



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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June 17, 2013

Alessandro Amaglio
Regional Environmental Officer
FEMA Region IX
U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, California 94607-4052

Subject: Draft Environmental Impact Statement for the Hazardous Fire Risk Reduction Project; Alameda and Contra Costa, Counties, California. (CEQ# 20130114)

Dear Mr. Amaglio:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Hazardous Fire Risk Reduction Project, (Project); East Bay Hills, California. Our review is provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The EPA appreciates the Federal Emergency Management Agency's (FEMA) commitment to protect people and structures from hazardous fire risk in the East Bay Hills. The DEIS articulates well the difficult decisions involved in reducing wildfire risk. EPA recognizes the need to minimize threats to public safety from wildfire, and we support this goal. Based on our review of the proposed action alternative, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2) (see enclosed "*Summary of Rating Definitions*"), due to our concerns regarding potential impacts to natural resources and herbicide use. Our detailed comments are attached.

We are concerned that some of the aspects of the project could result in degradation of natural resources and may not provide for natural regeneration. We also note that extensive use of herbicides is proposed for the project and much of the DEIS is devoted to descriptions of herbicide use and assessment of risks posed to human health and the environment from that use. In the attached detailed comments, we recommend providing additional information regarding

natural resource impacts and more information in the Final Environmental Impact Statement (FEIS) about the location, type, amount, and application method for herbicide use. EPA appreciates the communication between our offices and the opportunity to review this DEIS. When the FEIS is released, please send one hard copy and 3 cd's to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or have your staff contact James Munson, the lead reviewer for this project. James can be reached at (415) 972-3852 or Munson.James@epa.gov.

Sincerely,



FOR

Kathleen Martyn Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures: Detailed Comments
Summary of the EPA Rating System

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)'s DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE HAZARDOUS FIRE RISK REDUCTION PROJECT, (PROJECT); ALAMEDA & CONTRA COSTA, COUNTIES, CALIFORNIA. (CEQ# 20130114)

Impacts to Natural Resources

The document assumes that areas will naturally regenerate, once rid of non-native species. We are concerned that some of the aspects of the project could result in degradation of natural resources and may not provide for natural regeneration. Further, while the DEIS includes a discussion of climate change, it does not include a detailed discussion of the potential impacts of climate change on the Project area. Current research indicates that climate change could impact the amount, timing, and intensity of rain and storm events; increase the length and severity of the fire season; modify the rate and distribution of harmful timber insects and diseases; and aggravate already stressed water supplies. A significant change in the weather patterns could have important implications for management of the Project area.

Recommendations:

EPA recommends that the FEMA consider whether more aggressive restoration efforts may be necessary to return such areas back into a natural state. We also suggest that the FEMA consider whether the 24 inches of wood chips, (page: ES-13) would alter the natural regeneration process and possibly retard native species' ability to repopulate the area. It may be prudent or necessary to replant native saplings to promote habitat restoration and avoid erosion, especially in light of changing temperatures and precipitation rates associated with climate change.

We also encourage FEMA to provide information in the Final Environmental Impact Statement (FEIS) regarding the decommissioning of skid trails after the project objectives have been met. Decommissioning should include scarifying the surface to break up compacted soils, seeding with native vegetation, and blocking these areas from hydrologic runoff.

EPA encourages the FEMA to consider the potential direct and cumulative effects of climate change on the resources that would be affected by the Project, including groundwater resources, sensitive species and the ability of native species to repopulate the treated area, and describe how the grant applicants will adaptively manage affected resources.

Noxious Weeds

Page 3-27 identifies the noxious weed species such as poison oak as common within the project area and states that the weeds would be treated by spraying their leaves; however, little information is given regarding mitigation measures to reduce the spread of noxious weeds prior to cutting and spraying.

Recommendations:

Clean all off-road logging and construction equipment prior to entering the project area to remove dirt, plant parts and material that may carry weed seeds. Avoid the use of construction equipment in weed infested area as much as possible and monitor all weed treatments for effectiveness.

Use certified weed-free seeds and plants for re-vegetation and erosion control.

