May 31, 2016

Mr. Matt Dias
Acting Executive Officer
Board of Forestry and Fire Protection
P. O. Box 944246
Sacramento, CA 94244-2460

Dear Mr. Dias:

Subject: Comments on the on the Public Draft of the Programmatic Environmental Impact Report for the Vegetation Treatment Program of the Board of Forestry and Fire Protection

File: Timber, General

Enclosed is a Memorandum dated, May 31, 2016, which provides Regional Water Board staff comments on the Public Draft of the *Programmatic Environmental Impact Report for the Vegetation Treatment Program* (VTPEIR) of the Board of Forestry and Fire Protection.

We fully support the primary goal and purpose of the proposed Vegetation Treatment Program (VTP), which is to reduce costs and losses to human and environmental resources associated with wildfires. We believe the VTPEIR Proposed Program, with the incorporation of our accompanying recommendations, can accomplish this goal. Additionally, we have reviewed and support the Central Valley Regional Water Quality Control Board's comments on the VTPEIR.

Thank you for the opportunity to review and comment. If you or your staff have any questions or concerns regarding our comments or would like additional information, please contact David Fowler (707-576-2756) or Jim Burke (707-576-2289) of our staff.

Sincerely,

Fred J. Blatt
Division Chief
Nonpoint Source & Surface Water Protection Division

160531_DLF_er_VTPEIR_Cover_Letter

Enclosures: 1. Memo from David Fowler, Review and Comments on the Public Draft of the Program Environmental Impact Report for the Vegetation Treatment Program of the California State Board of Forestry and Fire Protection, dated May 31, 2016

cc: Edith Hannigan, Board Analyst, Board of Forestry and Fire Protection, VegetationTreatment@bof.ca.gov

TO: Fred Blatt
Division Chief
Nonpoint Source & Surface Water Protection Division

FROM: David Fowler
Representing review staff

DATE: May 31, 2016

SUBJECT: Review and Comments on the Public Draft of the Program Environmental Impact Report for the Vegetation Treatment Program of the California State Board of Forestry and Fire Protection

The North Coast Regional Water Quality Control Board (Regional Water Board) staff have completed reviewing the Public Draft of the *Program Environmental Impact Report for the Vegetation Treatment Program* (VTPEIR) of the California State Board of Forestry and Fire Protection (BOF). Regional Water Board staff fully support the primary purpose of the proposed Vegetation Treatment Program, which is to reduce the costs and environmental impacts associated with wildfires. We believe the VTPEIR Proposed Program, with the incorporation of the comments discussed below, can accomplish this goal.

Summary

The Vegetation Treatment Program (VTP) proposes to maintain and enhance forest and range land resources by varying the spatial and temporal distribution of vegetation treatments within and across watersheds to reduce the detrimental effects of wildland fire on watershed health. The VTEIR estimates the total treatable acreage to be approximately 22 million acres, with approximately 3.3 million acres within the North Coast Region. To attain the VTP objectives, the VTP organizes treatments into three general categories: 1) Wildland-Urban Interface (WUI), where treatments are focused in WUI-designated areas and generally consist of fuel reduction to prevent the spread of fire between wildlands and structures; 2) fuel breaks, which are strategically placed vegetation treatments that actively support fire control activities; and 3) ecological restoration, with projects generally occurring outside the WUI in areas that have departed from the natural fire regime as a result of fire exclusion and focusing on restoring ecosystem resiliency by moderating uncharacteristic wildland fuel conditions to reflect historic vegetative composition and structure.

The VTP proposes to use a variety of treatments including prescribed fire, manual activities (hand crew work), mechanical activities, prescribed herbivory (targeted beneficial grazing), and targeted ground application of herbicides. Prescribed fire methods include underburning, jackpot, broadcast, and pile burning, and establishment of fire control lines. Mechanical methods include using heavy equipment for chaining, tilling, mowing, roller

chopping, masticating, brushraking, skidding and removal, chipping, and pile burning. Manual methods include hand pull and grub, thin, prune, hand pile, lop and scatter, hand plant, and pile burn. Prescribed herbivory includes targeted grazing or browsing by cattle, horses, sheep, or goats. Herbicides include ground applications only, such as backpack spray, hypohatchet, or pellet dispersal. The relative distribution of projects by activity type is expected to be approximately 50 percent prescribed fire, 10 percent hand treatments, 20 percent mechanical treatments, 10 percent herbicide treatments, and 10 percent prescribed herbivory.

