds as contributing factors.

Fires of 1921 and the winter of 1922- the heaviest snows in 30 years had fallen in the Berkeley Hills. This event and fires in Claremont and Tunnel Canyons are described in the OAKLAND TRIBUNE MAGAZINE article entitled "Peril of the Oakland Hills" by Louis Allen, and edited and reformatted here to summarize key points.

"THOUSANDS of acres of splendid eucalyptus groves, much of it crowning the range of hills at the rear of Berkeley and Oakland, await almost, certain destruction this summer unless the cities of Oakland and Berkeley, or hiking or civic clubs come to the rescue."

"Fire, that bugaboo of the Berkeley hills last summer, promises greater conquests than ever this summer. Never within the memory of early day residents of the Eastbay cities have the conditions in the hills been so propitious for disastrous fires. Last January the heaviest snows in thirty years visited this region. Over the hills to the eastward Jack Frost draped a beautiful snow mantle, and the weather so conspired as to keep the hills snow clad for almost a week, causing tremendous damage."

"At the summit of Grizzly Peak the snow lay from one to three feet deep. The great groves of eucalyptus trees, all set out within the past thirty years, carried heavy loads of snow for days, the weight gradually bearing the young branches earthward, and finally breaking them. In many cases the slender, fast-growing eucalyptus trees snapped off half way between root and top, but in the majority of instances the broken limbs were those near the ground"

"It makes the hiker who loves trees sick at heart to see the destruction wrought in the grove at the northwest base of Little Grizzly Peak, the trees in all stages of destruction lining the north side of the regular trail leading from the Big C to Grizzly Peak. Here a side trail to the north and leading down into Wildcat Canyon is so strewn with broken off branches as to be almost obliterated. Farther south along Chaparral Peak, which is the slight hillock about a half mile southeast of Grizzly Peak, the same evidence of broken down eucalyptus trees prevails. Everywhere is the clutter of snapped-off dead limbs and

drying leaves, all waiting the moment when a spark lands among them to precipitate a fire that will sweep acres of valuable timber."

"Practically all the eucalyptus trees now gracing the Berkeley and Contra Costa hills were set out within the past thirty years. Hence none of these swift-growing and none too hardy trees ever underwent such trial as that of last January. There have been, of course, in other year snows in our hills to the eastward, but never before such heavy and long continuing snows as last winter's. So never before have our eucalyptus trees been forced to face such damaging weather conditions as during the past year. Because the eucalyptus is not built to stand the heavy weight of snow that bore many branches to the ground and even broke off slender trunks, we find tons of debris strewn the ground in all directions in these groves."

"Heavy fires are predicted unless these broken off or partly broken off limbs are cleared away before the active forest fire season of mid-summer arrives, there will be fire losses that will make the fires that devastated Claremont canyon and hillsides along the Tunnel road last year seem puny indeed."

"So severe, indeed, was last winter's snow visitation that even the hardy pine trees always pictured in connection with snow and potent defiers of wintry blasts succumbed to the onslaught, as witness many a limb wrenched from evergreens on the slopes of the Berkeley Alps."

"Eucalyptus trees surrounded by dead branches must soon become a torch scattering infinitesimal sparks in all directions, if a tiny match or ember happens to fall in the dry grass or leaves at its base. There is only one safeguard for these groves- removals of every contributing factor to the spread of fire. Underbrush that makes a funeral pyre for trees must not be tolerated. Hundreds of acres of valuable eucalyptus groves, set out to conserve the rain water in the hills, will be burned over this summer just as sure as campers are careless and a spark or two falls into dead brush at the base of these trees- unless remedial action taken, and at once."

"Will Oakland and Berkeley permit repetition of the Tunnel road fires of last summer on a larger and grander scale on the high roaches of the ridge at our back door? Every tourist who is driven over the Skyline boulevard and who passes along the Tunnel road can, not help but view the charred skeletons of what once were eucalyptus and pines dotting the hillsides of Claremont canyon. Many acres of blackened pines, complete except for their needles, remain on the sides of the main divide at the head of the canyon, but none of those fire-blasted trees will ever again be green. They stand as mute protests against utter failure of the Eastbay cities to cope with brush fires last summer."

September 17, 1923 Berkeley- The fire began on San Pablo Ridge at 12 noon near a P.G.&E. power line on private East Bay Water Company land close to what is today's inspiration point in Tilden Park. The fire passed through grasslands and eucalyptus plantations above Berkeley to then, in two hours, blow down steep slopes destroying 580 homes on 60 square blocks that included homes, apartments, student housing, hotels, schools, a fire station, and a church. The fire was reported to be ¼ mile wide as it came over the ridge consuming hillside homes and planted landscapes until the fire could be stopped near the campus. The fire also spread southward to include an additional 3,000 acres along ridge and hillside grasslands before reaching Tunnel Road where it was

controlled around 4:30 PM. Fire fighting forces were overwhelmed, water supplies ran out, and it was not possible to control the fire until the winds slowed. Fortunately, no lives were lost. "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."

May 20, 1931 Leona Hillside- Five homes were lost and 1,800 acres burned by a fire that started at 7 a.m. The fire charred a three square-mile area bounded by Redwood and Burnell Roads, and Mountain Boulevard at the head of 35th Avenue in Leona Heights. The fire split into two huge infernos leaving hundreds of fire fighters almost helpless to combat the double conflagration. It imperiled scores of homes and drove hundreds to safety.

November 13, 1933 Redwood/Joaquin Miller- On Monday morning one person died, five homes were destroyed, and seven homes were partially burned when a 1,000 acre fire spread quickly from Redwood Peak down Shepard and Diamond Canyons into the Pinehaven and Thorn Road districts. The fire was started on the ridge at 7 a.m. by a careless smoker and was controlled by firefighters around 2:00 PM. The fire, pushed by 36 mile per hour Diablo winds, threatened the old Oakland Zoo, scores of homes and businesses in the Diamond area as it raced down heavily wooded Canyons along a two mile front. "The fire traveled along the tops of the thick groves of pine trees for great distances, never reaching the ground until after the main blaze had passed." The wind constantly shifted and blew ashes as far away as Alameda. Many smaller fires were ignited throughout the Diamond and Allendale area.

September 25, 1937 Broadway Terrace to Skyline Boulevard- On a Saturday afternoon, a backyard fire escaped and raged for 24 hours to burn 1,000 acres, destroy 4 homes and menace at least 50 other homes in the hills near the Broadway Tunnel. "Scores of residents left their homes empty-handed, too excited to gather up any of their belongings; others snatched up pet animals, blankets and cash." Lack of water caused by exhaustion of reservoirs in the hills hampered fire fighters. This West wind fire at times crept slowly through the brush and at other times leaped from treetop to treetop. Acre upon acre of brush and trees, including eucalyptus and pine sent a pungent pall of smoke pouring over much of Oakland.

1946 Buckingham/Norfolk- 1,000 acres in Claremont and Tunnel Canyons 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." By noon, the fire had blackened an area three miles long and two miles wide. This was a steep, craggy, heavily wooded area bounded by Claremont Avenue, Fish Ranch Road, and old Tunnel Road.

1960 Leona Hillside- Two homes were lost and 1200 acres were charred by a Diablo wind fire that started at 11 a.m. on a Saturday morning on October 15th. The blaze threatened hundreds of homes, and for at least two hours was in danger of spreading throughout the entire hill area. As it was, the fire burned a swath 2 1/2 miles long that was parallel to and just above Mountain Blvd. "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."

September 22, 1970 Tunnel, Vicente, and Claremont Canyons- The fire started in the dry grass on Fish Ranch Road around 10 am. The fire swept over the ridge and hillsides into residential areas where 37 homes were destroyed and 36 damaged by a 204 acre Diablo wind fire. "I watched my neighbors homes burn to the ground. It was a stunning, sickening, tragic spectacle. As I stood in the center of the intersection, buffeted by strong winds, hot ashes and searing heat-laden smoke, five houses were flaming around me. Each was a gigantic bonfire with sheets of fire reaching high into the surrounding trees, torching the pine and spreading the blaze."

This fire was the first fire in a siege of fires that spread across California in 1970 when 733 individual fires burned over the next 13 days. 722 homes were destroyed; 500,000 acres burned, and 16 lives were lost in what was called "California Aflame". Since the Fish Ranch Fire was first fire during this siege of fires, 11 CDF aircraft were available to respond to support firefighters on the ground in controlling the fire before it could do even more damage. This area would not have been so lucky, had the fire started midway in the siege of statewide fires. California has now experienced similar multiple fire sieges in 1985, 2003, and 2007.

1980 Berkeley Hills above the Tilden Merry-Go-Round - Five ridge top homes, above Wildcat Canyon Road, were lost in a December Diablo wind fire that started around 2 PM under powerlines. "The blaze, fed by thick underbrush and eucalyptus tree debris, was so hot and fast that homes literally exploded."

October 19th and 20th, 1991 Oakland/Berkeley Hills- On a Saturday afternoon around 12 noon, a fire started in grass and brush behind a house on private land and burned uphill across the steep slopes of the city's Grizzly Peak Open Space. The fire area turned out to be relatively small, but this fire was certainly not routine because it was burning up a very steep hillside that was 60% or greater in slope. It took several hours to mop up and soak the burned area with helicopter water drops, water from fire engines with long hose lays, and to construct a cleared break around the entire fire area. Hand crews worked the burned area until 6:40 when darkness made it too dangerous to work on the hillside's steep slopes. Before leaving, a Battalion Chief checked the area for any visible signs of hot spots, and directed responding units to leave their fire hose in place for use in the morning. During the night, local fire units returned to the scene to look for hot spots, and no signs of smoke or flames were observed.

Fire crews returned early Sunday morning to monitor the area, deal with any embers and smoke that developed, and collect hose left on the hill. As they were taking the hose lays apart, winds began to stir up hot spots in several locations. Between 10 and 11 in the morning, Diablo winds, that had developed overnight, reached an estimated 30 to 40 mph and began to fan and then blow burning embers down steep hillsides into unburned areas. The fire was rekindled at 10:45 a.m. when a series of small flare-ups occurred that seemed controllable, until too many embers blew into dry brush and pine trees overwhelming the eleven firefighters and three engines that were working the hill.

The fire then blew down the steep slopes along Buckingham Road through unsuspecting homes with dense residential landscapes under pine trees and a scattering of eucalyptus trees. At the same time the fire ran up the ridge through homes and then toward Hiller Highlands. Firefighters who were actually present and involved as the fire began on Sunday morning tell of the valiant efforts made by firefighters and citizens who attempted to contain a fire that turned out to be un-stoppable. Forty mile per hour Diablo winds

were blowing embers into flammable grass, brush, trees, and unprepared homes creating a wildfire that could not be controlled until the winds slowed and a mutual aid response of 440 engine companies with more than 1,500 firefighters were amassed to surround the fire in the late afternoon.

Of the 11,055 people living in the 1991 Oakland/Berkeley fire area, 25 were killed, 150 injured, and at least 5,000 left homeless. Three thousand homes and apartment units and 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 in 1991 was more than 1.5 billion dollars.

40% of the 1,500 acre fire area involved homes and other urban development, and 55% of the area involved wildland vegetation with 30% of the area covered by eucalyptus and pine forests. (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 (including dense landscapes and tall trees)

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

See attachment "J" *IN HINDSIGHT, THE FIRE LOOKS ALMOST INEVITABLE* from the Chronicle on November 18, 1991, one month after the fire.

2. **Recommend the grant projects listed on page 1 to mitigate fire hazards on ridgetops and hillsides covered with dense urban development, and for fuelbreak projects at the residential/wildland edge or on public land near other values at risk where flame lengths are greater than 8 feet.**

The East Bay Hills represent a very unique fire mitigation and fire suppression problem for a densely occupied area of urban California. The area that FEMA will study for project adequacy and cumulative impacts is rather small at about 25 miles in length, 3 miles in width, an estimated 48,000 acres with about 30,000 homes scattered along its ridges and West facing hillsides. Nowhere in this State is there so much residential density in so small a mountain area, with pockets of high-risk vegetation, and a comparable wildfire history. Over the past 100 years the East Bay Hills have been developed to the point that it is one of this states more serious high-risk wildfire areas. Trees were planted on steep hillsides and ridges to create tall forests of eucalyptus and pine mixed with native vegetation. Homes were gradually added for new residents who wanted to live in the mountains surrounded by natural vegetation. This was not a case of residential areas expanding into pristine wildland. It was a created hodgepodge of planted forests, wildland vegetation, homes made of wood, and inadequate infrastructure, all added over the past 70 year period. Unfortunately, few recognized the havoc that future Diablo wind fires would cause for some homeowners who just wanted to live in the hills while enjoying the views and natural setting.

However, after the 1991 fire we rediscovered both the common and unique facts about fire behavior in the East Bay Hills. We know that fire physics will theoretically be the same whether a wildfire is burning in San Diego, a suburban area near Melbourne Australia, or in the hills above Oakland and Berkeley California. We know that there are common safety steps that should be taken in high-risk areas by cities and homeowners. We also know that the type and density of vegetation, the topography, the type and location of residential development, and the wind direction and speed will vary greatly and become key factors as firefighters attempt to stop a fire. In the East Bay Hills, all of these factors can be on the extreme end for an area that also has a significant history of wildfire and home loss.

As a result, CAL FIRE (the State's fire protection agency) has placed East Bay hill residential areas, regional parklands, and undeveloped wildlands in two of the state's Very High Fire Hazard Severity Zones. One Zone covers state responsibility areas (SRA) for undeveloped areas, and the second Zone covers local responsibility areas (LRA) for cities and developed areas.

RECENT FIRE HAZARD REDUCTION PLANS

After the 1991 fire, the East Bay Hills Emergency Forum was formed and sponsored research that is documented in the 1995 East Bay Hills Fire Hazard Mitigation Plan and Program. The 1995 Plan used up-to-date fire science concepts and recommended a unified approach for public agencies and homeowners to follow in reducing the considerable fire risks that threaten "values at risk" in hill residential areas, and wildlands.

The 1995 Plan included a detailed map of wildland vegetation in the study area. The Plan considered flame lengths during Diablo winds greater than 8' to be "out of control" which was possible on 10,500 acres within the HEF study area. Approximately 8,000 acres of wildland vegetation had less than 8' flame lengths where fire would be possible to control. The key 1995 Plan strategies for preventing wildland fires from invading residential areas included a system of ridgetop and residential edge fuelbreaks, and the management or conversion of flammable eucalyptus and pine forests to reduce or even eliminate their ability to burn in ways that exceed local firefighting efforts. Fuelbreaks at the residential/urban interface and along evacuation routes were to be 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."

The Park District's 2010 Wildfire Hazard Reduction and Resource Management Plan (Plan) states that it will "provide 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 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."

"The Plan also builds upon the District's ongoing fuels management activities, as well as the 1982 Blue Ribbon Report, the 1995 Fire Hazard Mitigation Program & Fuel Management Plan for the East Bay Hills (1995 Plan), and other District plans and policies, including those for individual parks. The focus of the Plan is on specific areas of high hazard fuels and the identification of fuel management methods and actions to be undertaken to meet the goals of the Plan."

"The Plan is one of a number of EBRPD projects funded through the passing of Measure CC by the voters in EBRPD Zone 1 (which includes nine cities in western Alameda and

Contra Costa counties) in November 2004. The Plan serves to assist EBRPD in protecting life and property by managing vegetation to reduce wildfire hazards, and doing so in coordination with protecting and enhancing bio-diversity, providing defensible space near structures, managing invasive plant species, and promoting plant and animal communities with inherently low fuel loads."

"The primary focus of the Plan centers on reducing wildfire hazards in areas that have been identified through a wildfire hazard assessment process as having a "high wildfire hazard" (i.e., 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) that would threaten neighboring homes and property. However, the objective of achieving reasonably stable and fire-safe plant communities is also critical to EBRPD's ongoing management efforts as well as its overall goal of protecting natural resources. Resource management and native plant restoration efforts are included in the Plan where synergies exist between wildfire hazard reduction and resource management objectives."

Both the 1995 Plan and the 2010 Plan were developed using qualified consultants, with expert advice, HEF member involvement, and with public input and comment. In my opinion they form a sound basis for the FEMA fire hazard reduction grant projects, and should be given due respect by the Federal Government.

3. Provide authoritative recommendations that will hopefully end debates about what to do with dense and flammable eucalyptus and Monterey pine groves in project areas.

The 1995 HEF Fire Hazard Mitigation and Fuel Management Plan 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 fire risks faced by hill residents. The recently approved 2010 Park District Fire Plan/EIR noted that 1,507 acres of eucalyptus and pine stands were determined to be of high hazard. Of the 1,507 acres, approximately 74% have high crown fire potential, and 82% were located on ridgetops.

Trying to predict the distance that burning embers and firebrands would travel and where will they land is like predicting where and how strong the wind will blow. In Australia, strips of burning eucalyptus bark and leaves have been reported to travel more than five miles ahead of a quick moving wind driven wildfire. Burning embers in the 1991 Tunnel Fire blew across highway 24 to ignite fires that then burned on into upper Rockridge Neighborhoods. Therefore, the distance between a grove and its closest residential neighborhood will not be the limiting factor in home exposure to embers and firebrands from eucalyptus trees because the shortest distance could be a few feet and the longest distance might be over 2 miles. However ember flight distance may be a very critical factor in how and where firefighting will occur as well as the evacuation time for homeowners.

Flammable trees in the East Bay Hills are a major urban wildfire factor. Trees are important aesthetic and environmental features that are treasured by all residents in the hills. However, when uniquely flammable trees like eucalyptus and pine form a tall canopy on high ridges or overtop residential areas with inadequate spacing between tree crowns, any summer or fall fire under windy conditions could quickly become an uncontrollable "forest fire" of tall trees and houses that make firefighting impossible. Any eucalyptus or pine grove fire that occurred under these conditions would produce firebrands that could blow over fuelbreaks and other cleared areas and then drop to ignite natural areas above homes or also reach residential areas.