Herbicide Use

Application

Appendix F and Appendix L present summaries of chemical characteristics for the herbicides being considered for use in the project areas: Garlon products, Stalker, and Roundup; however, the document does not identify the type of Roundup nor clearly identify which herbicides would be used where and on what plants or when they would be used. Also, triclopyr BEE (Garlon 4 Ultra) and triclopyr TEA (Garlon 3) have very different physical characteristics. Consequently, each needs an environmental fate assessment. For example TEA is very water soluble and has a low octanol/water partition coefficient (K_{ow}). BEE has low water solubility (although the DEIS incorrectly states that it is highly water soluble) and high K_{ow} Page 5.4-9 states “herbicide applications would be rotated for best impact during the growing season;” however, it does not describe specifically what would be rotated or how, or how decisions will be made in the field.

Recommendations:

The FEIS should state which herbicides (including which type of Roundup) will be applied to which plant species and identify which areas the herbicides will be used in. Clarify planned application rates of herbicides and explain how these will be adjusted as needed.

Discussions of fate and effects should clearly distinguish between active ingredients and formulated products¹ and the environmental fate of both triclopyr BEE and triclopyr TEA should be disclosed.

The FEIS should clearly state when species of concern reproduce and raise their young, and commit to not using herbicides during these seasons.

Water Quality

¹ For example, page L-5 states; “Garlon® 4 is reported to have low to moderate potential for bioaccumulation (Marin Municipal Water District 2008) based on the reported log K_{ow} (about 4).¹” The bioaccumulation potential and log K_{ow} are for the active ingredient (triclopyr), not the formulated product.

Page 5.1-9 states; “foliar application of herbicides would not be allowed within a 60-foot buffer zone adjacent to ephemeral or permanent surface water bodies.” From the document it is unclear what type of application method would be used to ensure protection of the proposed 60-foot buffer. Furthermore; page F-8 talks about the mixing of the herbicides that would take place but does not clearly state where mixing and storage of herbicides will take place or what measures would be taken should a spill occur.

Recommendations:

The FEIS should be clear that foliar applications will be done with backpack sprayers not aerial applications or other type of equipment that could result in more drift.

The FEIS should state that mixing and storage of herbicides will occur only outside of the proposed 60-foot buffer.

The FEIS should state if and where pesticides will be stored within the project area. \

Impacts to Species of Concern

Appendix Section 7.2, “Ecological Risk”, states that it is “assumed that protection of the five listed species provides adequate protection of other less sensitive species. This assumption is based on the expectation that these five species are sufficiently sensitive to the proposed herbicides to serve as surrogates for other less sensitive but closely related species.” However, listed species are not necessarily the most sensitive to herbicides. The risk assessment needs to be based on data for the most sensitive species available, which may or may not be the listed species.

Recommendations:

The FEIS should use toxicity data for the most sensitive species for which reliable data are available to ensure appropriate protections are in place and should be updated to include a discussion of chronic or sub-lethal effects.

EPA has completed a Pacific Salmon and Steelhead species risk assessment for triclopyr BEE (including one specifically for forestry use) and glyphosate. These documents should be part of this literature discussion. For more information go to:
www.epa.gov/espp/litstatus/effects/index.htm

Page F-107 states that surveys should be conducted prior to herbicide application to identify all individual plants present in potential treatment areas, to the extent possible. This includes the pallid Manzanita. The DEIS states that buffer zones should be of sufficient size to ensure manzanita plants are protected from spraying and spraying drift; however, the root zones also need protection from triclopyr and imazapyr, which can migrate through soil.

Recommendation:

The FEIS should be expanded to reflect that herbicides triclopyr and imazapyr can migrate through soil with water.

Herbicide application should be avoided in root zones for both the pallid Manzanita and the Presidio clarkia.

Page F-12 of Appendix F states that “separate evaluation of risk to these species was conducted. Species of concern include California red-legged frog (CRLF)”;

however, this section could benefit from incorporation of the EPA CRLF assessment.

Recommendation:

The FEIS should incorporate the EPA’s California Red-Legged Frog risk assessments for the chemicals proposed for the project. Those documents should be part of this literature discussion. These assessments can be found at:

www.epa.gov/espp/litstatus/effects/redleg-frog/index.html

Human Health and Safety and Exposure to Contaminated Vegetation

Toxicology Assessment

Table 4-1 of Appendix F lists toxicity categories as: Category I Highly Toxic to Eyes, and Category IV for skin, practically non-toxic. Table 4-1 also depicts Roundup as irritating to upper respiratory tract, but no Toxicity Category is noted. In addition, EPA questions inclusion of a cancer discussion in Section in 4 of the DEIS when page F-77 states, “None of the herbicides proposed for use in this project were identified as carcinogens.” EPA agrees that the herbicides proposed for the project are not carcinogens.