The VTEIR contains a discussion and analysis of the Proposed Program and five alternatives. The alternatives include no project (status quo), Wildland-Urban Interface (WUI) only (Alternative A), WUI and fuel breaks (Alternative B), projects limited to Very High Fire Hazard Severity Zones (VHFHSZ) (Alternative C), and reduction of prescribed fire treatments to reduce air quality impacts (Alternative D).

Comments

The hydrologic and water quality-related standard project requirements (SPR) are listed in sections 2.5.1, 4.2.3.1, 4.3.3.4, 7.2.1.10, Appendix I.5.2 of the VTPEIR. A table titled "Watercourse and lake protection zone buffer widths by watercourse classification and hill slope gradient" is included below PSR HYD-3 in each section. The table lists the standard Forest Practice Rules (FPR) watercourse and lake protection zone (WLPZ) widths for watersheds without listed anadromous salmonids. The Table does not list WLPZ widths for watersheds with listed anadromous salmonids, including Class II Large watersheds. Regional Water Board staff recommend including WLPZ widths and protections for watersheds with listed anadromous salmonids.

Additionally, the tables in section 7.2.1.10 and Appendix I.5.2 are not designated with any table number. The reference to the tables in the HYD-3 description in those sections state "(Error! Reference source not found.)." Regional Water Board staff recommend the references be corrected.

Although the VTPEIR estimates that approximately 50 percent of the total program area will be treated with prescribed fire, methods of ignition and the use of accelerants is discussed in only one paragraph in section 4.1.6.1. Aquatic impacts of prescribed fire activities are discussed in section 4.2.2.3.1, but are restricted to direct temperature effects from the burn, and do not consider the impacts of accelerants or their residue. Although a 2002 US Forest Service report, *Residues of Fire Accelerant Chemicals, Volume I: Risk Assessment*, prepared by Labat-Anderson, Inc., for the USFS Intermountain Region, determined that the use of most forms of accelerants pose no significant risk to the environment, there is no discussion at all of the potential risk of accelerants or their residue in the VTPEIR. The US Forest Service report is not listed in the VTPEIR references (Section 9). Regional Water Board staff recommend the VTPEIR include a discussion of accelerants, their residues, and their potential environmental impact.

County of Santa Clara

Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 355-2200 FAX 355-2290
Reservations (408) 355-2201
www.parkhere.org

May 23, 2016

Edith Hannigan, Board Analyst
Board of Forestry and Fire Protection
VTP Draft PEIR Comments
PO Box 944246
Sacramento, CA 94244-2460

SUBJECT: Notice of Availability of a Draft Program Environmental Impact Report for the Proposed Statewide Vegetation Treatment Program

Dear Ms. Hannigan,

The County of Santa Clara, Parks and Recreation Department ("County Parks Department"), has reviewed the Notice of Availability for a Draft Program Environmental Impact Report (EIR) for the Proposed Statewide Vegetation Treatment Program.

Under the Recreation Section, G.2 Data and Assumptions, a summary of recreational use by land management category includes state and regional parks. The County of Santa Clara Parks and Recreation Department, a regional parks system of 28 parks, is not mentioned in this section of the Draft Program EIR. Table G.2-1 should include the County of Santa Clara Parks and Recreation Department in the list of public outdoor recreation providers. We recommend that the County of Santa Clara Parks and Recreation Department be included in the Draft Program EIR and included in the project scope as a treatable recreational area in the proposed program.

Thank you for the opportunity to comment on the EIR for the Proposed Statewide Vegetation Treatment Program. The County Parks Department requests a copy of the Draft Program EIR once it is released for public review. If you have questions related to these comments, please call me at (408) 355-2230 or e-mail me at kimberly.brosseau@prk.sccgov.org.