DESCRIBING HOW VEGETATION WILL BURN

There are major differences in how our native vegetation will burn in a wildfire. But the fire hazard debate has not really been about our native oak/bay woodlands, it's largely about eucalyptus and pine groves that can exceed 120' in height and are prone to dramatic fire behavior. When wind driven wildfire reaches their crown, flames above 150' can be expected with burning embers blowing downwind well beyond ½ 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 groves.

The FEMA EIS must do an exceptional job in interpreting fire attributes for our east bay hill vegetation. Unfortunately, the fuel models used in American Forestry and the 1995 and 2010 Plans (Attachments D, E, & F) were not finely enough tuned, for some critics, for comparing eucalyptus forests and oak/bay woodlands or for that matter most of our local flora. Local critics feel that the models are generic with little research done specifically on east bay vegetation on steep slopes. The posted numbers just don't look realistic!

I recently used two fire hazard models from Australia (Attachments H & I), and found that flame lengths, rates of spread, and maximum spotting distances were significantly greater for eucalyptus than for oaks when using the same inputs for east bay fire weather. I suspect that American models do a good job with American forest species and Australian models do a good job with Australian forest species. Normally, fire hazard models are developed and used only in the country of origin, but we should be able to benefit from the extensive research done in Australia and their extensive experience with eucalyptus bushland fire. Since eucalyptus attributes are a key issue, I suggest that FEMA use the best models and research from both American and Australian models for comparison purposes.

Australians have no illusions about the flammability of their native eucalyptus vegetation, and would never assert that their tall forests are naturally fire-safe. The Australian approach is to regularly burn their bushlands and forests on a regular cycle of 5 to 20 years. However, it's commonly accepted that prescribed fire is not feasible, safe, or appropriate in the East Bay Hills between the high ridge (along Grizzly Peak and Skyline Boulevard) or near the heavily developed residential areas along the hills leeward West-facing slopes.

PARTS OF THE CONTROVERSY WE SEE TODAY HAVE BEEN RAGING FOR 19 YEARS
The HEF completed its \$500,000 three year Fire Hazard Mitigation planning process in 1995, and the Park District just completed its \$1 million dollar, six year Fire Hazard Mitigation/EIR. All participating agency boards and councils accepted the HEF Plan, and the Park Plan was adopted unanimously by its elected Board of Directors, and supported by a wide range of groups and individuals. However, it's not unusual today to find information from either Plan at the center of an argument or controversy.

FEMA should approach each of the controversies about fire hazard reduction and vegetation management alternatives with the best available wildfire science, and not over react to wishful ideas about relative fire hazards created by citizens who happen to love all trees. Both the HEF and the Park District used the best available fire science and policies for their Plans, but apparently the information and explanations were not understood or persuasive enough for everyone. So the debates and even a lawsuit rages on. In my view the fire science used in the recent Park District Plan/EIR was adequate for the task, but was not effective in providing the scientific information in layman's terms in a way that key individuals and groups could understand and accept.

The FEMA EIS is a step up in difficulty because it will deal with three different agencies with a different mix of policies and publicly owned lands. To keep the focus on fire hazard reduction, FEMA should not become embroiled in general tree discussions, and must focus on site-specific conditions. FEMA should base its recommendations on documented, actual project grove conditions and tree details that affect fire risks and long-term maintenance. Even though all of the eucalyptus trees and most pine groves were planted around the same time, there is a wide range in the condition and tree details for each grove that will likely affect fire behavior. Some groves were logged after the 1972 freeze and regenerated as 80 foot multiple stems on one stump. Some groves are bluegum and some are redgum. Some groves are a mixture of eucalyptus and pine. Some groves have dense tree spacing and some have old trees with open spacing. Some groves have heavy ground fuel loading above 50 tons per acre, and some groves have less than 20 tons per acre. Some groves have dense thickets of trees with many seedlings, and some are primarily large trees with just a few seedlings. Some groves have a dense understory of oaks, bays, and native shrubs, and some have little understory vegetation. Some groves are less than ½ acre in size, and some groves are over 100 acres in size.

SAMPLE DESCRIPTIONS OF AREA FIRES IN EUCALYPTUS AND PINE

Both blue gum eucalyptus and Monterey pine trees have also earned their local reputation as high-risk trees. As an example the following quote is taken from the 2005 Marin County Fire Management Plan.

"Forests comprised of fire-prone trees create especially hazardous conditions characterized by accumulated down material and leaves rich in volatile oils that burn hotter than wood. In Marin, a vast Bishop pine forest near Inverness helped fuel the 1995 Mount Vision Fire that destroyed 45 homes and burned 12,000 acres. Blue gum eucalyptus planted extensively in Marin for a variety of reasons helped fuel the 2004 Mother's Day Fire in upper Tamalpais Valley."

Bob Sieben, fire prevention coordinator for Hiller Highlands provided the following account of the June, 2008 fire, between Tunnel Road and Hiller Highlands. He credits prior removal of Monterey pines, the creation of survivable space, and effective firefighting 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 re-growth 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."

The East Bay Hills Oakland-Berkeley 1991 fire was thoroughly 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 modern 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 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."

"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."



This photo shows residential areas with a eucalyptus and pine tree canopy located below several of the proposed FEMA grant projects on the ridge between Sibley and Redwood Regional Parks. Areas like this are the responsibility of the city of Oakland, and in several other similar settings along the hills leeward slope to the North including Berkeley, Kensington, El Cerrito and Richmond.

After the 1991 fire, Oakland removed all restrictions for how residents deal with their eucalyptus and Monterey pine trees. Residents can now make their own decisions about removing or keeping two very flammable trees that have the capability and potential for increasing fire threats for homes and neighborhoods.

4. Provide reliable recommendations that agencies can follow to mitigate fire hazards and minimize environmental impacts in project areas while taking into account a range of site variables and agency long-term land management goals for each project area.

The grant projects listed on page 1 include several different approaches for resolving tree related fire hazards on agency lands. In my opinion, the FEMA EIS should not demand a one-treatment-fits-all standard, but should take a strong and defensible position on practical measures for reducing the wildfire risks for project areas, and for the type of vegetation that is feasible to manage within a project area for the long-term.

The Thin and Manage Option

A thinned and properly managed eucalyptus grove is a viable solution for many flat and wind-sheltered areas in the East Bay Hills, but in my opinion not on high ridges and leeward slopes above homes that will be subjected to Diablo winds. Moreover, many eucalyptus forests are now dense, impenetrable jungles that are waiting to burn. Public agencies and private landowners have yet to commit the required financial resources to manage these dense eucalyptus groves, so we do not have a track record for what works and what may not work. Without good science based examples for fire-safe eucalyptus forest management in the East Bay Hills, we are left with prescriptions that are based on guesses or for other types of vegetation from other areas of the state.

The scientifically based prescriptions for managing "sheltered" fuelbreaks for pine or other softwood forests that have these general characteristics:

1. Trees are to be thinned with 10' to 30' spacing between crowns depending on slope. Sometimes 20, 40, 50 percent of the crown is left open.
2. Understory shrubs are kept low with tree branches removed to create the appropriate height to live crown base (i.e. 3 to 6 times shrub flame length). In pine and other California forests managed for timber, many of the natural shrub plant communities are prostrate and low growing.
3. Ground fuel in pine and softwood forests is usually composed of branch and needle debris that can be maintained on a regular cycle by either prescribed fire or pile burning.

The following detailed prescription (for softwood forests) is found in *The Use of Fuelbreaks in Landscape Fire Management*, jointly authored by a long list of distinguished experts.

"Fuel manipulations can be achieved using a variety of techniques (Green 1977) with the intent of removing surface fuels, increasing the height to the live crown of residual trees, and spacing the crowns to prevent independent crown fire activity. In the Sierra Nevada, van Wagtendonk (1996) prescribed the following fuel alterations from untreated forest levels to fuelbreaks: 1-hr fuels, 3 tons/ac to 1 t/ac; 10-hr fuels, 2 to 0.5 t/ac; 100-hr fuels, 2 to 0.5 t/ac; live load, 2 t/ac to 0 t/ac; depth 1 ft to 0.5 ft, resulting in a total fuel reduction from 9 t/ac to 2 t/ac. In the Sierra Nevada simulations, pruning of residual trees to 3 m (10 ft) height was assumed, with canopy cover at 1-20% (van Wagtendonk 1996). Canopy cover less than 40% has been proposed for the Lassen National Forest in northern California (Olson 1997).

Unfortunately, the published scientific record does not seem to contain similar prescriptions for eucalyptus forests that are a significantly different type of vegetation in terms of fire behavior and maintenance requirements. Clearly, prescriptions for sheltered fuelbreak or grove creation must not only specify what is to be removed, but must also describe the residual structure in terms of standard or custom fuel models so that potential fire behavior can be analyzed. Most unmanaged groves have between 300 to 900 trees per acre and 30 to 100 tons of ground fuel per acre that could all be subjected to Diablo Winds lofting burning fire brands and embers into residential areas.

These are the factors that should be addressed in the EIS for any project area where thinning is recommended.

1. Is it realistic to think that tree thinning and spacing trees on high windy ridges and leeward slopes to reduce stand density and fuel loads and at the same time leave a closed canopy to prevent "weeds" will keep Diablo Wind driven fire from traveling from tree to tree and throwing embers long distances?
2. How will the typical eucalyptus grove understory of oaks, bays, and other related native plants be managed? Will native shrubs be removed and replaced by annual grasses that can be even more flammable? Native shrubs and flora will be dense in some sites, so what will be the impacts be for removing native flora to make ground cleanup feasible.
3. How will the eucalyptus seedlings that germinate regularly, the eucalyptus branch, leaf, and bark debris be removed if the ground layer is not maintained clear of shrubs? Is prescribed fire a realistic treatment risk-wise, cost-wise, smoke-wise, or carbon footprint wise at the wildland/urban interface near homes in the East Bay?
4. If the Park District, University, or Oakland did use prescribed fire to keep ground fuel around 5 tons/acre, how often would they need to burn? Or, in the alternative how often would they need to clear ground fuels using mechanical equipment or by hand at what cost, and with what environmental impacts?

In Australia, prescribed fire is the common method for controlling ground fuel and keeping native bushland groves relatively safe, but the Australian fire safety experts and "greens" are involved in major debates about the impacts of repeated fire on their native environment and smoke impacts on urban residents. Since eucalyptus is the native climax forest for most of Australia, they have not developed alternatives for burning, so the argument goes on and on. After each big fire the "greens" are blamed for stopping burning, and prescribed fire advocates push for regular burning regardless of impacts. See attachment "G" *FIRE IN EUCALYPTUS GROVES AND THE DIFFICULTIES OF MANAGEMENT* by Roger Fenwick.

The Conversion Option

Another alternative that has generated considerable support in some camps is to selectively remove the eucalyptus or pine overstory to allow the oaks, bays, and the native shrub understory to develop a new canopy and more natural ecosystem. There shouldn't be any confusion about the type of vegetation that is possible and desirable today when converting from higher-risk plant communities like eucalyptus and pine forest to lower-risk plant communities that exist today and were mapped in the 1995 Hills Emergency Forum Vegetation Dataset.

<u>Acres</u>	<u>Native-like Plant Communities</u> (mostly natives by species count)
4,100	Oak/Bay Forest- Mixed
3,847	Grassland (mostly grazed areas)
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	Vegetation polygons mapped in the 1995 HEF Plan

Any additions to the above acreages resulting from eucalyptus or pine conversions will not result in increased fire hazard for adjacent wildland areas or for residential areas.

Even though the above acreage totals came from polygons that were in the 1995 HEF study area (including only hill portions of Oakland and Berkeley), it would be reasonable to say that eighty-one percent of the existing vegetation (within the FEMA study area) of the East Bay Hills is native-like. Most of today's wildland vegetation (by counting numbers of species represented in that vegetation) is composed of "truly native" species. However, most native-like 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.



The above photo shows the University's Claremont Canyon Phase 6 eucalyptus to native vegetation conversion project on the South side of Claremont Canyon Avenue that represents a significant reduction in fuels and flammability. The native understory in each eucalyptus and pine grove will be different and should be the key factor for determining which type of vegetation should be encouraged and managed in the future. The University and Park District have often used selective removal of eucalyptus (or pine) to leave native oaks, bays, and other native vegetation.

The University has retained chips and biomass 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, and the chips have largely decomposed. 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 will soon occupy. The University's Claremont Canyon phased projects (2001-2007) are some of the most successful eucalyptus conversion efforts for restoring native vegetation while reducing fire-hazards in the East Bay.



This photo shows eucalyptus seedling and stump sucker trees on UC property adjacent to Claremont Avenue that developed after the 1972 freeze to form a dense 100 foot overtopping canopy covering native oaks and bays. In this case, it would be a mistake from both a fire and ongoing vegetation management strategy to remove the native oak, bay and native shrub understory to end up with a bare, single species stand of eucalyptus. The eucalyptus trees should be removed in the same way the University converted vegetation on the South side of the road to achieve an immediate reduction in fire hazard for this area of Claremont Canyon.

The Species Neutral Option

The species-neutral buzzword is used to advocate a reverse world where native vegetation is flammable and eucalyptus is safe, and that it doesn't matter which species is removed or retained. For example, it would be short sighted, in my opinion, for FEMA to recommend that all of the developing native oak and bay understory trees and native shrubs under a flammable eucalyptus or pine canopy in the above photo should be cleared to create a single species stand of eucalyptus or pine on high ridges or leeward slopes above homes.

The better option to reduce fire risks, including long range ember spotting, would be to remove the eucalyptus overstory and select for any of the understory native plant communities on page 14 for plants that have evolved here and can be re-established to grow well with few maintenance requirements other than invasive weed control.

5. Recommend projects that will assist fire fighters in stopping wildfires with an emphasis on the type of Diablo wind fire that occurred on October 20, 1991.

The FEMA EIS would be well served by analyzing fire hazard mitigation projects that would have helped to contain this fire based on the fact that 40% of the 1,500 acre fire area involved homes and other urban development, and 55% of the area involved wildland vegetation.

Prior to 1991, all of the public agency efforts for creating fuelbreaks were focused on the main high ridge where most of the residential interface met public lands. There was no separation of wildland or residential fuel at either of the fires on Saturday or Sunday. In fact, no fuelbreaks or pre-determined areas were set up to give firefighter a reasonable chance to contain fires of this speed and impact.

The 1995 HEF Plan determined that strategically placed and maintained fuelbreaks are essential to give firefighters an opportunity limit expansion of wildfires, and to attempt control before a fire moves into residential areas. The East Bay Hills first major system of fuelbreaks were installed on public lands in 1974 along the high ridge between Chabot and Tilden Parks, and then expanded in 1983 after the 1982 Blue Ribbon Report. The 1995 HEF Fire Mitigation Plan proposed an expanded system of fuelbreaks with locations, prescriptions, and environmental impacts actively debate. However, over the past 36 years, well designed and maintained fuelbreaks have become accepted when located on ridgetops and on public lands at the residential edge. The current discussion about fuelbreaks seems to be focused on how to create and manage these areas in ways that are sustainable and at the same time prevent invasions of flammable and exotic weeds.

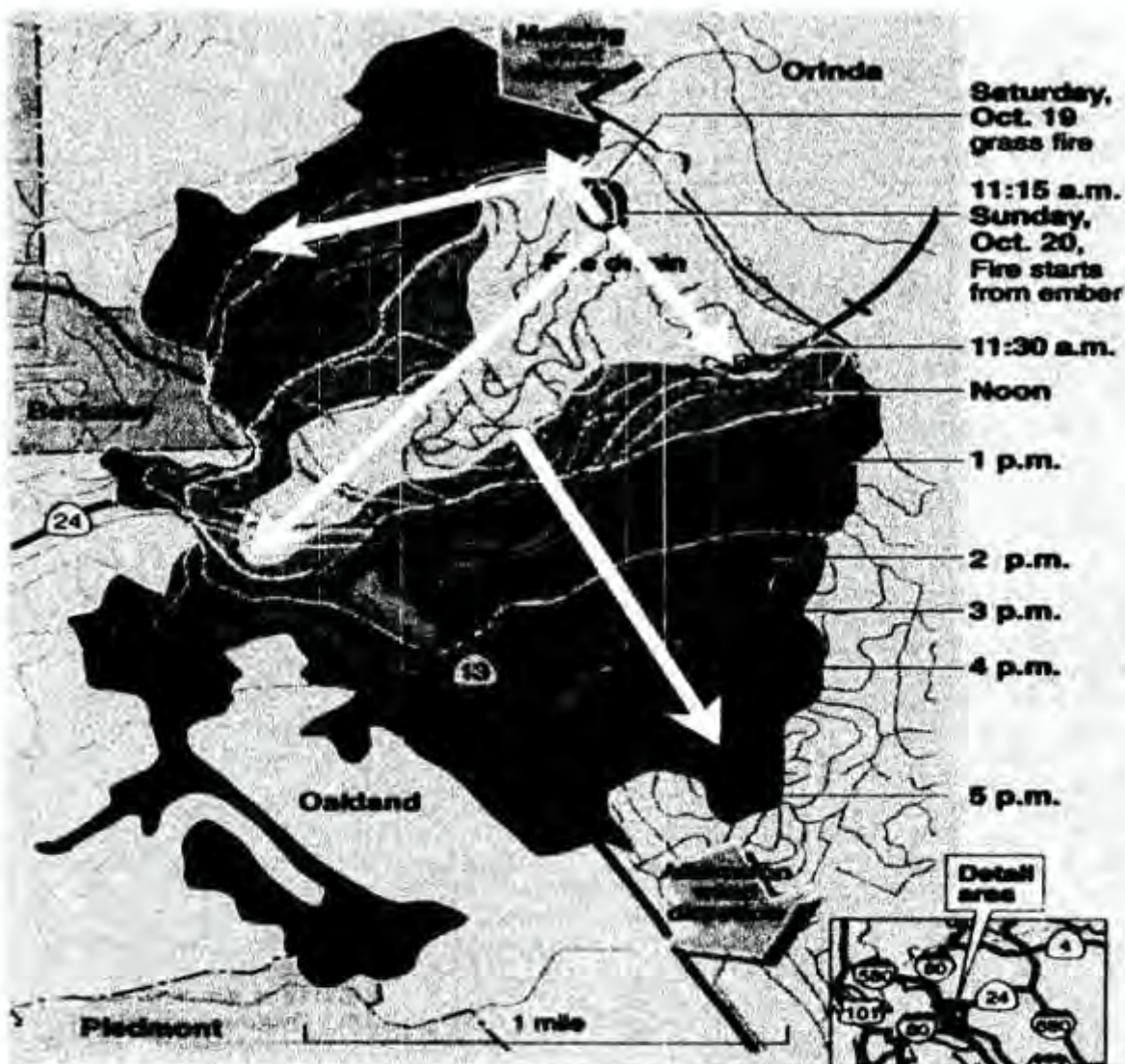
THE 1991 FIRE SET A NEW STANDARD FOR WILDFIRE EXPOSURE AND FIREFIGHTING

The 1991 fire was our worst-case fire, and sets the context for the FEMA EIS. In the East Bay there are a few days each year when all of the conditions are in place for extreme wildfire behavior. These red-flag periods usually occur for a few days each year during the months of September through November. During some of these periodic extreme weather episodes, the East Bay Hills experience a "perfect fire storm condition" with unusually hot temperatures above 90 degrees, humidity below 10 percent, and strong Diablo Winds blowing above 25 mph from the East, and then over high ridge tops and down leeward slopes into densely populated residential areas. Firefighting under these conditions becomes problematic.