Recommendations:

The FEIS should include a toxicity category for glyphosate due to upper respiratory irritation.

The FEIS should be modified to eliminate any confusion and state that there is no cancer risk from herbicides proposed for use in connection with this project.

Page 5.10-7, discusses four parts of a human exposure pathway. One of the parts says, “A transport mechanism for movement of chemicals to a point of human contact....” and we note there is a potential for human contact even if the chemical does not move after application). Page F-50 goes on to state that “for workers, general exposure involves handling and application of herbicide”, yet little is said about other non-applicator workers in the project area that could come into contact with the applied herbicides after the fact. Further, Section 3.2.2.1 states that “residents could also be exposed to herbicides directly during application and indirectly after

application if herbicides migrate from the original application area.” Yet the document does not sufficiently address the possibility of people and or animals entering the treated area and coming in contact with herbicides already applied. Page 5.10-11 states that the risk to the general public from exposure to herbicides would be reduced by limiting access to treated areas such as “slashing of fruit bearing species prior to herbicide application (Appendix F)” as a way to reduce exposure; however, it’s unclear if this will be done as part of the project.

Recommendations:

The FEIS should describe what type of exposure could occur should people and or animals come in contact with previously applied herbicides in the treatment areas and should clarify that there is potential for human exposure even if the chemicals do not move from the application site.

The FEIS should be expanded to include all workers in the project area such as those conducting timber removal and other fuel reduction activities and should clearly state if workers are also covered in the “Maximum Exposed Individual,” (page: 5.10-7) scenario.

The FEIS should include a mitigation measure to remove fruiting or other edible vegetation.

Induced Growth

Section “4.13 Land Use and Planning” lists the grant applicants’ broad-spectrum land use plans. It appears that some of the infrastructure development projects may overlap with areas planned for tree removal, such as “faculty housing, campus retreat center, recreational use and mixed-use development in the southern shoreline area”. Given that development is not included in the purpose and need for this Project, it is unclear whether the trees in these overlap areas would be removed for construction purposes regardless of whether they are removed as part of the proposed Project or not. If the development would not occur if not for the groves being removed, then the development should be evaluated as induced growth impacts of the proposed Project.

Recommendation:

The FEIS should describe the reasonably foreseeable future land use and clarify the relationship between the proposed action and the future development activities. The document should provide an estimate of the extent of development, likely location, and the biological and environmental resources that would be affected if the proposed vegetation removal is inducing additional development.

Herbicide Labeling Clarification and Minor Edits and Clarifications

EPA provides the following additional recommended clarifications and minor edits to the document.

Labeling Requirements

The table on page F-79 implies that instructions on the herbicide labels are considered mitigation practices for this project. However, following the label is a requirement for use of the product. If personal protection equipment (PPE) requirements are on the label, they must also be followed. Actions taken to further reduce risk from exposure should only be considered mitigation if they are above and beyond the printed label on the herbicide.

Recommendations:

The FEIS should state that herbicides will be used according to product labels and should ensure that numbers and rates of annual applications allowed by herbicide labels will not be exceeded.

The FEIS should clearly state that “unmitigated”, for this project, means following the label with no further measures taken to reduce or offset impacts.

If "without mitigation, (Table 5-1.)" means not following the label, then this should be removed from the document and not considered as a viable practice for the federal action.

Page F-80 incorrectly states that Best Management Practices (BMPs) “to be implemented include use of appropriate PPE and requirements for specific safety training for all applicators.”

Recommendation:

The FEIS should clearly state that use of PPE is not a BMP; rather PPE is a requirement on the printed herbicide label.

Page F-10 of Appendix F on General BMPs states: “to prevent drift – wind must be less than 3 to 5 mph” while Ecological BMPs on the same page states “Apply on windless days to reduce drift”. Furthermore, Section 3 of the DEIS on page 3-28 states “No spraying of foliage would occur within 60 feet of standing or flowing water or when wind speed is greater than 10 mph or less than 2 mph.” Appendix L includes the BMP “apply on windless days, (page: L-6).” That is inconsistent with other guidance about not applying if wind speed is “less than 2 mph”, stated on page: F-8.