Sincerely,

Kimberly Brosseau, AICP
Senior Planner

ANNE S. FEGE, PH.D., M.B.A.
12934 TEXANA STREET
SAN DIEGO, CA 92129
PHONE 858-472-1293, EMAIL AFEGE@AOL.COM

May 31, 2016

Ms. Edith Hannigan, Board Analyst
Dr. J. Keith Gilless, Chair
Mr. Matthew Dias, Acting Executive Officer
California Board of Forestry and Fire Protection
P. O. Box 944246
Sacramento, CA 94244-2460

Re: Draft Programmatic Environmental Impact Report for the Vegetation Treatment Program

Dear Ms. Hannigan, Dr. Gilless, Mr. Dias, and Board of Forestry Members:

Thank you for the opportunity to provide comments on the Draft Programmatic Environmental Impact Report (PEIR) for the Vegetation Treatment Program (VTP). I have sent comments and participated in local meetings on several earlier versions of the draft PEIR, and appreciate the Board's revisions that provide some additional detail. Yet many of the comments raised by scientists and the public have not been addressed, and the DPEIR is incomplete and inadequate for the 30 million acres of State-responsibility Areas it covers.

Protection of lives and property.

Whereas the DPEIR identifies the wildland-urban interface (WUI) as a primary vegetation treatment objective, it fails to address the overriding influence of structure ignitability to wildfire risk reduction. As the emphasis of the Department of Forestry and Fire Protection (CalFire) shifts more to "fire protection" than "forestry," it is astounding that protection of lives and property is not the focus of this document. At the very least, a clearly articulated and analyzed alternative needs to be presented, that features structure- and community-based actions to reduce wildfire actions.

Scientific research and decades of experience of wildland firefighters have shown that the most effective way to prevent the loss of life and property from wildland fires is to work from the house out, to reduce home flammability with non-flammable materials and features, ember-resistant vents, removal of debris from roofs and adjacent to the structure, and more. Properly maintained defensible space (within 100 feet of structure) is the other important half of the fire risk reduction equation. Wildland fuel treatments (beyond the defensible space zone) offer the least effective strategy to protect communities from wildfire.

There is no rationale for the 1.5-mile-wide WUI, either in the DPEIR or the scientific literature. Embers can definitely be carried that distance in high winds, but such vast areas of ember-free fuel reduction could never be developed or maintained around every at-risk community. Structures need to be built or retrofitted to resist ignition by embers, not rely on "ember-free" WUI zones. The defensible space around communities is generally accepted to be about 300 feet, and that is primarily to create fuel breaks for structure protection, not to eliminate embers.

The rationale, establishment, and maintenance of WUI treatment areas should be developed, publicly reviewed, subjected to CEQA analysis, and approved in the Community Wildfire Protection Plans. The project-level analysis to would follow the PEIR, for part of a fuel reduction zone in the WUI around a community, would be incomplete and misleading.

Program description.

Although the vegetation treatments are described in greater detail than in earlier drafts, there is limited and inadequate scientific basis for their effectiveness, and many claims are made without references. The series of case studies, although interesting to read, do not provide the scientific evidence for the applicability and outcome of the vegetation treatments.

Recent modeling of the effects of fuel reduction and other factors on wildlife ignition, suppression, and spread are extensive and still have not been incorporated into the program description. Alex Syphard and others have analyzed the CalFire databases and other spatial data to assess the effectiveness of structure location, fuel reduction volume and distance, predicted fire behavior, firefighter access, and other wildfire conditions.

These analyses show that strategic fuel modification helps to stop fires in "fire weather" if fire suppression forces can quickly and safely access them. Remote fuel breaks have not significantly reduced total annual area burned in southern California. As a minimum, these two references need to be incorporated and cited:

> Syphard, A.D., Brennan T.J., Keeley J.E. (2014) The role of defensible space for residential structure protection during wildfires. *International Journal of Wildland Fire* 23, 1165–1175.
>
> Syphard, A.D., Keeley, J.E., Brennan, T.J. 2011. Comparing the role of fuel breaks across southern California national forests. Forest Ecology and Management 26: 2038-2048.

Fuel breaks.

The vegetation treatment objective of altering fuel configurations (fuel breaks) needs to build on and be limited to the fuel breaks identified in the Unit Fire Plans. The description in the DPEIR is vague, does not, and should not strategically determine where each should be located. The at-risk resources, expected fire behavior, fire suppression strategies, establishment, and maintenance of these fuel breaks should be developed, publicly reviewed, subjected to CEQA analysis, and approved in the Unit Fire Plans. The DPEIR should cover the long-term impacts of repeated vegetation treatment (such as chaparral type conversion to grasses), and emphasis placed on why and how those fuel breaks would be established and maintained.

Project level analysis.