One day Diablo wind sprint fires have forced public agencies to view the space between the high ridge and residential leeward edge as the wildland/urban interface where strategic fire hazard mitigation is required. As a practical matter, it will be very unlikely for aircraft, CDF crews, dozers, and other resources to be on hand during the first critical 30 minutes of a fast moving fire. Local fire crews will lead early fire suppression efforts, but there will not likely be a fire truck for every house during the key initial attack. They will need all the help they can get from residents and agencies in pre-fire planning and pre-fire suppression infrastructure.

Fire safety research and lessons learned make these points very clear

- Wildfires during extreme Diablo wind weather can move quickly and may not be totally controlled by firefighters until the winds slow.
- Evacuations and strategic firefighting must not be unplanned or uncoordinated events. Police Departments should plan and execute evacuations allowing firefighters to minimize fire spread and eventually achieve full control at the earliest feasible time.
- Burning embers and not necessarily spectacular flames will ignite unprepared homes. Reducing home ignitability using new building codes is the key to saving homes.
- Survivable space between homes and all flammable vegetation is essential because there will not be a fire truck for every home in a wildfire. Homes in dense neighborhoods and at the wildland/interface require special measures to survive.
- Fire adapted neighborhoods that plan ahead and implement sound fire safety measures including strategic fuelbreaks at the wildland/urban edge will have the best chance for surviving wildfire.



This graphic was produced and used by local media to show the speed of the 1991 fire. It was based on the fire-spread map produced by the California Office of Emergency Services. I added the white arrows to emphasize the primary directions for fire spread throughout the day.

Many useful fire-safety projects are underway the East Bay Hills, but it doesn't take a rocket scientist to know that homeowners and agencies have much more to accomplish. A short winding drive through hill areas among densely packed homes often intermixed within created urban forests and natural wildlands will validate how unprepared too many of our wildlands and residential areas are for dealing with the next major wind driven conflagration. The FEMA grant projects combined with agency-funded project will become the next significant step in preparing for future wildfires.

Respectively Submitted

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List of Attachments:

Attachment A- MAP OF MAJOR EAST BAY HILL FIRES THAT HAVE THREATNED OR DESTROYED RESIDENCES THIS PAST CENTURY- by Jerry Kent

Attachment- B1 & B2- A TECHNICAL REPORTS PREPARED BY THE HILLS EMERGENCY FORUM (HEF) WITH SAMPLE FUEL MODEL DESCRIPTIONS FROM THE PARK PLAN

Attachment C- WHY THE 1991 FIRE WASN'T STOPPED EARLY ON SUNDAY MORNING- By Jerry Kent

Attachment D- VEGETATION TYPING STRATEGY FOR THE 1995 HEF PLAN

Attachment E- SUMMARIZED VEGETATION ATTRIBUTES FROM THE 1995 HEF PLAN- by Jerry Kent

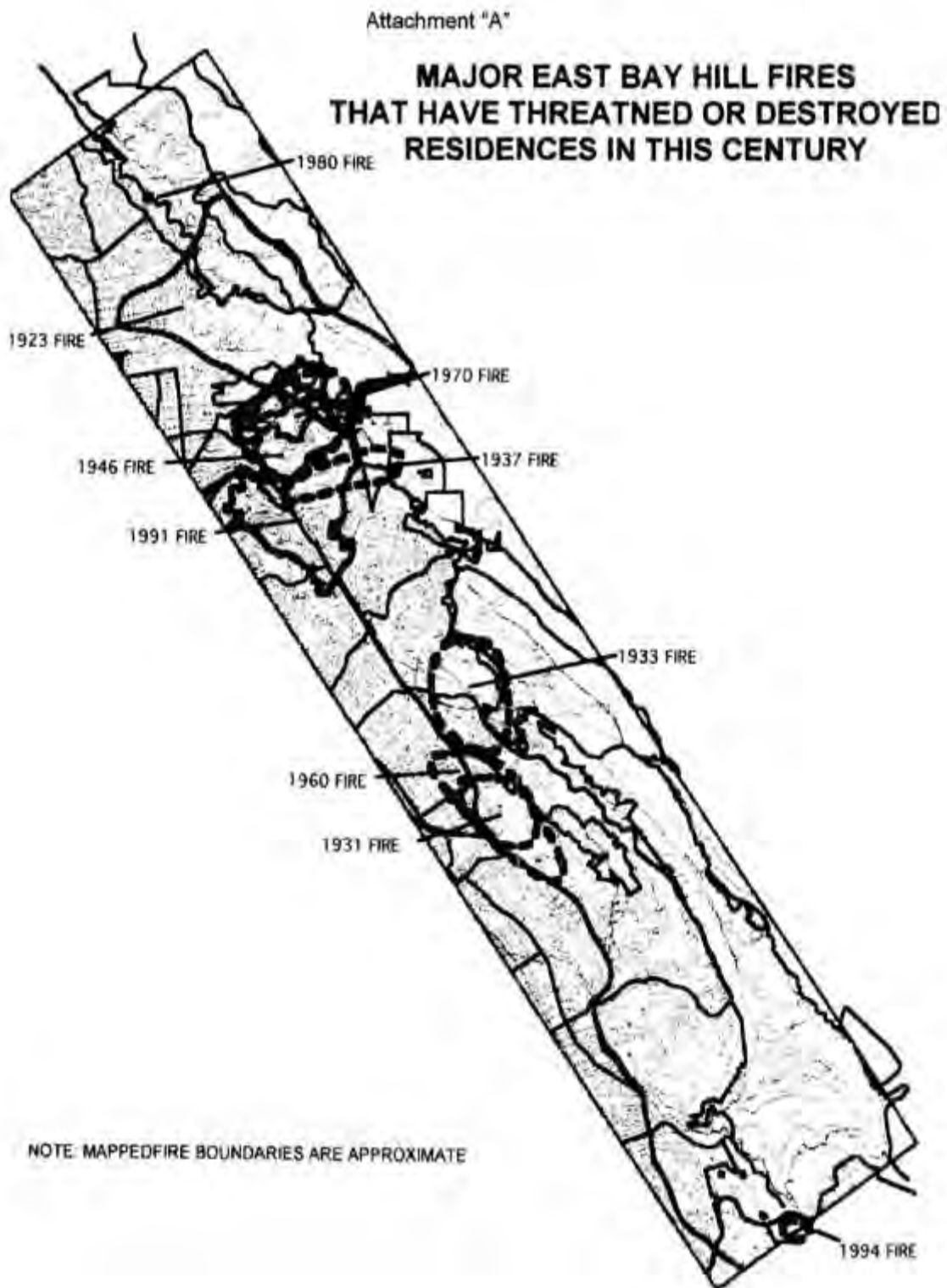
Attachment F- TABLE 1: DESCRIPTION OF FUEL MODELS FROM THE 2010 PARK PLAN

Attachment G- FIRE IN EUCALYPTUS GROVES AND THE DIFFICULTIES OF MANAGEMENT- Roger Fenwick letter selections by Jerry Kent

Attachment H- MCARTHUR FOREST FIRE DANGER METER COMPARISON OF EUCALYPTUS AND OAK- by Jerry Kent

Attachment I- PROJECT VESTA FIELD GUIDE- ROUGH NUMBERS FOR EUCALYPTUS IN CLAREMONT CANYON- by Jerry Kent

Attachment J- IN HINDSIGHT, THE FIRE LOOKS ALMOST INEVITABLE- 11/18/1991 Chronicle article



Attachment B1

The following Technical Report was prepared by the Hills Emergency Forum to provide additional information in six areas to supplement the review of the Strawberry Canyon project. This information is also applicable to the Claremont Canyon Fire Mitigation Project FEMA #: PDMC-PJ-09-CA-2005-003; OES#: PJ20.

1. Evidence that the supposed habitat restoration benefit will occur, since no plan for revegetation is included in the grant description.

Eucalyptus removal for fire hazard reduction is not new, nor exclusive to the grant area. The experience of local resource managers in this region is that there is an ample existing seed bank and plant re-generation through sprouting is abundant so that habitat restoration occurs without revegetation. The Lawrence Berkeley National Lab (LBNL), East Bay Regional 0000 District (EBRPD) and University of California, Berkeley (UCB) have a history of such projects spanning 10 years with success in habitat restoration as gauged by floral recovery of species diversity and native plant cover.

Different vegetation types emerge from different sites previously occupied by eucalyptus. For example, bay woodlands have flourished on projects on Chaparral Hill, oak/bay woodlands have developed in Upper Claremont Canyon, north coastal scrub has grown above the LBNL lands, and grassland occupy the Chabot Fuelbreak on Skyline Blvd. The abundance of existing species and native/ adapted cover types are evident. Below are a series of photos from similar past projects that serve as additional photo documentation.

Coyote bush plants within eucalyptus stands; coyote brush vigorously sprouts after being cut or broken



Native shrubs (e.g., coyote bush) and trees (e.g., bay and coast live oak) in eucalyptus stands prior to treatment



Native shrubs (e.g., coyote bush) and trees (e.g., bay and coast live oak) in eucalyptus stands prior to treatment



Native trees and shrubs after treatment

In past projects an understory of grasses, shrubs and trees are all present in the stand prior to treatment. The removal of the eucalyptus trees provide better growing conditions for the understory; the plants that remain after the treatment grow faster, and new individual plants germinate and/or sprout and become established in the conditions for which they were adapted.

It is thus a regional standard to not re-vegetate as part of fuel management projects. By re-vegetating with plants from elsewhere there is a threat of polluting the gene pool of the endemic plants. The grant application includes practices to reduce undesirable weed invasions through the use of chip mulch.

Also refer to the letter from the University of California Berkeley to URS dated April 10, 2008, item 4 with photographs.

2. Relative fire risk of current vegetation versus chip dominated landscape: there is no scientific evidence to support the project as proposed.

The Fire Risk Posed by Current Vegetation

The current risk posed by eucalyptus is legendary and documented. Fire science has quantified the fuel characteristics that result in damaging fire behavior. Fire science and

modeling can provide information, augmented by local wildland firefighter experience. For further explanation of relevant fire science see Appendix A.

The existing eucalyptus stands are predicted to produce extreme fire behavior due to several factors:

Fuel load and accumulation rate – The high levels of total fuel load is linked to a high fire intensity and long flame lengths (which promote torching and firebrand production). Martin et al (1988) 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 tones/acre/year.

Fenwick (1980), an Australian fire chief measured up to "an alarming 40 tons per acre", of material smaller than ¼ inch in diameter in Lake Chabot eucalyptus stands. He notes that "these levels are certainly enough to permit the development of uncontrollable crown fires under the weather conditions likely to occur in the area" Such fires would be accompanied by massive spotting, the process by which burning material is thrown long distances ahead of the main fire front". He predicts a crown fire within 5 minutes of fire starting, with heavy spotting between 2 – 5 miles, with a chance of spotting to 12 miles.

Eucalyptus is very productive, so much so that several companies are growing eucalyptus for biomass, with an expected 10-year harvest rotation. The wild trees in the Oakland hills are similarly productive. Within 15 years after cutting in 1974, many trees had grown to 18 inches in diameter. Similarly, the leaf litter, and remains of bark-sloughing accumulate at fast rates. The associated fire hazard with these increased fuel loads accumulates at nearly the same rate of biomass production. Fenwick (1980) commented the 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." Martin et al (1988) measured 50 tons of litter and duff on Angel Island in undisturbed eucalyptus stands.

In contrast, fuel loads of north coastal scrub rarely exceeds five tons/acre, less than 10 times the fuel in eucalyptus stands.

Arrangement - The dead material typically is arranged within the eucalyptus stand in a manner that promotes fast burning. Strips of dead bark, branchlets, and leaves are suspended in the lower branches of the stand, and often on top of a shrubby understory. The ratio of fuel to oxygen is optimal for burning, creating a fast-moving and intense fire.

Oils and volatiles - The oil content of eucalyptus foliage is high. The caloric content of the oils in eucalyptus have roughly two 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.

Size and Shape of Fuels - The physical shape of the leaves and bark are optimally shaped to be lofted(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.

Like eucalyptus leaves, eucalyptus bark exfoliates in long, curling manner that also is lofted easily. Because the strips of bark are long, it can burn while it is lofted for a

considerable time and still be burning when it lands. This 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 in the air. That is why eucalyptus can create new fires long distances from the stand; whereas, grass, chaparral and oak woodlands create new spot fires only short distances ahead of the main fire.

Location of Fuels - The height of the tree tops as well as the position on the slope of the trees are important factors in determining how far away the firebrands can land. The higher the embers are lofted, the greater the distance.



Example of Bark and leaves that provide fuel at base of eucalyptus tree



Example of surface fuels including large logs that could create an intense fire

Ember Production

Recent research has confirmed that structure ignition is primarily through embers. Fire hazard reduction science has recently emphasized the importance of long-range spotting and efforts to prevent that phenomenon. This is especially pertinent when structures are located downwind from the source of these firebrands. This is the case along the entirety of the project area. Concern further increases during fires when wind plays key component (either during periods of foehn winds or as fires grow larger and generate their own winds).

An example of an ember that leaped over Highway 24 and started the area of the fire near Broadway Terrace



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% 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." By Agnes Farres, Student Conservation Association

The following diagram explains the difference in fuel volume (load) in eucalyptus stands as compared to the native vegetation types that would be present post-treatment. Eucalyptus stands have more than twice the fuel load as other vegetation types, with associated higher fire intensity when it burns.

Fuel Load Comparisons

Eucalyptus, California bay, and coast live oak forest types

FUEL ELEMENT	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)		1.38		0.00		1.18
Small branches (10-hour)		2.36		1.93		4.00
Medium branches (100 hour)		1.41		2.67		2.40
Logs (1,000 hour)		10.00		11.08		3.99
Litter (leaves, bark, needles, etc.)		0.89		1.70		2.12
TOTAL FUELS	Eucalyptus - 16.94		California Bay - 13.92		Coast Live Oak - 11.82	
	tons per acre		tons per acre		tons per acre	

Fuel in a 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 wildfire fire consumption, not total biomass. Most importantly, the mass of the live trees is not included. 1, 10, 100, and 1,000 hour fuels are classified by their diameter and take different amounts of time to dry out and become available for consumption.

- from a GGNRA publication from the Fire Education Office, 2008.

Comparative Fire Risk of Future Chip-dominated Fuels

Immediately after the proposed project with the removal of eucalyptus trees chipped materials are expected to cover a majority of the site. After approximately three to five years, the chips are expected to decompose and native vegetation will cover the site in this time period.

The fuel characteristics of chips are described in the following manner.

- The chips have a very high packing ratio, which means they have much more fuel than air in the fuelbed. This lack of air impedes combustion, and thus limits fire spread. John Shelly, the UC Cooperative Extension Advisor in Wood Technology, conducted experiments in the chips created in Claremont Canyon

treatment areas and determined the decomposition is entirely aerobic, and spontaneous combustion from non-aerobic decomposition is not possible.

- The chips maintain a higher moisture content than uncovered soil. The increased moisture helps further prevent ignitions, even during dry conditions. This has provided a more favorable growing site for oak seedlings, but has impeded the growth of eucalyptus seedlings or sprouts.
- The size of the chipped materials is generally large, blocky, with a low surface area-to-volume ratio. This generally prevents ignition, and further limits spread since material adjacent to a burning particle would be difficult to ignite.
- During the time when the landscape is covered with chips a canopy is absent, and thus spotting cannot occur ahead of the fire front.
- Should a fire occur (perhaps from adjacent grassy locations), containment would be relatively easy. However, mop-up or complete control may take a longer as the material may smolder.