Recommendation:

Wind speeds for application of herbicides should be consistent throughout the FEIS and the FEIS should be modified to ensure that Appendices F and L are consistent.

(Page F-96) states: “a No-Observed Adverse-Effect Level (NOAEL) is often estimated from an experimentally derived Lowest Observed Adverse Effect Levels or (LOAELs), by applying a factor of ten to the LOAEL (NOAEL =LOAEL/10). Similarly, a LOAEL can be estimated from an experimentally derived NOAEL, often using the same factor of ten (LOAEL = NOAEL * 10).” No reference is given for this approach for aquatic species.

Recommendation:

The FEIS should provide a reference to support using this approach for estimating LOAEL from NOAEL (and vice versa) for aquatic species.

Page 5.4-8 states that “stump application of all herbicides (e.g., Garlon 4 Ultra, Roundup, Stalker, or Garlon 3A) would be conducted by a State of California Qualified Applicator or by staff under their supervision.” The title "Certified Pesticide Applicator" is used on page 4.5-19. The inconsistency in terminology should be changed because they come with different authorities. “California Qualified Applicator” is the correct terminology. “Certified Pesticide Applicator” is reserved for those licensed to use Restricted Use Pesticides (RUP, per EPA) or Restricted Materials (per CA). None of the pesticides proposed for use in this project is an RUP.

Recommendation:

Terminology should be consistent throughout the FEIS using the title California Qualified Applicator.

Page F-15 states, “In this report the term pesticide can refer to both pesticides and herbicides. Current use of pesticides and herbicides by sub-applicants is limited and chemicals are used only as a backup to other control methods in most areas.” Pesticides are all of the “-icides”: insecticides, herbicides, rodenticides, etc. It’s unclear what “pesticides” means here because there is no need to say “pesticides and herbicides.”

Recommendation:

Revise wording in the FEIS to specify if only herbicides are used. If other “-icides” (e.g., insecticides) are planned for the project than this should be stated in the FEIS.

Table 2-1 summarizes the proposed herbicide applications for implementation of the proposed and connected actions by project area. The table shows that the adjuvant, Hasten, planned to be used in many of the project areas, yet little description is given regarding how it affects behavior of the herbicides in the environment, and any potential environmental or human health concerns from the adjuvant itself.

Recommendation:

The FEIS should describe Hasten and any potential environmental and or human health concerns from its use.

Page F-65 states that “a post-marketing risk assessment takes place during the use of pesticides and aims at assessing the risk for exposed operators. Results of these risk assessments are the bases for the health surveillance of exposed workers.” It is not clear what “post-marketing risk assessments” is referring to. There is no routine post-marketing risk assessment work done by EPA after a pesticide is registered, nor is there routine worker health surveillance.

Recommendations:

The FEIS should provide a reference for this statement and clarify what risk assessments and surveillance this refers to.

Page F-72 states "EPA (IRIS 2012) determined a reference dose (RfD) of 0.1 mg/kg/day for glyphosate based on a 3-generation rat reproduction study." However, the IRIS is out of date for glyphosate. Results of this study are described as "spurious" in EPA's Re-registration Eligibility Decision and in Registration Review documents. The RfD of 2 mg/kg/day, which was selected for the EIS, did not come from this rat study. The 2mg/kg/day value comes from a rabbit developmental toxicity study not a rat study.

Recommendations:

Remove the inaccurate IRIS reference and include the correct rabbit reference.

Table 4-2 (Page F-74 - F-76) is very hard to interpret. EPA suggests that the table should be modified to reflect the data more clearly and in some cases with updated information.

Recommendations:

The FEIS should specify if the amphibian toxicity values are expressed as concentrations in water. The table should also reflect how "safe level" was determined and if this "safe level" is for all stages of species development or just fully developed adults.

The FEIS should confirm whether or not the toxicity values for glyphosate selected for the EIS mesh with 2008 EPA CRLF assessment.

<http://www.epa.gov/oppfead1/endanger/litstatus/effects/redleg-frog/glyphosate/determination.pdf>