The fire risk is thus anticipated to be low, due to the expected slow rate of spread, short flame lengths, and complete lack of spotting potential. Because of the ease of containment, low flame lengths, lack of ember production, damage to structure from a fire in a chip-dominated environment would be extremely unlikely.

3) *Potential for introduction of chaparral dominated landscape and issues associated with fuel driven fires versus climate driven fires*

True chaparral is not present in the project area, nor likely to occur. North coastal scrub is the dominant shrubby vegetation of the region. It is likely, and desirable, to have north coastal scrub as a part of the mosaic of revegetation anticipated in the future project areas. North coastal scrub is considered necessary and desirable for USFWS goal of Federally endangered species Alameda whipsnake recovery, which occurs in the project area. The goal of habitat restoration and long-term management of the treated project area is a mosaic of scrub and grass. The fire behavior of both chaparral and scrub is somewhat similar, however, north coastal scrub has a great proportion of small-diameter material. This limits the distance at which firebrands are expected to be deposited from the project area.

As described in the fuel characteristics and fire behavior of eucalyptus stands in answer #2, the most significant concern of behavior in eucalyptus is the distance that embers would be expected to travel and ignite new fires ahead of the flaming front. Most structures ignite through air-borne embers instead of flame impingement or radiant heat transfer. Most of the structures in the proposed project area are downwind, in the direct path of easterly winds, due to the development pattern and population base. The most effective way to reduce fire hazard is to address the spotting potential is to remove the eucalyptus that causes the hazard.

Fire burning in north coastal scrub primarily 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, no structures are located directly above the proposed project area; North coastal scrub is not considered to have long-range spotting potential, even in strong winds such as under Diablo Wind conditions (local name for region's foehn winds). Another significant difference between scrubby fuels and eucalyptus stands is the height of the fuelbed. The 100-ft 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.

While some of the project area may develop into north coastal scrub, many of the previously treated areas have grown into native oak woodlands. This vegetation type is routinely characterized by very benign fire behavior, with lower overall fuel load, lower expected heat output and flame lengths typically less than 2 ft.

4) *Justification of two species (Monterey Pine and Acacia) targeted for removal area risk*

Monterey pine and acacia are not dominant in the project area. Monterey pine is more common than acacia.

a. Fire Risk posed by Monterey pine

The anticipated fire behavior in pine is second only to that posed by eucalyptus.

The fuel load of unmanaged Monterey pine can be quite high, as the needle litter and duff accumulate to depths of 6 – 10 inches deep. The older stands include trees with branches that tend to break as they mature, adding abundant dead logs available to burn in a wildfire. As Monterey pine stands age, dead branches or dead trees are common in the stand, especially as they succumb to drought or insect attacks.

Monterey pine with dead logs would be characterized by a surface fuel model of FBPS #9 (see Appendix for description of Fuel Models). The fluffy pine needles create a fuelbed that is easily ignited. The narrow, but long needles are not compacted, creating a ratio of oxygen to fuel ratio as well as a high surface area to volume ratio that promotes ignition and burning. The needles have a high level of volatile oils like eucalyptus (see Philpot and Mutch 19XX), which further facilitates ignition. Pine needles are often found hanging suspended on lower shrubs or logs; this effectively adds a larger component of dead, oily material to a shrub complex and boosts the ability of the stand to torch and produce embers. Pitch on pine trees also offers additional avenues for torching and extra heat output.

Older pine stands often have an understory of smaller pines, which constitutes ladder fuels and therefore a significant potential for torching and ember production.

o Fire Risk posed by Acacia

Less is known about acacia, however it occurs in the project area stands of high densities as seen in the photos below. Regardless, cues regarding the potential fire behavior can be drawn from the fuel characteristics.

The density of stands is a concern, indicating high volumes of available fuel. The material in the stands are typically small in diameter, which serves as kindling to larger fires. The trees are rather short in stature (20-40 feet in height); when they are located below taller trees the short acacias are ladder fuels that promote torching and ember production. Typically branches of unmanaged acacias extend to ground, further providing ladder fuels and promote a high likelihood of torching. The structure of sprouting acacia form a basket, holding and elevating fuels to be optimally aerated so

that combustion is facilitated. This is especially true when acacia is intermixed with eucalyptus and Monterey pine, as the branching structure can elevate the pine needles and eucalyptus leaves, branchlets and bark.

5) *Complete analysis of other practicable alternatives – regularly clearing ground litter, thinning targeted species rather than removing all and regularly clearing the understory and creating strategic linear fuelbreaks*

a. Regularly Clearing Ground Litter

Clearing ground litter requires removing the material under the eucalyptus. This would entail raking grassy fuels, and removing eucalyptus leaves, and branchlets in and around the shrubby understory plants. While grass has occasionally been raked in small areas of eucalyptus stands on gentle terrain, no agency has tried to remove surface litter around the understory shrubs and small trees that are common in the study area. The presence of poison oak is widespread and a significant deterrent to removal using hand labor. The terrain is often steeper than 30 percent grade and places limits due to worker safety concerns. Disposal of the litter (sometimes totaling 40 tons per acre) is not economically feasible due to off-hauling costs, since alternative disposal options such as use of pile burns are not safe to conduct in the dense eucalyptus stands.

Clearing of ground litter does not address other major fire hazard elements in eucalyptus: shrubby surface fuels, aerial fuel load and density in canopy. This ground clearance work may reduce chance of ignition, but once ignited, fire behavior has the same undesirable characteristics (with potential torching due to shrubby understory). Even if all ground litter were cleared, ignition could occur if the suspended material within the canopy is ignited through ember deposition, or if a fire spread from outside the area, igniting shrubby fuels or suspended dead eucalyptus fuels in the area. The resulting fire would be carried in the shrubby canopy independent of the ground litter, with resulting fire behavior similar to if the ground litter were not removed. This treatment is not effective and would not achieve the fire hazard reduction goal because the crown fires are still likely with any ignition in the area and represent a threat to nearby structures.

This approach requires yearly treatments using only hand labor, with increased cost and higher potential for greater environmental impacts. Where north coastal scrub is present this alternative may constitute harassment of the endangered species (Alameda Whipsnake) through repeated disturbance.

b. Thinning Targeted Species Rather than Removing All and Regularly Clearing the Understory

Thinning and regular clearing the understory is a legitimate approach, used in some locations outside the project area. This approach requires multiple entries, a longer timeframe, increased cost, and higher potential for greater environmental impacts. This alternative may constitute harassment of the endangered species (Alameda Whipsnake) through repeated disturbance. Management in the locations of Alameda Whipsnake habitat have environmental constraints that cannot be mitigated, thereby requiring greater efforts to achieve the same level of fire hazard reduction. For example, work using heavy machinery may not occur when the snake is active, roughly during the spring, summer and fall; this coincides with the optimum time for machinery to travel on dry ground in order to reduce erosion potential.

In areas without Alameda Whipsnake habitat, this technique can gradually shift species composition from eucalyptus to one of lesser hazard over a span of ten years or more. During the conversion, the level of hazard is still elevated. Incremental fire hazard reduction is associated with eucalyptus thinning and simultaneous growth of shorter-stature trees that have less ember distribution concern.

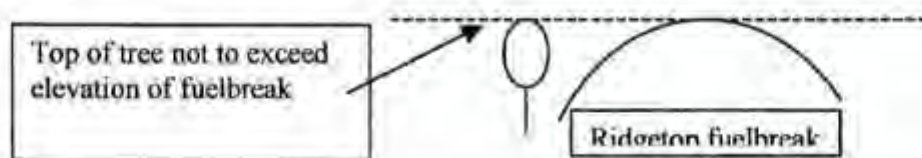
Immediately after the eucalyptus are thinned initially, the remaining eucalyptus and smaller stature trees are separated both horizontally and vertically. This separation limits the spread of fire from the shorter trees to the taller eucalyptus trees, therefore limiting the potential of a crown fire. However, the eucalyptus branches become heavy and grow longer, eucalyptus bark grows and peels off, and the shorter trees grow taller and wider, creating ladder fuels that enable torching. These two changes happen quickly and necessitate repeated treatment. Since the FEMA grant is for a one-time only treatment, there is no assurance that the follow-up continued thinning of targeted species will be funded to be able to achieve the fire hazard reduction goal.

c. Creating Linear Fuelbreaks

The purpose of linear fuelbreaks is to facilitate containment and control of a wildfire. Fuelbreaks are co-located with roads because its purpose (to aid containment and control) assumes access for fire-fighting resources. However, roads are not always located in the project area. In other cases, existing roads are not in a condition suitable for this purpose.

Creation of a linear fuelbreak involves the removal of all eucalyptus and most trees. The desired fuel is of low volume that offers potential for backfires and easy control (e.g., grass, with occasional shrubs and trees with low flammability).

Fuelbreaks are installed on ridgetops because it serves to limit spotting from trees over from one canyon to the next. The ridge-top fuelbreaks (such as the one on Skyline Blvd in Anthony Chabot Park) generally extends down the leeward side below the height of the trees. However, much of the project area is not located on the ridgetop, but rather on side-slopes or canyons; the location of the project area limits the effectiveness of this alternative.



Linear fuelbreaks do not address key concern of fire behavior in eucalyptus stands, which is the potential for fire to spread to the tree canopy and cast embers afar to start new fires in areas with structures. Because the project areas are not along ridgetops separating the wildlands from structures the prevention of ember distribution is not achieved. The stands outside linear fuelbreaks remain untreated and can easily produce and loft firebrands over the fuelbreak.

6) Document chips will decompose in 3 to 5 years

This topic has been addressed in the April 10, 2008 response of the University of California Berkeley to FEMA, with before and after photographs of the area approximately three years after treatment.

The landscaping industry has evaluated the decomposition rates of eucalyptus chips because eucalyptus trees are grown on plantations in Florida for the express purpose of mulch production. (Heithaus, 2008). Decomposition is a good measure of how long mulches will last. After 1 year, 21% of the eucalyptus mulches had decomposed. The other mulches (such as pine straw, pine bark, or melaleuca) had very low decomposition, from 3% to 7% (Duryea, et al, 1999).

In another study by Faber and Spiers (2004), eucalyptus decomposed in one year from 100 cm to 22 cm, and from 22 cm to 7 cm. The decomposition rate was the fastest among all of the 21 different mulches tested. Mulches spanned recycled wood chips from palettes, pine sawdust, poplar, willow, avocado, and municipal greenwaste.

As documented by the above studies and by the photographic evidence provided previously, the eucalyptus chips can be expected to decompose quickly, in a time span of three to five years.

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Appendix B2 Fire Hazard and Fire Behavior Background Information

Fire Hazard Reduction

The emphasis of fire hazard reduction is placed on fuel characteristics, which in turn affect fire behavior. While an assessment of fire hazard usually includes topography and weather, little can be done to manage those. To better understand fire hazard reduction it helps to understand the basics of surface fuel models, fire behavior and ember production.

The surface fuel models do not include information on the canopy of the tree stand, but rather what will carry the fire as it spreads on the forest floor. When fire burns into the tree canopy, another set of fuel-related data is required to analyze and predict the resulting fire behavior and hazard.

Surface Fuel Models – Fuels are grouped into models that typically burn in a similar way. The fire behavior fuel models include data on:

- Fuel load by category (live and dead) and particle size class (0 to 0.25 inch, 0.25 to 1.0 inch, and 1.0 to 3.0 inches diameter)
- Surface-area-to-volume (SAV) ratio by component and size class
- Heat content by category
- Fuelbed depth
- Dead fuel moisture of extinction

The total volume (fuel load) is important because usually the more available fuel there is, the hotter the fire (heat output) is.

The canopy is not included in the surface fuel models because usually this set of fuels are not considered available to burn. Fuels are deemed unavailable when they are too moist or too large to burn, or separated by space such that they are effectively isolated from the fire's contagion.

As fuels dry, more fuel becomes available. If fuels are arranged in a continuous distribution over space (either vertically or horizontally) more will be available. In the most extreme cases canopy fuels may be available and torching occurs.

There are a few fuel models that are typically applied to the project area. A description of those as taken from *How to Predict the Spread and Intensity of Forest and Range Fires*, by Richard C. Rothermel, 1983.

FUEL MODEL 10: (Eucalyptus stands with large dead logs) The fires burn in the surface and ground fuels with greater fire intensity than the other timber litter models. Dead down fuels include greater quantities of 3-inch or larger limbwood resulting from over-maturity or natural events than create a large load of dead material on the forest floor. Crowning out, spotting, and torching of individual trees is more frequent in this fuel situation, leading to potential fire control difficulties. Any forest type may be considered if heavy down material is present; for example, insect- or disease-ridden stands, wind-thrown stands, over-mature stands with deadfall, and aged slash from light thinning or partial cutting.

FUEL MODEL 9: (Mixed Hardwood, Eucalyptus stands with little debris) Fire runs through the surface litter faster than model 8 and has a higher flame height. Both long-needle conifer and hardwood stands...are typical. Fall fires in hardwoods are

representative, but high winds will actually cause higher rates of spread than predicted. This is due to spotting caused by rolling and blowing leaves. Closed stands of long-needled pine...are grouped in this model. Concentrations of dead-down woody material will contribute to possible torching out of trees, spotting, and crowning.

FUEL MODEL 8: (Oak Forest, Redwood) Slow burning ground fires with low flame heights are generally the case, although an occasional "jackpot" or heavy fuel concentration may cause a flare up. Only under severe weather conditions involving high temperatures, low humidities and high wind do the fuels pose fire hazards. A compact litter layer (composed of needles, leaves, and some twigs) supports fire, since little undergrowth is present in the stand.

FUEL MODEL 5: (Coastal Scrub) Fire is generally carried in the surface fuels that are made up of litter cast by the shrubs, and the grasses or forbs in the understory. The fires are generally not very intense because surface fuel loads are light, the shrubs are young with little dead material, and the foliage contains little volatile material.

Despite discussion in previous letters between FEMA, the HCN and the project applicants, there is no chaparral in the treatment area.

Fire Behavior

The interaction between fuels weather and topography is expressed by fire behavior. There are several characteristics that are typically used to describe fire behavior. These include flame length, fire intensity, torching, and crown fires.

Flame Length - Flame length closely corresponds to fire intensity, which can predict fire severity (which is a term that describes the fire's effects). This factor most influences probability of house damage from flame impingement or radiant heat, and ease of fire control. A flame length of eight feet is usually looked at as a cut-off point for decisions whether to attack the fire directly, or instead attempt control through indirect methods.

Flame lengths are often used as a proxy for fire intensity because they are highly correlated to fire intensity. Long flame lengths may justify treatment where they occur near sensitive values-at-risk. Flame lengths are compared to the lower height of the canopy to determine the likelihood of torching.

Flame lengths follow fuel types, with long flame lengths in chaparral and untreated grass, and short flame lengths in woodlands and mowed grass.

Rate of Spread - The rate of spread is most closely associated with the ability to contain a fire. Rates of spread analyses point to the needs for increased access, detection, reporting, and fuel management to slow fire spread in strategic locations.

Low fire spread rates were predicted in woodlands and forests, and fast spread rates in untreated grass and chaparral.

Crown Fire Potential - Crowning activity indicates locations where fire is expected to travel through and likely consume the crowns. When a fire burns into tree crowns, countless embers are produced and these firebrands are distributed, sometimes at long distances. These embers can start new fires, which can each grow and confound the finest fire suppression forces. For management purposes, prediction of torching or

crown fire is highly correlated with fire severity. Crown fire activity is of concern wherever it occurs because of its impacts and the containment challenges.

Torching is caused by the fire reaching low-hanging limbs, or ladder fuels, which in turn carry the fire to the tree canopy. Stated another way, the factors in torching are flame length, height off the ground of the tree canopy, and fuel moisture. The longer the flame length, the greater the chance of torching. Similarly, fuels that can continue the spread of fire (such as low-hanging branches or peeling bark) promote torching and ember production.



Figure 1: Comparison of Torching and Active Crown Fire.

Ember-Production Hazard Assessment. Recent research has shown that most houses are ignited by embers. Thus ember production and distribution is linked to structure loss. Most structures and population are located downwind of the wildlands and are in the path of ember-cast (the footprint of ember-showers) during the dry, northeast winds.

Every time a tree torches, countless embers are produced. It follows that efforts to reduce ember production and distance of ember-cast is a suitable fire hazard reduction goal.

Table of spotting distance

Fuel Type	Spotting distance
Grass	tens of feet
Scrub/chaparral	hundreds of feet
Long-needled Pines	1-2 miles
Eucalyptus	miles, up to 9 miles

Hazard assessment often focuses on ember production and distribution to values at risk – particularly structures. Factors used to assess the potential damage from ember production and distribution are:

- Potential for torching, (ember production),
- The position of the stand on slope,
- Distance from structures,
- Elevation in relation to structures

Ridgetop/Valley: It is far easier to loft embers a long distance from the top of a hill than from down in the valley. So the question was asked whether the top of the stand is within 100 feet in elevation from homes. In contrast, eucalyptus and pine stands in valley bottoms are not as hazardous.

Attachment C

WHY THE 1991 FIRE WASN'T STOPPED EARLY ON SUNDAY MORNING

After the fire, the media and impacted homeowners tried to pinpoint blame for how the fire started, and then tried to determine why the fire wasn't prevented or stopped by firefighters. Who started the Saturday fire and how did the Sunday restart happen? Why did it take so long to get enough fire engines to the fire? Why wasn't the firefighting and emergency response adequate? Who's responsible? These were just a few of the vigorously debated topics at local, state, and federal levels because no other urban area in California had experienced comparable one-day wildfire behavior or losses. Of course these are important questions, but they also mask other important factors that made this fire uncontrollable on Sunday morning. First, we consider a recent newsletter summary of the fire by a group with an axe or two to grind, then statements by firefighters who were present on Sunday morning, and then summary information from official descriptions of the fire.

The following two quoted paragraphs are from a recent HCN newsletter posted by this small group of individuals who call themselves a think tank yet don't seem to appreciate this area's significant fire history and continuing exposure to uncontrollable wildfire. I include their description of the 1991 fire to show how an incomplete and inaccurate narrative adds to the confusion they create about the need for agency wildland projects and about firefighting in the hills. While dramatic in intent, the newsletter fails to include several residential area features that were noted in media and official reports describing why this fire was uncontrollable. For its own purposes, the newsletter implies that pine and eucalyptus trees were not factors in the early stages of the fire until the "first grove of pine trees set the Parkwood Apartments ablaze" and flames and smoke from the "first grove of eucalyptus blasted across Charing Cross road" killing Oakland Police Officer John Grubensky and five fleeing residents trapped in their cars on the narrow, one-lane roadway.

Yet, as the fire restarted and gained headway in dry grass and brush within 100' of homes, it was flammable pine trees, flammable home landscapes, flammable homes, and scattered, flammable eucalyptus trees that all became the perfect combination of densely packed fuel on very steep slopes that would make this wind driven fire unstoppable.

"Sunday morning dawned clear and hot, with an increasing Diablo Wind. At 10:41 two Oakland engines with crews departed the scene. One of the two remaining Oakland Fire fighters headed up the blackened slope with a five-gallon pack, spraying any small wisps of smoke that he saw. As his boots broke through the crust, wind whipped embers flew out and into the parched brush and oak trees. It was 10:56 a.m. The firefighters ran for their lives, faced with an out-of-control wind-driven high fire careening west into the residences along Buckingham, Westmorland, Bristol and Norfolk. A third alarm at 11:06, and CDF was alerted; the sixth alarm and call for mutual aid came at 11:26. At this point, primary fuel for the conflagration was not the Monterey pine, oaks and occasional redwoods scattered among the homes, but the houses themselves.

The first grove of trees the flames encountered was the dense stand behind the Parkwood Apartments, which promptly set the complex ablaze. Residents of the Buckingham/Tunnel canyon evacuated in a panic, generally leaving everything behind; all but one of the 25 fatalities occurred in those first 30 minutes, when the fire was truly a firestorm. It blasted up Charing Cross, overtaking fleeing cars, consuming the first grove of eucalyptus just before bursting over the hill into Hiller

Highlands. There it rolled like a tsunami down through the homes, one consumed every 11 seconds. The roar of flames and fractured gas lines, punctuated by exploding fuel tanks and collapsing structures, was deafening. Residents, fleeing in their cars down Hiller Drive, lined the proper right hand side of the road - even as burning debris blew around and under them - leaving a lane open for the anticipated rush of fire trucks - trucks that never came."

Aerial photo of the area of the early Sunday fire

East Bay Hill fires of the past 100 years add to our knowledge about living in locations periodically subjected to extreme winds during the summer and fall fire season. By now we should know that living safely in high-risk environments demands a well thought-out partnership and plan among homeowners, large acreage landowners, firefighters, fire prevention inspectors, and public agencies. Together, they must ensure that homes have adequate defensible space, that homes can resist flames and burning embers, that fuelbreaks are maintained on the high ridges and at the wildland urban interface, and that pine and eucalyptus trees are removed or managed so they will not become serious ember propagators that quickly spread fire to reduce evacuation time and make control impossible when a fire expands too quickly. The locations for both the Saturday and Sunday fires occurred in an area that was typical for many wildland/residential sites in the East Bay Hills. However, the site was also unique because of steep slopes, repeated exposure to Diablo winds and a cycle of irregular fires, and the absence of any preparation to keep fire away from flammable homes.



As the fire restarted above 7151 Buckingham, firefighters and most area homeowner's were conditioned to believe that fires are always controllable if just the right things are

done at just the right time. Unfortunately, all of these assumptions can be very wrong when an ignition, becomes wind-driven to feed on flammable grass, brush, pine trees, flammable homes, and dense landscapes on steep slopes in an unprepared residential area. This 1990 aerial photo shows the area of ignitions for both the Saturday and Sunday fires. However, a two dimensional photo is deceptive because the homes are located in a box canyon with very steep slopes. Buckingham Boulevard snakes across the bottom of the photo.



Buckled steel beams and charred pine trees mark the location of a destroyed home on Buckingham Boulevard. This home was typical for many area residences that were surrounded by flammable pine trees (many from seedlings that followed the 1970 fire) with densely spaced homes on steep slopes and inadequate defensible space... all contributing factors in the rapid spread of the early Sunday fire.

Firefighter descriptions of the early Sunday fire

I produced the following description of the early Sunday fire without quotes, from personal discussions with Bill Nichols and four other Park District firefighters who were there on Sunday morning. It tells of a more complex early fire as well as the valiant efforts made by firefighters and citizens who attempted to contain a fire that turned out to be unstoppable. If the fire could have been controlled that morning by the skilled firefighters present, it would have been stopped.

The following narrative expands on firefighting and site descriptions to be added to the many stories already told about this terrible wildfire.

We arrived at the Gwin water tank at approximately 10 a.m. to join the group gathered there to pick up hoses from the Saturday fire. The wind was noticeable, and blowing very strongly in the "wrong direction"- from east to west from 30 to 40 miles per hour. We saw several firefighters on the hill below, but we did not see any smoke or hot spots. Two of us, from our group, drove down below 7151

Buckingham at the base of the hill, to pick up hoses, where we noticed that the wind was continuing to gust very strongly in the down slope direction.

The climbing route up the hill behind 7151 to the burned area of the Saturday fire was very steep and difficult. A group of neighbors was gathered in the driveway of a nearby house, and a woman walking by said "You are going to get your exercise for the day." The entry to the burned area was through a hole in the northeast corner of a fence above the house, but it was difficult to see the burned area because of the dense coyote brush and a grove of pine trees above the fence. I arrived at the burned area approximately 30 feet above the fence, but the going was still hard because of the steepness of the hill, the loose soil, and remaining coyote brush branches.

Hearing a yell, I looked to the west across a gully and saw open flame and smoke directly underneath a grove of large pine trees approximately 150 feet away. Two firefighters were at the site of the spot fire that was burning in thick pine duff beneath the trees. The wind was adding to the problem by blowing needles that were not burned by the Saturday fire off the trees. When the needles landed in the heated duff they ignited, and were blown outside the burned area. A firefighter soon arrived with a fire hose at the end of a 400 foot hose lay from a fire engine on Buckingham. The line was charged, and a full mop-up of the hot spot was begun at approximately 10:45 a.m. We learned later that there was another hot spot on the hill above us that we could not see that was being worked by two firefighters.

To the east, across the gully we saw another flare up from flames and smoke beneath a small oak tree. While the small pine grove fire was being mopped up, I ran across the gully to extinguish the fire under the oak which was relatively easy because there was no duff and only two small oak trees and brush about ten feet from the eastern perimeter of the Saturday fire. Later, we felt something below and behind us and turned around to see a line of open flames about three to five feet high rapidly burning downhill toward Buckingham through the thick, dense, unburned brush. The flames were about 20 feet away when we first noticed them. I grabbed a fire hose and started moving downhill toward the flames. The time was approximately 11:00 a.m.

I noticed several firefighters in fire trucks on Buckingham also working a spot fire on the slope west of 7151 and below the driveway and fence at 7145. A news reporter and cameraman approached and asked if this was the worst spot, and I replied that what we had was bad. The wind became even stronger as we were attempting to stop the fire that had moved into the rear of 7151 Buckingham. By this time the fire had spread laterally into the unburned strip of brush and trees adjacent to the fence above the house. There were approximately 50 medium sized pine trees in this area. As the fire built up momentum in the brush it began torching through the trees. The embers from the Monterey pines became a virtual storm of flaming needles and embers once they were fully involved in fire and driven by the winds. The fire now headed rapidly downhill across Buckingham being pushed by the wind. Thick black smoke made it difficult to see and breathe since the wind was pushing flames, embers, and smoke downhill into our position. Our attempts to fight the fire soon became futile. The wind was so strong that it blew a straight stream of water sideways from a one and a half inch fire hose. What water that did get to the fire was rapidly turned to steam. Small logs on fire that were sprayed with water would quickly reignite. One firefighter was overcome by the heat and revived with a burst from the nozzle into his face, and we pulled him downhill where he could catch his breath. The time was approximately 11:15 a.m.

We were pulling hose for several minutes to support two firefighters on the roof, attempting to keep fire out of the house. Then came the word to pull out, I assumed from Chief Riley who we later learned had later lost his life helping residents evacuate. The firefighters on the roof continued their efforts to save the house that was now surrounded on three sides by fire despite our yells that it was time to evacuate our position. They eventually came down, and we got in our truck and headed up Buckingham. Looking beyond the house, I could see that the fire had gained enough intensity and momentum to move uphill along both the west and east sides of the Saturday burn toward homes on the ridge to the west and to the east along the slope below Grizzly Peak Boulevard. The time was approximately 11:30 a.m.

Conditions at this point had rapidly deteriorated. Visibility was extremely poor because of the thick black smoke and the heat was intense. Fire was now on both the uphill and downhill sides of Buckingham. Explosions were occurring and the ground was shaking. Power lines were coming down and pine trees torching. Before getting in the truck, I remember fighting off the urge to get down as low as possible and stay there. As we drove south, it became apparent that we were the last ones out of lower Buckingham. We passed one fire engine that was partially burned and a Chief's sedan that was totally involved in fire with the horn blaring. We stopped when we saw a power line bobbing ahead. Flames were extending across the street blocking our escape. We had to turn around and head back down Buckingham. At this point, I felt that we had waited too long and that we were about to die.

By this time the winds within the fire were so strong that our truck was being buffeted, and sheets of flame and smoke covered the street. Visibility was extremely poor, and when I opened the window to attempt to see, intense heat and smoke entered the cab. Someone yelled, "Keep going", and it took all my concentration to do just that. There was a momentary clearing of smoke as we came to two firefighters who jumped into the back of our rig as we continued down the road.

When we arrived at 7200 Buckingham there were two Oakland engines with eight firefighters and a student "ride-a-long", one 0000 District engine, a pickup and five firefighters, a civilian volunteer, and two homeowners who stayed to fight for the duration. We spent our time trying to save homes even though we were surrounded by fire, downed power lines, and were trapped at the center of a fire that was rapidly spreading in all directions. Luckily, we had a strong, constant water supply during the worst of the fire at this location. Conditions were extreme- there was intense heat, strong winds and blowing embers, heavy smoke and poor visibility. There was also a group of six resident evacuees who had retreated to our position. We gained access into 7235 Buckingham, staged the civilians in the basement and garage, and prepared to use that structure as a last stand. We led a small controlled firing out operation of the brush and vegetation around 7235 while the water lasted. By this time we could see that the fire had passed through the 0000wood Apartments below us and had blown over Highway 24. Although the imminent danger had passed our position, everything that was combustible was on fire- fences, trees, houses, and cars. At approximately 12:15 p.m. the hydrants went dry.

Later, when it was time to leave, we were asked by Captain Davis to see if there was a way out along Tunnel Road. We scouted our exit in a truck and cleared a path along Tunnel Road by winching burned cars off the road and by pushing stoves and dryers over the side. As we exited the area we found two bodies, one

in a driveway near the Tunnel/Charing Cross intersection and one on Tunnel Road. They were placed and covered in the back of the truck as we proceeded toward the Command Post at the Rockridge BART station. As we crested the hill on Tunnel Road, we could see that fire had reached the residences above Lake Temescal and was burning around the PG&E substation near Highway #13.

We took the two casualties to the emergency medical center at Oakland Tech High School, and were told to return to 7200 Buckingham for continued structural protection and mop-up. We worked to secure the area, however conditions around us continued to be dangerous. The air was filled with smoke and large trees toppled, crashing to the ground. Having done all we could do, we walked up Buckingham at dusk for about one-quarter mile. We saw total devastation and that nothing had survived the inferno. Along the way we cut down power lines and cleared the road of debris. Broken water lines dripped and gas lines burned. The wind had subsided and the fire had passed by. In the whole of the valley between Gwin Tank and Highway #24, we could see that the only houses standing were at 7200 and 7235 Buckingham. Later that evening we were all assigned to new firefighting duties at other locations.

A summary of the official description of the two fires

On Saturday October 19, 1991 at 12:12 in the afternoon, a fire started in grass and brush behind a house on private land and burned uphill across the steep slopes of Oakland's Grizzly Peak Open Space. The fire area turned out to be relatively small, but this fire was not routine because it was burning in shrublands up a very steep hillside. It quickly went to five alarms for Oakland, and included mutual aid responses from Berkeley, CAL FIRE, and the Regional Park District. It took, what seemed like a long time for units to actually get water on the fire, but the saving grace was the absence of wind, enabling the fire to be stopped around 1:40 before it could reach homes on the ridge. It took several hours to mop up and soak the burned area with helicopter water drops, water from fire engines with long hose lays, and to construct a cleared break around the entire fire area. Hand crews worked the burned area until 6:40 when darkness made it too dangerous to work on the hillside's steep slopes. Before leaving, a Battalion Chief checked the area for any visible signs of hot spots, and directed responding units to leave their fire hose in place for use in the morning. During the night, local fire units returned to the scene to look for hot spots, and no signs of smoke or flames were observed.

Fire crews returned early Sunday morning to monitor the area, deal with any embers and smoke that developed, and collect hose left on the hill. As they were picking up fire hose scatter over the hill during the Saturday fire, winds began to stir up hot spots in several locations. Between 10 and 11 in the morning, Diablo winds, that had developed overnight, reached an estimated 30 to 40 mph and began to fan and then blow burning embers down steep hillsides into unburned areas. A series of small flare-ups occurred that seemed controllable, until too many embers blew into dry brush and pine trees overwhelming the eleven firefighters and three engines that were working the hill. It took considerable time to make the transition from collecting piles of hose to deploying it to control the hot spots. Oakland and Regional Parks firefighters were spread out on the hill with very spotty radio communication, and limited visual and voice contact. Flames soon raced down the slope a short distance toward Buckingham toward homes with dense landscapes that included more pine trees, and at the same time raced up to the ridge to ignite unprepared homes. At that point it became a fire that could not be controlled until the winds slowed and a mutual aid response of 440 engine companies with more than 1,500 firefighters were finally amassed to surround the fire in the late afternoon. The official firefighting details (that more adequately cover all of the successes, mistakes, and difficulties for both the Saturday and Sunday fires) can be found on pages 22 through 37 in the J. Gordon Routley FEMA and United States Fire Administration report.

Postscript

Recently, a new category of wildfire has been described and labeled by The Brookings Institution Center for Public Policy because they are extraordinary in terms of their size, complexity, and resistance to control.

"These "mega-fires" often burn into the wildland-urban interface where values to be protected are high. They invariably break out when other wildfires are stretching firefighting capacity. With few exceptions, they usually occur in late seral stand conditions on drier sites, where the buildup of dead woody material and accumulation of live biomass can fuel high-intensity events. It is not unusual that fire severity in these stands is exacerbated following years of drought, insect infestations and disease. These wildfires, often burn under extreme fire weather conditions, exhibiting extreme fire behavior characteristics and exceed all efforts at conventional control until relief in weather or a break in fuel occurs."

"Mega-fires are a situation as much as they are an incident. Emotions run high when they occur. They are not defined in absolute terms, using physical measures (e.g. acres burned). Instead, these are the "headline" wildfires where operational limitations, public anxieties, media scrutiny, and political pressures collide. Those affected often want to know why the fire became so destructive, how it escaped efforts at control, and who is to blame. While generally very large in size, complexity is their better descriptor. They overwhelm local capabilities and capacity. They are frequently long-lived, requiring a large commitment of suppression resources for an extended period. The intensity of these wildfires tends to place firefighters on the defensive and put managers in a reactive mode."

ATTACHMENT D	
VEGETATION TYPING STRATEGY- Source 1995 HEF Plan	
PLANT COMMUNITIES	NORTHERN FOREST FIRE LABORATORY (NFFL) MODELS
HERBACEOUS DOMINATED	
SERPENTINE GRASSLAND	SHORT GRASS- MEDIUM
GRASSLAND	SHORT GRASS- MEDIUM OR HIGH, AND TALL GRASS- MEDIUM OR HIGH
OAK SAVANNAH	SHORT GRASS- MEDIUM OR HIGH, AND TALL GRASS- MEDIUM OR HIGH
SHRUB DOMINATED (>30% WOODY PLANT COVER)	
WET NORTH COASTAL SCRUB (MESIC SLOPES)	BRUSH- LOW EXCEPT EXTREME ON NORTH EAST SLOPES
DRY NORTH COASTAL SCRUB (XERIC SLOPES)	BRUSH- LOW TO EXTREME, WITH SHORT GRASS OR TALL GRASS IF THEY ARE PRIMARY FIRE CARRIER
FRENCH BROOM	CHAPARRAL- LOW TO EXTREME
CALIFORNIA SAGE BRUSH	BRUSH- LOW TO EXTREME
NORTHERN MIXED CHAPARRAL	CHAPARRAL- LOW TO EXTREME
ALAMEDA MANZANITA	CHAPARRAL- LOW TO EXTREME
SUCCESIONAL SCRUB (EMERGENT TREES >30% COVER)	CHAPARRAL- LOW TO EXTREME, OR BRUSH- LOW TO EXTREME
TREE DOMINATED (>30% TREE CANOPY COVER)	
MIXED HARDWOOD WOODLAND (<30-70% TREE COVER)	PINE WITH GRASS UNDERSTORY- LOW TO EXTREME, OR TIMBER LITTER - LOW TO EXTREME
MIXED HARDWOOD FOREST (>70% TREE COVER)	TIMBER LITTER- LOW TO EXTREME
HARDWOOD RIPARIAN FOREST	TIMBER LITTER- LOW TO EXTREME
CONIFER FOREST, YOUNG	SOUTHER ROUGH - LOW, OR TALL GRASS
PINE FOREST- MATURE	TIMBER LITTER- MODERATE, OR TIMBER LITTER UNDERSTORY- LOW TO EXTREME
REDWOOD FOREST	TIMBER LITTER LIGHT, OR TIMBER LITTER MODERATE- LOW TO EXTREME
EUCALYPTUS- MATURE	TIMBER LITTER MODERATE, OR TIMBER LITTER UNDERSTORY- LOW TO EXTREME
EUCALYPTUS- 20 YEARS	TIMBER LITTER UNDERSTORY- LOW TO EXTREME
EUCALYPTUS- 5 YEARS	SOUTHER ROUGH - LOW TO EXTREME
ACACIA	TIMBER LITTER UNDERSTORY- LOW TO EXTREME
CYPRESS	TIMBER LITTER LIGHT, OR TIMBER LITTER MODERATE- LOW TO EXTREME
DEVELOPMENT STAGE DESCRIPTIONS	
EXTREME (E)- DOUBLE FLAME LENGTH= 8M	
HIGH (H)- STANDARD BEHAVE LENGTH=4M	
MEDIUM (M)- ONE HALF FLAME LENGTH= 2M	
LOW (L)- ONE QUARTER FLAME LENGTH= 1M	
BEHAVE ATTRIBUTES	
VEGETATION TYPE	
FUEL MODEL	
DEVELOPMENT STAGE	
CROWN POTENTIAL AND TREE HEIGHT	
SLOPE CLASS- 0%, 10%, 20%, AND 40%	
ENVIRONMENTAL CONDITIONS FOR "AVERAGE WORST" (95%) DIABLO WIND CONDITION	
a. Relative Humidity= 10%	
b. Temperature= 80 degrees F	
c. Fuel Moisture- 1 hr fuel=3%, 10 hr fuel= 4%, 100 hr fuel=5%	
d. Midflame wind= 12 miles per hour from the Northeast	
e. Life Follar and Woody Moisture= 70%	
BEHAVE RESULTS MODEL RUNS USED TO IDENTIFY FIRE BEHAVIOR FOR EACH POLYGON IN TERMS OF:	
1. RATE OF SPREAD (FEET PER MINUTE)	
2. FIRELINE INTENSITY (HEAT/AREA)	
3. FLAME LENGTH (FEET)	
4. CROWNING POTENTIAL	

ATTACHMENT E

VEGETATION ATTRIBUTES FOR AVERAGE DIABLO WIND CONDITION

Source: Summary From the East Bay Hills 1995 Wildfire Hazard Reduction Plan, and modified by J.Kent.

Description		Flame Length-ft	Rate of Spread-mp/h
<u>SHORT GRASS- Grass is fine structured, below knee level (<3 feet), cured or dead, and continuous- (NFFL Model 1)</u>			
Low Development	Grass of 4 inches or less in height. Possibly continuous in coverage	2	0.4
Moderate Development	Grass of 5 inch to 1 foot in height. Sparse coverage	5	1.7
High Development	Grass finely structured, 2' high or generally below knee level, and cured or primarily dead. Grass is essentially continuous. Little shrub or timber is present and generally less than 1/3 of the area.	10	5.1
Extreme Development	Grass about knee level (2-2.5 ft.) cured or primarily dead. Densely packed and continuous. Typically ungrazed grasslands.	21	9.1
<u>GRASS WITH TIMBER/BRUSH OVERSTORY- Low Density Pine Forests or Plantations With Grass Understory (NFFL Model 2)</u>			
Low Development	Patchy low grass and minor amounts of stem wood	3	0.2
Moderate Development	Grass is fine, less than 1 foot in height, with shallow litter layer and occasional stemwood on the ground	8	1.0
High Development	Grass under open timber and brush overstory. Enough grass to carry the fire and involve the litter from the overstory. Open scrub and tree stands cover 1/3 to 2/3 of the area.	16	2.7
Extreme Development	Dense grass, litter and clumps of down stem wood. Grass covers 2/3 of vegetated area. Clumps of stemwood and grass will generate enough fuels to involve the crown.	20	2.5
<u>TALL GRASS- Grass is coarse and above knee level (>3feet)- (NFFL Model 3)</u>			
Low Development	Coarse 2.5' to 3' tall grass, sparse or patchy with no thatch	7	1.4
Moderate Development	Coarse 2.5' to 3' tall grass, sparse or patchy with moderate thatch	12	3.8
High Development	Coarse structured grass at about 3 feet in height and densely packed. Approximately 2/3 of stand is cured or dead	29	6.0
Extreme Development	Coarse structured grass above 3 feet in height, densely packed, and entirely cured with thatch build-up	37	13.2
<u>BRUSH- Brush with shallow depth of litter and some grass (NFFL Model 5)</u>			
Low Development	Patchy brush with no dead wood. Grazed grass intersperses brush	10	0.9
Moderate Development	Brush with no dead wood. Stand is discontinuous or patchy in nature. Grass less than 6 inches and interspersed with brush	14	1.5
High Development	Brush is about 6 feet in height with light litter underneath	18	1.5
Extreme Development	Brush height over 6 feet, with over 40% dead material. 1 or more inches of litter or grass interspersed with the brush	32	4.3
<u>CHAPARRAL/BRUSH- Brush with heavy loadings of dead, woody fuel (NFFL Model 4)</u>			
Low Development	Brush young at 4 feet or old at 3 feet. Up to 20% dead material. Stands are patchy with no litter layer	7	0.4
Moderate Development	Brush height 4 to 6 feet in continuous stand with not litter layer. Dead material less than 30%.	24	2.2
High Development	Brush height 6 feet, with dead woody material and deep litter layer	46	4.6
Extreme Development	Brush height over 6 feet, with over 40% dead material, and 2 or more inches of litter	69	9.8

Description		Flame Length-ft	Rate of Spread-mph
<u>EUCALYPTUS SPROUTS: Foliage with high oil content and complete vertical continuity (NEFL Model 7)</u>			
Moderate Development	Canopy with vertical continuity and cured grass or shrubs between trees/sprouts	13	1.5
High Development	Sparse canopy with vertical continuity. Young shrubs with no grass between trees/sprouts	22	1.7
<u>CANOPY WOODLAND OR FOREST WITH LITTLE LITTER- Surface fuels are mostly foliage litter. Large fuels are scattered and lie on tightly compacted foliage litter- (NEFL Model 8)</u>			
Low Development	Dense canopy with no understory or litter	1	0.0
Moderate Development	Dense canopy with no understory or litter. Dense Bay Forest typifies this stage	2	0.0
High Development	Closed canopy stands of short needle conifers or hardwoods. Little undergrowth is present. Litter layer is mainly needles, leaves, and some twigs	2	0.1
Extreme Development	Dense overstory with well developed understory but with only occasional piles of stemwood. All fine fuels and litter layer under 2 inches depth	6	0.3
<u>CANOPY WOODLAND OR FOREST WITH MODERATE LITTER- Surface fuels are mostly foliage litter. Large fuels are scattered and lie on loosely compacted foliage litter- (NEFL Model 9)</u>			
Moderate Development	Litter layer up to 6 inches deep with occasional jackpots of fine material up to 3" diameter. Shaggy bark or other aerial fine fuels present	5	0.3
High Development	Moderate litter layer with concentrations of dead-down woody material	7	0.6
Extreme Development	Well developed litter layer up to 1 foot depth with accumulations of fine material up to 3 inch diameter around holes of trees. Shaggy bark and other aerial litter present	14	1.4
<u>CANOPY WOODLAND OR FOREST WITH SIGNIFICANT LITTER- There is a significant amount of larger fuel that is distributed over the forest floor. The overall depth of fuel is below the knees, but some fuels may be higher - (NEFL Model 10)</u>			
Low Development	Dense stands with lesser fine fuels. Occasional accumulations of logs over 3 inches or larger in diameter on the forest floor	6	0.2
Moderate Development	Dense Stands (500/800 stems per acre). Litter layer up to 6 inches deep with occasional logs over 3" diameter. Shaggy bark or other aerial fine fuels present	9	0.3
High Development	Dense stands with lesser fine fuels. Greater accumulations of logs over 3 inches or larger in diameter on the forest floor	12	0.5
Extreme Development	Dense Stands with litter layer up to 1 foot deep and concentrations of logs over 3 inches in diameter	20	1.3

ATTACHMENT F

The following table identifies 13 standard fuel models. These fuel models were identified by Hal E. Anderson in *Aids to Determining Fuel Models for Estimating Fire Behavior*, Gen. Tech. Report INT-122, 1982 and Richard C. Rothermel in *How to predict the Spread and Intensity of Forest and Range Fires*, Gen. Tech. Report INT-143. T/A indicates tons per acre. 1-H is an abbreviation for fuels smaller than ¼ inch in diameter. 10-H, for fuels ¼ - 1 inch in diameter, 100-H for fuels 1 - 3 inches in diameter. "Live" indicates living herbaceous fuels, and "woody" indicates foliar fuels of woody shrubs. Fuel Bed Depth is the height above ground in which the fuel is distributed. The moisture of extinction is the amount of dryness at which fire will not be sustained. ROS is Rate of fire spread, and FL is flame length.

Table 1: Description of Fuel Models

Fuel Model	Typical Fuel Complex	Fuel Loading (T/A)				Fuel Bed Depth (ft)	Moist. of Extinction Dead Fuels (%)	ROS* ch/h	FL* (ft)
		1-H	10-H	100-H	Live				
1	Short Grass	0.74	0	0	0	1	12	78	4
2	Timber	2	1	0.5	0.5	1	15	35	6
3	Tall Grass	3.01	0	0	0	2.5	25	104	12
4	Chaparral	5.01	4.01	2	5.01	6	20	75	19
5	Brush	1	0.5	0	2	2	20	18	4
6	Dormant brush	1.5	2.5	2	0	2.5	25	32	6
7	Southern Rough	1.13	1.87	1.5	0.37	2.5	40	20	5
8	Closed Timber Litter	1.5	1	2.5	0	0.2	30	2	1
9	Hardwood Litter	2.92	0.41	0.15	0	0.2	25	8	3
10	Timber	3.01	2	5.01	2	1	25	8	5
11	Light Logging Slash	1.5	4.51	5.51	0	1	15	6	4
12	Medium Logging Slash	4.01	14.03	16.53	0	2.3	20	13	8
13	Heavy Logging Slash	7.01	23.04	28.05	0	3	25	14	11

*ROS and FL are represented under a fine dead fuel moisture of 8%, a midflame windspeed of 5 mi/h, and live fuel moisture, if present, of 100% (Anderson, 1982).

ATTACHMENT G

FIRE IN EUCALYPTUS GROVES AND THE DIFFICULTIES OF MANAGEMENT

The following excerpts are from a letter by Roger Fenwick to Jerry Kent describing the inherent fire risks of eucalyptus forests, and the difficulties of fire-safe management. Roger is an Australian Forester and Bushfire Consultant with 39 years of experience. In 1980, Roger served as a consultant to the Park District and prepared the Management Plan for Chabot Regional Park's 800-acre Eucalyptus forest.

Letter Excerpts

Blue gum is not a woodland type tree, it's a forest tree, and if grown singly will spread out a lot more than when closely planted as in plantations and native forests. The branches will be a lot thicker and more robust. The root structure will also be different – they will take up as much space as they can, the normal rule of thumb is out to the canopy drip-line. Trees in a forest setting thus depend in part on their neighbours for stability – everyone cuts down the wind and they all benefit. Grow them singly, and they develop the stabilising structure they need to face the wind all by them selves. Grown in a forest, and cut out half of them, or create a large gap in the middle to create a turbulent airflow zone, and the rest are likely to get tired and have a lie down next good blow. Therefore doing a sudden drastic thinning within the density of plantation you have in abundance there is likely to create a whole new problem.

Blue gum is a wet sclerophyll forest/cool temperate rain forest species, not that often exposed to fire, and it gets pretty well hammered by the intensity of fire that can occur when it is grown in a dry environment suited to its growth but not to its natural fire regime. Those lovely long ribbons of bark hanging off the trunk, shaped like a box kite in cross section, get ignited on the inside, elevated in the convection column, transported long distances in the wind, and are still nicely alight when they drop to earth many miles later – still with active flames inside, and still with enough mass to light whatever they land in. Sparks they are not. The supposed record for a spot fire here is 40 miles, which of course is someone else's problem. The ones that land 2-5 km (1 to 3 miles) away are the big danger, as your own fire fighters are likely to be caught between two pretty exciting fires.

When I last looked, there was still not a bug or microbe in California that had learned how to eat eucalypt leaves, and this had two effects. The leaves on the trees were full-sized, i.e. without being half (or more) chewed to bits *in vivo*, and they just didn't decompose when the tree dumped them onto the ground – hence the staggering fuel loads. Here they equilibrate at maybe 25-30t/ha, and you are facing 2-4 times that per acre. Flammable fuels about 10 times what we can't manage, and we have been practicing for 80 years. Good luck!

If your fuel model predicts 7' to 21' flame lengths in a eucalyptus grove? I'd like to see that! It'd do those numbers in metres on an average day. On a bad fire day, flames would be way over that. Like, 20m (60 feet) over the tops of the trees, not above ground. At the fuel levels you are getting, none of the Australian models will be worth squat – everything is so far off the charts as to be meaningless. But our charts still top out well above 21 feet. In a 30 t/ha fuel on a 20° slope on a bad day (T 40°C, RH 14%, wind 40km/hr) flame length is supposed to be 57m (187 feet). I find that sort of

calculation a bit extreme – the mathematicians have taken a useful guide and created a degree of precision that the original creators didn't quite have in mind.

In a dense grove one hell of a lot of real estate is going to be alight at once, and burning for a long time relative to the few seconds of a grass fire. This will create a monster convection column, and elevate everything including branches to 2" diameter from a few metres above ground to the treetops into the column, and ignite it in the process. The head fire will travel a lot more slowly in the dense stand than in the open woodland, but expect rates of spread of more than 2 miles per hour, of the head fire front – without any spotting effect – on level ground. During extreme winds multiply by two for slopes of 10 degrees, by 4 for 20 degrees, and by 10 for 30 degrees. The energy release and flame height/length etc. will guarantee transmission of fire between trees whatever the spacing. With larger gaps, you will get more wind at ground level, in part making up for the perhaps marginally reduced fuel load.

Which amounts to saying, without reducing the litter load, by orders of magnitude, there is no solution. Burning would be tricky in the extreme in such loads – it'd have to be done when the weather and litter moisture profile were exactly right, and they would be the only considerations. Having to worry about smoke pollution etc – forget about it, there is no room for error, and keeping the fire within safety parameters will be tricky enough. Which, to be realistic in today's climate, means that prescribed fire is not going to work in this setting.

If you got a patch thinned to a nicely spaced open woodland style setting, without them all falling over in the next strong wind, and reduced the litter/shrub layer to about 4 tons per acre, perhaps a bit more if there were few intermediate height trees and saplings, you'd have no problem, and burning every maybe 5 years in your environment may do it. Still, it is my impression now that burning at all is unlikely to be acceptable.

Prescribed fire was used a lot here (in Victoria Australia), but now the green people have pretty much managed to prevent it on any useful sort of scale – not by banning the practice, but by putting so many obstacles in the way that the cost of doing the assessment (about \$25k), the time taken to do it (min one month) and time to have it approved (ca 3 months), and the approval being valid for 6 weeks – yeah, good luck. It just doesn't happen on any useful scale any more, which seems to be correlated with the increasing frequency of major fires.

ATTACHMENT H					
MCARTHUR FOREST FIRE DANGER METER MK5- Using Australian eucalyptus bushland fuel loads, 17% slopes) with tons per acre bracketed on each side of an average of 40.7 U.S. tons per acre for eucalyptus, and 5 U.S. tons per acre for oak.					
Eucalyptus					
FUEL LOAD	67.9 Tons/Acre	54.3 Tons/Acre	40.7 Tons/Acre	27.1 Tons/Acre	13.6 Tons/Acre
EAST BAY FIRE WEATHER					
Temperature (degrees F)	85	85	85	85	85
Relative Humidity (%)	15	15	15	15	15
Wind Speed (miles/h)	31	31	31	31	31
Drought Factor (1 to 10)	10	10	10	10	10
Ground Slope (%)	17	17	17	17	17
FIRE BEHAVIOR					
FLAME HEIGHT (feet)	97 feet	76.2 feet	55 feet	34.8 feet	14.1 feet
RATE OF SPREAD (miles/hr)	2.4 mph	1.9 mph	1.5 mph	.98 mph	.48 mph
Maximum Spotting Distance (miles)	3.86 miles	3.2 miles	2.4 miles	1.65 miles	.75 mile
Oaks					
FUEL LOAD	10 Tons/Acre	7.5 Tons/Acre	5 Tons/Acre	3 Tons/Acre	1 Ton/Acre
EAST BAY FIRE WEATHER					
Temperature (degrees F)	85	85	85	85	85
Relative Humidity (%)	15	15	15	15	15
Wind Speed (miles/h)	31	31	31	31	31
Drought Factor (1 to 10)	10	10	10	10	10
Ground Slope (%)	17	17	17	17	17
FIRE BEHAVIOR					
FLAME HEIGHT (feet)	8.3 feet	5.4 feet	.9 feet	0 feet	0 feet
RATE OF SPREAD (miles/hr)	.35 mph	.28 mph	.17 mph	.1 mph	.1 mph
Maximum Spotting Distance (miles)	.5 miles	.35 miles	.14 miles	0 miles	0 miles

ATTACHMENT I			
Project Vesta Field Guide – Fire in Dry Eucalypt Forest: Fuel structure, fuel dynamics and fire behaviour. Using East Bay Hill weather			
CLAREMONT CANYON EUCALYPTUS USING METRICS		CLAREMONT CANYON EUCALYPTUS USING U.S.	
Surface fuel depth (mm)	25	Surface fuel depth (ft)	0.98
Fire Hazard Score	4	Fire Hazard Score	4
Tons per Hectare	16	Tons per Acre	40
Near Surface Height (cm)	25	Near Surface Height (ft)	0.82
Fire Hazard Score	3	Fire Hazard Score	3
Tons per Hectare	3	Tons per Acre	7
Elevated Fuel Layer (meters)	7.7	Elevated Fuel Layer (ft)	25
Fire Hazard Score	4	Fire Hazard Score	4
Tons per Hectare	6	Tons per Acre	15
Smooth Trunk and Stringy Bark		Smooth Trunk and Stringy Bark	
Fire Hazard Score	3	Fire Hazard Score	3
Tons per Hectare	2	Tons per Acre	5
Total Tons Per Hectare	27	Total Tons Per Acre	67
EAST BAY FIRE WEATHER		EAST BAY FIRE WEATHER	
Wind Speed (km/h)	50	Wind Speed (miles/h)	31
Relative Humidity (%)	12	Relative Humidity (%)	12
Air Temperature (degrees C)	29	Air Temperature (degrees F)	86
Fuel Moisture Content (%)	10	Fuel Moisture Content (%)	10
Slope (degree)	10	Slope (%)	20
FIRE BEHAVIOR		FIRE BEHAVIOR	
RATE OF SPREAD (k/hr)	10 km/hr	RATE OF SPREAD (miles/hr)	6.2 mph
FLAME HEIGHT (m)	20	FLAME HEIGHT (feet)	65.8
Maximum Spotting Distance (km)	7km	Maximum Spotting Distance (miles)	4.3 miles

ATTACHMENT J

This article was published in the SF Chronicle on November 18, 1991

IN HINDSIGHT, THE FIRE LOOKS ALMOST INEVITABLE

Warning signs had been in place for years

By Elliot Diringer and Susan Sward, Chronicle Staff Writers.

As the flames erupted around him, firefighter Bill Nichols could not help but recall the day 10 years earlier when he toured the Oakland hills for a firsthand look at a classic "tinderbox."

"The old-timers would take the rookies on those roads and tell them you never want to get caught up here in a fire" said Nichols whose East Bay Regional Parks District crew was among the first to face the flames the morning of October 20.

"They would point out all the factors—the narrow roads, the overhanging vegetation, how close the homes were," the 44-year-old Nichols recalled. "It stuck with me. It was one of the first things I was thinking when the fire broke out."

Whatever caused the calamitous East Bay hills blaze, much of its devastating toll can be traced to a series of decisions years ago that made the fire entirely predictable in not inevitable.

Over the course of a century, those decisions transformed raw hillsides into a dangerous city-country hybrid--wood--roofed houses packed amid dense, highly flammable foliage.

"Decisions made many years before — 40, 50 years ago—literally hampered the firefighters in that blaze." Said Frank Blackburn a retired San Francisco assistant fire chief who was among 1,800 paid and volunteer firefighters who went up against the flames that day.

"Essentially, politicians and developers create the situation," said Blackburn, "and the Fire Department is left to try to find a solution when the fire gets out of control."

The fierce winds that drove the flames did not subside until late in the day. By the time the fire was contained, it had taken 25 lives, consumed more than 3,000 homes and caused upward of \$1.5 Billion in damage, making it one of the worst in the nations' history.

Contributing Factors

Nature no doubt contributed heavily to the disaster, delivering drought, then freeze, then hot winds blowing from the east. But the stage was set — in Oakland, as in hillside communities all through California — by deliberate decisions and warnings ignored.

- Starting more than 50 years ago, population pressures merged with the quest for profits and taxes to produce a haphazard pattern of development in the hills, with

- highly combustible homes strung along narrow streets the frequently indeed in cul-de-sacs.
- Native vegetation was supplanted by a mosaic of imported species like eucalyptus and Monterey pine that are ideal for fueling fire and spreading it great distances. Later attempts to control or remove the nonnative plants were sporadic and of limited success.
 - Despite the obvious lessons of fires as far back as 1923, wood shake roofs continued to be used, most power lines remained over-head instead of underground and the pumps needed to pipe water uphill were left without backup power.
 - Set against everyday inner-city woes like crime, drugs and homelessness, fire protection became a lesser priority in an ear of tight budgets. Several fire stations were closed, the number of firefighters was slashed and the department was left with an outmoded communications system easily overwhelmed by a major emergency.

As a result, firefighters went up against the biggest blaze of their lifetimes with the deck stacked against them. They had to maneuver down on-lane roads, dodge fallen power lines, compete to get messages over jammed airwaves and contend with a sudden loss of water. They found themselves virtually helpless against the inferno they has do long anticipates.

Dangers in the Hills

Few People were more acutely aware of the dangers in the hills — and the constraints on the fire department — than Assistant Fire Chief Don Matthews, the man who led the counter-assault October 20.

"The Fire Department's been saying for years it's a tinderbox," said Matthews, a 38-year veteran. "It's a condition that's existed as long as I've been in the Fire Department — only it's much worse now because there were very few homes up there when I came in."

Long ago, before settlers arrived and the first homes were built, the hills were carpeted with native perennial grasses that stayed green nearly all year round. In the canyons and along the creeks stood ancient groves of redwood, oak, bay and willow.

"Fire was a natural part of the ecosystem," said Barbara Allen-Dias, an assistant professor of forestry at the University of California at Berkeley. "But grasslands burn very differently from dense forests. Grass is easy to ignite but burns with less heat. Grass fires move very quickly but are easier to put out."

Colossal Blunder

Indigenous tribes, and the Spanish after them started the transformation of the natural landscape. But the real change began with the colossal blunder of a would-be timber baron named Frank Havens.

Between 1920 and 1912, after most of the native trees had been cut down for lumber, Havens planted 8 million blue gum eucalyptus trees, a species native to Australia, across 3,000 acres of hillside.

“He got the wrong species,” said Allen-Diaz. “There are species of eucalyptus that are good for lumbers – this isn’t one of them.”

Over the ensuing decades, the hills became a patchwork of farms and summer homes for well-to-do San Franciscans. Then, in another get-rich-quick scheme, speculators began buying up property, subdividing it and selling off lots to investors.

Most of the lots remained undeveloped until after World War II, when housing demand soared. But it was those subdivision maps, many recorded before the 1930s that set the pattern – high densities and narrow streets.

1946 Fire

Assistant Chief Matthews recalled that in 1946, while he was a student at UC, he watched from a Berkeley streetcar as an October fire driven by the same type of winds swept down from the Caldecott Tunnel to just behind the Claremont Hotel. Only three homes were perched on the hillside there, and none were destroyed.

Forty-five years later, there were literally hundreds and hundreds of homes in the same area,” said Matthews. And when the fire followed the same path, “they all burned.”

Few of the homes, he said, were built with modern fire codes in mind.

“It just kind of grew like Topsy up there. For whatever reason, the codes... were never really applied. It’s only in recent years that developers have been told, “Hey, you have to put certain width streets in; you have to provide an adequate water supply.”

Overlooked Risks

Although to Matthews and others the fire risks in the hills could not have been more obvious, they were all too easily overlooked.

“Oakland is a poor city,” said economist Fred Collignon, a Berkeley city councilman and a professor of city planning at UC Berkeley. “It’s very tempting when a developer says, “let’s go up on the ridge line”. They’re expensive houses. They have great views. It’s good for the tax base. Oakland could correctly say, “How likely is the fire? We could use the revenue.”

Oakland is hardly alone. Throughout California and across the nation, communities routinely build – and rebuild – in areas of known hazards.

“They do it with quakes,” said Collignon. “They do it with floods. They do it, in this case with wildfires.”

Short Collective Memory

The Risks were not theoretical. Periodically over the years, some spark would set the East Bay hills ablaze, and fire safety would suddenly become a priority. Each time, the concern was short-lived.

"The collective memory has forgotten the lessons of the last fire before the next one occurs," said UC Professor Patrick Pagni, an expert on the physics of fire.

In 1923, a month after a fire whipped by winds destroyed 584 homes in Berkeley; the City council passed an ordinance requiring that all wood-shingle roofs be replaced within 10 years. Six months later, the ordinance was rescinded.

In the 1970 Oakland hills fire, which consumed 37 homes and damaged 18, the vulnerability of the water system became clear when severed power lines shut down pumping plants and a hilltop reservoir ran dry.

"There was a lot of talk about under-grounding power lines. The Fire Department was on record at the time saying 'yeah, we'd love to have no overhead wire, especially up there,'" recalled Mathews. "The problem of backup generators (at pumping plants) was also discussed.... I guess you'd say the cost factor made it die a natural death."

After a 1980 fire took five homes in the Berkeley hills, a blue-ribbon task force said cities along the "urban-wildland-interface" stretching from Richmond to Oakland should encourage property owners to clear brush and trees within 100 feet of their homes.

But even enforcing the legal requirement for a 30-foot clearance has been burdensome. In Oakland, fire crews go door-to-door each spring looking for hazards and urging homeowners to correct them. More than 500 complaints a year are referred to the cities code enforcement officials – usually by neighbors, not the Fire Department.

"It's supposed to be enforced, but it's difficult to get back (for a follow-up inspection)," said Assistant Fire Chief Andy Stark. "You're looking at thousands of dwelling from the Berkeley border to San Leandro. The scope is pretty overwhelming."

Some homeowners acknowledge that as memories faded, so did the zeal for fire safety.

Architect Tom Lavin recalled the air of vigilance when he moved into his house on Norfolk Road 19 years ago. The foundations of homes leveled in the 1970 fire offered vivid proof of the risk, and when a 1972 winter freeze killed thousands of eucalyptus trees, neighbors banded together to demand that they be cut down.

But no such uproar followed a similar freeze in December 1990. By that time, "nobody thought about fire," said Lavin, whose home was the only one in his neighborhood spared by the October 20 blaze. "It's just like living with earthquakes. Why dwell on something negative?"

This reluctance to face the inevitable extracted a heavy price October 20,

"When we were trying to flee, I don't know how we ever turned around... because the roads were so narrow," recalled Nichols of the East Bay Regional Parks District. Elsewhere, crews were forced to retreat when hydrants suddenly went dry.

"Had a water supply been there, we could have saved more homes for sure," said Oakland Fire Lieutenant John Ironside. "I saw hundreds of homes explode. It was very frustrating that we could not get in and save homes, because that's what we do."

Ironside and his fellow firefighters can only hope that as homeowners rush to rebuild and politicians again confront issues such as wider streets and wood-shake roofs, the lessons this time will not be so easily forgotten.

Just days after the fire the wood shingle industry announced that it was dropping its long-standing opposition to legislation that would at least require that new wood-shake roofs be treated with a fire retardant.

Many fire experts remain unimpressed. "Wood is wood," said John White, fire chief and instructor at Shasta Community College in Redding. "What they don't tell you is that the coating won't last for the life of the shingle. It has a three-to five-year life...and after that you're back to wood-shake shingles."

Who Will Pay

Beyond the power of industry lobbies, the renewed clamor for building "fire-safe" communities is already butting up against other hard realities—how much will it cost and who will pay?

"The bottom-line question is: Can we afford... to address the worst-case scenario 365 days a year when a fire of this magnitude may only happen once in 20 years?" said Richard Eisner, a disaster expert who heads the Bay Area Regional Earthquake Preparedness Project.

As communities weigh whether the added cost is worth the added margin of safety, many experts contend that there can be no better argument than the awful toll of the October 20 fire.

"Too often we find ourselves prisoners of discussions we've made," said Keith Gillespie, an associate professor of forestry at UC Berkeley. "We can make new decisions. We don't have to be captive to the decisions we've made in the past."

STRAWBERRY CREEK WATERSHED COUNCIL**FAX**

DATE: 10.12.10

PAGES: 3

TO: ALESSANDRO AMADIO, ENV. COMPLIANCE OFFICER
DAVID KEENARD
FEMA
FAX: 510.627-7270 OR 510.627-7447

FROM: CAROL SCHEMMERLING
CO-CHAIR, STRAWBERRY WATERSHED COUNCIL
FAX: 510.524-5402
TEL: 510-524-4005

MESSAGE:

I TRIED EMAILING MY COMMENTS TO YOU ON OCT. 6,
BUT MY COMPUTER WAS NOT ABLE TO SEND IT TO THE
EMAIL ADDRESS ON THE FEMA HANDOUT.

I HAVE ONLY OBTAINED YOUR FAX#s today! SO I AM
TRYING ONCE AGAIN TO SEND YOU MY COMMENTS.

STRAWBERRY CREEK WATERSHED COUNCIL

The Strawberry Creek Watershed Council is opposed the funding of the 2 UC PDM grants because they are examples of the worst forestry and fire management practices possible.

* Clearcutting is a practice that leads to erosion, establishment of exotic (ie: European annual rye) grasses and low species which become the fuel of the next big fire. The loss of canopy creates the depletion of moisture in a drought-prone environment.

* Plans to urbanize the ridges above the UC and LBNL Campuses, whether with housing or research are irresponsible to the extreme. Southern California has allowed this practice and suffers huge losses from fire every year. **It should be noted that those areas have no trees.**

* Plans to use pesticides/herbicides are profitable for the manufacturers and the purveyors of these materials, but are a terrible detriment to the ecosystems that will be affected by them. There is no logical reason to use them if proper forestry practices are followed.

* The appropriate practices are:

1. Cull small trees with trunk diameters of less than 6-8".
2. Remove lower limbs of trees having the 8' trunk diameter, but leaving the upper canopy thick enough to shade the floor.
3. Keep the spaces between the large trees (10' plus or minus) clear by weed-wacking in September and October. (Think of all these "green" jobs....much better to hire humans than buying chemicals)

* The species of trees is not as important as long as the appropriate practices are followed. Case in point: in the 1991 Oakland fire, a property owner who lived at the bottom of a grassy slope of at least 200' or more and who also had eucalyptus trees clustered on the side of the slope just about 10' above his house, as well as some small live oaks nearby and a couple of redwood trees next to his house. A week before the fire he had removed fallen branches and leaves from under the eucalypts and the redwoods. When the fire came roaring down the grassy slope, it went under the trees and burned his house to the ground. **None of the eucalypts or the other trees were burned or even singed.**

* It is important to note that the slopes and headwater streams at the LBNL site are already contaminated by toxics and are prone to landslides. What UC and LBNL want to do up on the ridge, at the top of Strawberry Canyon and Centennial Drive, if

allowed, is going to create an even more unsafe, fire prone and landslide prone situation.

Therefore we request that there be NO funding of the UC PDM grants.

Sincerely,



Carole Schemmerling

861 Regal Rd.

Berkeley, Ca 94708

510.524.4005

Comment Cards

 FEMA	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
	COMMENT CARD

Name: Dan Grasseffi
 Address: 1305 Alvarado Road
 Email: dangrass@comcast.net Affiliation (If Any): Hills Conservation Network
 Comment (Please Print): We are very supportive of the EIS process
& the professionalism & rigor that FEMA is
employing in managing this process

Comments can be submitted via email at EBH-EIS-FEMA-RIK@dhs.gov, or via the project website at <http://ebheisforca.ursdcmetro.com>
 Comments may also be mailed to EBH-EIS, PO Box 72391, Oakland, CA 94612

 SPEAKER	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
	COMMENT CARD

Name: Jerry BAERZ
 Address: 1227 Alvarado Rd Berkeley, CA 94705
 Email: jdTimerjib@comcast.net Affiliation (If Any): Hills Conservation Network
 Comment (Please Print): Supporting FEMA's Process

Comments can be submitted via email at EBH-EIS-FEMA-RIK@dhs.gov, or via the project website at <http://ebheisforca.ursdcmetro.com>
 Comments may also be mailed to EBH-EIS, PO Box 72391, Oakland, CA 94612

Comment Cards

Speaker

	FEMA Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement COMMENT CARD
---	--

Name: Matt Mitchell

Address: 151 Alvarado Road, Berkeley 94705

Email: ms2@ix.netcom.com Affiliation (If Any): _____

Comment (Please Print): There is a controversy over the role of Eucalyptus trees in propagating wildfire. Who is right? And what is the evidence to support the answer?

Speaker

	FEMA Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement COMMENT CARD
---	--

Name: Gordon Piper

Address: 33 Hiller Dr. Oakland CA 94618

Email: Gpiper@regional.net Affiliation (If Any): Oakland landscape committee

Comment (Please Print): I strongly support the EIS & funding of hazardous fuel reduction projects much needed in the East Bay Hills & Contra Costa Counties. The 3 million trees planted by developers in the Oakland Hills pose a major fire risk as the aging forests aren't being maintained adequately & invasive compounds the fuel load & risk of wildfire along with homeless encampments.

Comment Cards

		Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
		COMMENT CARD

Name: Karen Perkins
 Address: _____
 Email: _____ Affiliation (If Any): _____
 Comment (Please Print): why now? Boondoggle

		Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
		COMMENT CARD

Name: Judith Malamut
 Address: 2215 Fifth Street Berkeley CA 94710
 Email: Judith.malamut@LSA-Associates.com Affiliation (If Any): LSA Associates Inc.

Comment (Please Print): I am the principal Project Manager and primary author of the Wildfire Hazard Reduction and Resource Management Plan for EBRPD and the EIR prepared on the Plan. If you need assistance in regards to the analysis concerning the EBRPD Plan and CEQA process on the Plan, please contact me.

Q - What firms are consultants preparing the Biological Assessment and the Historic Properties Findings?

Comments can be submitted via email at EBH-EIS-FEMA-RIG@dhs.gov, or via the project website at <http://ebheisforca.ursdcmetro.com>
 Comments may also be mailed to EBH-EIS, PO Box 72391, Oakland, CA 94612

Comments Cards

	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement	
	COMMENT CARD	

Name: SAVE Strawberry Canyon
 Address: P.O. Box 1234 Berkeley 94701
 Email: savestrawberrycanyon Affiliation (If Any): _____
 Comment (Please Print): @gmail.com

Dear FEMA, Thank you in advance for your careful consideration of significant impacts and alternatives.

Please, we request one hard copy of DEIS, if at all allowable / possible. Thank you.

	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement	
	COMMENT CARD	

Name: Nancy Mennel
 Address: 116 Vicente Rd, Berkeley, CA 94705
 Email: _____ Affiliation (If Any): North Hills Community

Comment (Please Print): I lost my home in the 1991 Wildfire
& know how fast & devastating wildfires in California
CAN be. My neighborhood looked like Hiroshima after
the fire. I support all the proposed projects
in addition to local fire codes. The loss of wildlife in
the wildfire was very significant as well as human &
property loss.

Comment Cards

	FEMA	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
COMMENT CARD		

Name: MARK RAUZION
Address: 4701 EDGEWOOD AVE
Email: MJRAUZION@aol.com Affiliation (If Any): FRIENDS of Sausal Creek
Comment (Please Print): WE support the cut in
principal as well as the use of
herbicide - A Herbicide czar should
be designated to guarantee minimal use
and seamless tracking of use.

	FEMA	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement
COMMENT CARD		

Name: KEN BENSON
Address: 11140 ETRICK STREET OAKLAND, CA 94605
Email: kenbenson@earthlink.net Affiliation (If Any): _____
Comment (Please Print): Thank the agencies, Federal and State
for the grants and to the applicants so that
we can gain insights within our urban interface
on how best to mitigate fire fuel loads. This
can and will assist us to better be prepared for
future needs and applications.

Comment Cards

	Hazardous Fire Risk Reduction, East Bay Hills, California Public Scoping Meeting for Environmental Impact Statement COMMENT CARD
---	---

Name: Bev Von Dohre

Address: 3012 KANSAS ST., OAKLAND, CA 94602

Email: SLAKEWINGS @ AOL.COM Affiliation (If Any): _____

Comment (Please Print): 1. I DON'T TRUST THAT IF THIS PLAN BEGINS THERE WON'T BE LARGER AREAS CUT, SUCH AS WHAT HAPPENED AT CESAR CHAVEZ PARK WHERE NATIVES WERE CUT TO THE GROUND WITH NON-NATIVES 2. CUTTING ANY PLANTS REDUCES THE DIVERSITY OF NATIVE ANIMALS. MANY OF WHOM HAVE COME TO RELY ON NON-NATIVE PLANTS FOR NESTING, SHELTER & FOOD. 3. ALL TREES, WHETHER NATIVE OR NOT, PRECIPITATE WATER FROM

THE FOG & ADD TO WATER ~~AND~~ ACCUMULATION ON THE SKY & IN THE WATERSHED. SOME AREAS UNDER MONTEREY PINES, FOR INSTANCE, STAY WET YEAR ROUND. ONCE REMOVED, THE SCRUB GROWING UNDER THEM WILL BECOME MUCH MORE FLAMMABLE.

4. MANY BIRDS, SUCH AS GREAT HORNED OWLS & RED-SHOULDERED HAWKS USE TALL ~~AND~~ EUCALYPTUS FOR NESTING. RED-SHOULDERED HAWK ARE NOT COMMONLY SEEN AND THE ONLY NESTS I'VE SEEN HAVE BEEN IN EUCALYPTUS.

5. ACORN WOODPECKERS & MANY OTHER ANIMALS USE DEAD TREES.

6. GLYPHOSATE & OTHER HERBICIDES ARE NOT SAFE & ~~SHOULD~~ SHOULD NEVER BE USED. MANY BANNED POISONS WERE ONCE ~~DECL~~ DECLARED SAFE.

7. EVERY TREE & SHRUB IMPROVES AIR QUALITY. ENOUGH CUTTING HAS ALREADY BEEN DONE.

8. WHY NOT PUT THIS MONEY INTO ELIMINATING THE IVY WHICH IS COVERING & SMOTHERING TREES THROUGHOUT ~~THE~~ THE EAST BAY?

9. ~~THOSE~~ IF THE PLAN IS TO ELIMINATE NON-NATIVES, LET'S START WITH THE CATS WHO ARE DECIMATING THE WILDLIFE & ~~THE~~ DOGS & NON-NATIVE HUMANS.

Comment Cards

SPEAKER



Hazardous Fire Risk Reduction, East Bay Hills, California
Public Scoping Meeting for Environmental Impact Statement

COMMENT CARD

Name: DAVID KESSLER
 Address: 116 VICENTE RD, BERKELEY CA 94705-Kes
 Email: Kesdavid@gmail.com Affiliation (If Any): NMCA - OWPD
 Comment (Please Print):
WE MUST ACT & GET TO WORK
REDUCING THE FUEL LOAD, I HOPE
WE ARE NOT MOVING TOO SLOWLY.
IMPERFECT ACTION IS FAR BETTER
THAN INACTION!!!
LOST HOME IN 1991 WILDFIRE

SPEAKER



Hazardous Fire Risk Reduction, East Bay Hills, California
Public Scoping Meeting for Environmental Impact Statement

COMMENT CARD

Name: JON KAUFMAN
 Address: 107 ALVARADO RD, BERKELEY
 Email: JONK@SOLEM.COM Affiliation (If Any): CLAREMONT CANYON CONSERV
 Comment (Please Print): I believe removing the encroached trees
will have a positive impact on the environment
because these trees are 1) a greater fire hazard
than other plants 2) non native species and 3)
very invasive. The stump should be treated
to prevent the trees from growing back.

Appendix G:
Draft EIS Outline

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Draft EIS Outline Hazardous Fire Risk Reduction EIS East Bay Hills, CA

Cover Sheet

Executive Summary

Table of Contents

List of Tables

List of Figures

List of Photos

List of Appendices

List of Acronyms and Abbreviations

1.0 Introduction

2.0 Purpose of and Need for Action

3.0 Proposed Action and Alternatives

3.1 Alternatives Considered and Dismissed

3.2 Alternatives Studied in Detail

3.2.1 No Action

3.2.2 Proposed Action

3.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed

3.3.4 Partially Fund Grant Applications, including Funding Some and Denying Others

4.0 Affected Environment

4.1 Biological Resources

4.1.1 Vegetation and Wildlife

4.1.2 Special-Status Species

4.2 Geology, Seismicity, and Soils

4.2.1 Geology

4.2.2 Seismicity

4.2.3 Soils

4.3 Water Resources

4.3.1 Surface Water

4.3.1.1 Hydrology

4.3.1.2 Water Quality

- 4.3.2 Ground Water
 - 4.3.2.1 Hydrology
 - 4.3.2.2 Water Quality
- 4.3.3 Executive Order 11988: Floodplain Management
- 4.3.4 Executive Order 11990: Protection of Wetlands
- 4.4 Coastal Zone Management Act
- 4.5 Air Quality
 - 4.5.2 Greenhouse Gases
- 4.6 Climate/Microclimate, including Wind
- 4.7 Historic Properties
 - 4.7.1 Standing Structures
 - 4.7.2 Archeological Resources
- 4.8 Aesthetics and Visual Quality
- 4.9 Socioeconomics
 - 4.9.1 Executive Order 12898: Environmental Justice
 - 4.9.2 Property Values
 - 4.9.3 Induced Growth
- 4.10 Human Health and Safety
 - 4.10.1 Hazardous Fire Risk
 - 4.10.2 Use of Hazardous Substances, including Herbicides
- 4.11 Public Services/Infrastructure
- 4.12 Land Use and Planning
- 4.13 Transportation
- 4.14 Noise and Vibration

5.0 Environmental Consequences and Mitigation

- 5.1 Biological Resources
 - 5.1.1 Vegetation and Wildlife
 - 5.1.1.1 No Action
 - 5.1.1.2 Proposed Action
 - 5.1.1.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.1.1.4 Partially Funding Grant Applications, including Funding Some and Denying Others
 - 5.1.2 Special Status Species

- 5.1.2.1 No Action
 - 5.1.2.2 Proposed Action
 - 5.1.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.1.2.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.2 Geology, Seismicity, and Soils
 - 5.2.1 Geology
 - 5.2.1.1 No Action
 - 5.2.1.2 Proposed Action
 - 5.2.1.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.2.1.4 Partially Funding Grant Applications, including Funding Some and Denying Others
 - 5.2.2 Seismicity
 - 5.2.2.1 No Action
 - 5.2.2.2 Proposed Action
 - 5.2.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.2.2.4 Partially Funding Grant Applications, including Funding Some and Denying Others
 - 5.2.3 Soils
 - 5.2.3.1 No Action
 - 5.2.3.2 Proposed Action
 - 5.2.3.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.2.3.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.3 Water Resources
 - 5.3.1 Surface Water Hydrology and Quality (including herbicide use)
 - 5.3.1.1 No Action
 - 5.3.1.2 Proposed Action
 - 5.3.1.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.3.1.4 Partially Funding Grant Applications, including Funding Some and Denying Others

- 5.3.2 Ground Water Hydrology and Quality (including herbicide use)
 - 5.3.2.1 No Action
 - 5.3.2.2 Proposed Action
 - 5.3.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.3.2.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.3.3 Floodplains and Wetlands
 - 5.3.3.1 No Action
 - 5.3.3.2 Proposed Action
 - 5.3.3.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.3.3.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.4 Coastal Zone Management Act
 - 5.4.1 No Action
 - 5.4.2 Proposed Action
 - 5.4.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.4.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.5 Air Quality (including Greenhouse gases)
 - 5.5.1 No Action
 - 5.5.2 Proposed Action
 - 5.5.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.5.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.6 Climate/Microclimate, including Wind
 - 5.6.1 No Action
 - 5.6.2 Proposed Action
 - 5.6.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.6.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.7 Historic Properties
 - 5.7.1 Standing Structures

- 5.7.1.1 No Action
 - 5.7.1.2 Proposed Action
 - 5.7.1.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.7.1.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.7.2 Archeological Resources
 - 5.7.2.1 No Action
 - 5.7.2.2 Proposed Action
 - 5.7.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.7.2.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.8 Aesthetics and Visual Quality
 - 5.8.1 No Action
 - 5.8.2 Proposed Action
 - 5.8.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.8.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.9 Socioeconomics
 - 5.9.1 Executive Order 12898: Environmental Justice
 - 5.9.1.1 No Action
 - 5.9.1.2 Proposed Action
 - 5.9.1.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.9.1.4 Partially Funding Grant Applications, including Funding Some and Denying Others
 - 5.9.2 Property Values
 - 5.9.2.1 No Action
 - 5.9.2.2 Proposed Action
 - 5.9.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.9.2.4 Partially Funding Grant Applications, including Funding Some and Denying Others
 - 5.9.3 Induced Growth
 - 5.9.3.1 No Action

- 5.9.3.2 Proposed Action
 - 5.9.2.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.9.3.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.10 Human Health and Safety (including Hazardous Fire Risk Reduction and Use of Hazardous Substances, including Herbicides)
 - 5.10.1 No Action
 - 5.10.2 Proposed Action
 - 5.10.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.10.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.11 Public Services/Infrastructure
 - 5.11.1 No Action
 - 5.11.2 Proposed Action
 - 5.11.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.11.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.12 Land Use and Planning
 - 5.12.1 No Action
 - 5.12.2 Proposed Action
 - 5.12.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.12.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.13 Transportation
 - 5.13.1 No Action
 - 5.13.2 Proposed Action
 - 5.13.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed
 - 5.13.4 Partially Funding Grant Applications, including Funding Some and Denying Others
- 5.14 Noise and Vibration
 - 5.14.1 No Action
 - 5.14.2 Proposed Action

5.14.3 Funding Grant Applications for Hazardous Fire Risk Reduction to the Built Environment with Environmental Conditions or Methodologies that are Different than Proposed

5.14.4 Partially Funding Grant Applications, including Funding Some and Denying Others

6.0 Cumulative Impacts

6.1 Methodology

6.1.1 Class of Action to be Analyzed

6.1.2 Geographical and Spatial Boundaries for the Analysis

6.1.3 Resources Analyzed

6.1.4 Magnitude of Impacts on Resources

6.2 Biological Resources

6.2.1 Reestablishment of Vegetation Communities

6.2.2 Wildlife, Including Endangered Species

6.3 Soil and Water Quality

6.3.1 Erosion Control

6.3.2 Non-point Source Runoff

6.3.3 Use of Herbicides

6.4 Air Quality - Greenhouse Gases

6.5 Wind

6.6 Aesthetics and Visual Quality

6.7 Socioeconomics

6.8 Human Health and Safety

6.8.1 Hazardous Fire Risk Reduction

6.8.2 Use of Hazardous Substances, including Herbicides

7.0 Public Participation and Agency Coordination

8.0 List of Preparers

9.0 References

Acronyms and Abbreviations

Appendices

A FEMA's Wildfire Mitigation Policy

B Federally Listed, Proposed, and Candidate Species with Potential to Occur in the East Bay Hills

C Biological Opinion from the U.S. Fish and Wildlife Service

- D Historic Properties Survey/Consultation
- E Agency Correspondence
 - 1. Response from the State Historic Preservation Officer
- F Public Comments and Responses
- G List of Interested Parties

Tables

- X-1 Total Acreages for the Vegetation Communities Identified in the Project Area
- X-2 Emissions from Project Equipment
- X-3 Comparison of Environmental Justice Indicators
- X-4 Comparison of Median Home Values

Figures

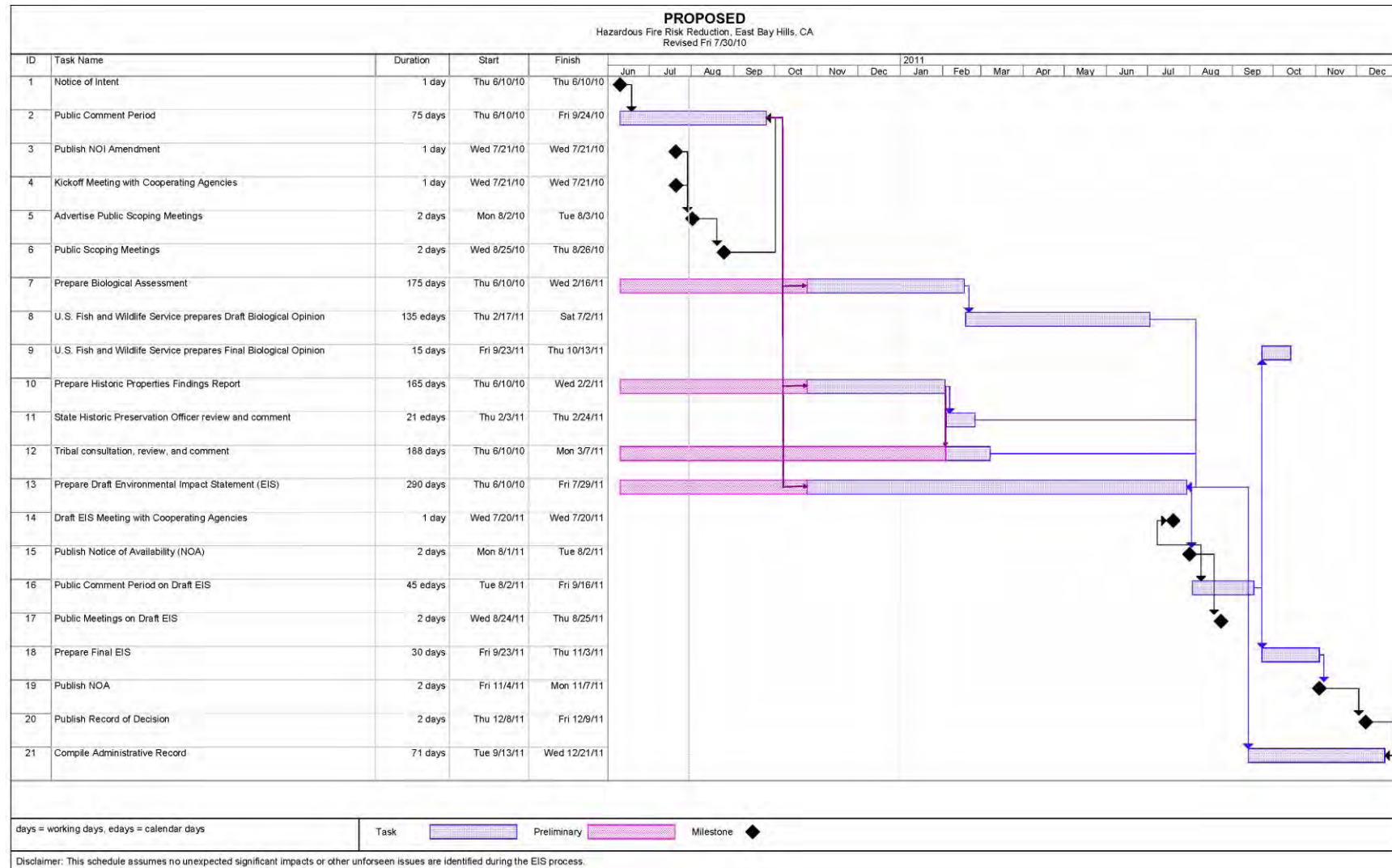
- X-1 Vicinity Map
- X-2 Vegetation Communities

List of Photos

Appendix H:
Proposed EIS Schedule

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Proposed EIS Schedule



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