The purpose of a programmatic EIR is to provide sufficient detail about a "program" (a group of related actions) such that CEQA analysis does not need to be done for each project. Yet the DPEIR defers to managers at the individual project level, to provide rationale and evidence for a checklist that extends to 18 pages and could require 100 pages to write for each project.

The Standard Project Requirements are extensive, yet most are vague and there is no supporting evidence that they are feasible and effective. Impacts are well established for WUI defensible space and suppression-related fuel breaks—type conversion will occur in chaparral. These impacts need to be declared and dealt with, in the DPEIR. It is reasonable to expect that detailed project-level analysis is needed for treatments conducted for ecological restoration.

The purpose and outcomes of consultations with the California Department of Fish and Wildlife (CDFW) and the California Native Plant Society (CNPS) need to be specified.

Accuracy and currency of spatial data.

The DPEIR relies on outdated and inadequate spatial data. The analysis is based on the fire hazard analysis from 2001-2003 (2-17), which used a WUI model based on the 1990 census. CalFire developed the Fire Hazard Severity Zone maps in 2007, based on 2000 census data, and they were reviewed by local firefighting agencies. CalFire continues to update the analyses and maps, and they should be used in the DPEIR.

CalFire has assembled and analyzed considerable spatial data on fire hazards and current vegetation conditions, and these data layers need to be accessible and incorporated into the DPEIR (not just low-resolution .pdf images inserted into text pages). The experts in Geographic Information Systems (GIS) can and should contribute current data and analysis to the DPEIR, and that data should be easily accessible online by the public.

Future conditions.

The DPEIR needs to address future conditions. Yet the Change-Related Standard Project Requirements (7.2.1.5) only state that the greenhouse gas emissions, carbon sequestration measure, and air emissions be considered, not that climate change will likely alter impacts of vegetation treatments. Vegetation conditions, response of vegetation to prescribed fire, and regrowth after mechanical or other treatments may be different in a future changed climate, than historical experience and evidence.

Vegetation treatment may be applied as an adaptation measure for climate change, and that needs to be addressed in the DPEIR. Fuel reduction projects can both enhance adaptation or increase the vulnerability of forests and vegetation to drought stress, invasive species, wildlife risks, and more. Treated plant communities may type convert to low carbon-sequestering grasslands.

Scientific basis for treatments and analyses.

The DPEIR still has inconsistencies, statements unsupported by scientific literature, misrepresentations of citations, contradictory statements, and undefined terms. A number of experts have invested time to identify these over the past several years, and have provided extensive literature that applies to the proposed actions. To ignore all this information, and release such an inadequate DPEIR, is almost inconceivable.

The DPEIR needs to be based on published literature, not references that are unpublished, statements in legislative hearings, internal agency notes (such as Beyers 2000 and Zedler 2000), or written 40 to 70 years ago (DeBano 1976, Hanes 1971, Horton 1955, Sampson 1944).

Important terms are not defined, allowing for inconsistent implementation and unknown impacts of projects. Examples are as old growth chaparral, critical infrastructure, and forest health. Many of the impact statements of “less than significant” are unsupported by scientific evidence.

Public Review.

The public notification and opportunity for involvement needs to be realistic and robust. Informing the public through local newspaper notifications is totally inadequate and outdated,. Notices can be placed on CalFire websites that are kept updated and organized so that communities can identify projects that will affect them. CalFire needs to maintain an online list of

proposed, current, and completed projects in each unit, with the draft project plans and schedule of public meetings and comments.

The Project Scale Analysis (PSA) needs to be available for public review, to ensure that each project is consistent with the final approved PEIR for vegetation treatment. Project managers need to identify, reach out to, and work with stakeholders in their community. These can be identified from participants in CalFire workshops and other public meetings. In addition, interested stakeholders need to be kept informed as a proposed project moves forward, including modifications made to the project plan or implementation, completion of the project, and outcomes from the vegetation treatment.

Closing.

I have participated in meetings, submitted letters, read letters that others have submitted, reread some of the scientific literature, browsed the level of spatial data available, and refered to the strategic plan and other CalFire documents about wildfire property risk reduction. And it is now frustrating to read this DPEIR that has addressed and corrected only some of the recommendations that experts and the public have made in those meetings and letters.

Fuel treatments are important but insufficient tools to reduce property risks in the WUI, to provide for ecological restoration in selected ecosystems, and to establish and maintain strategic fuel breaks for fire suppression. The programmatic DPEIR is a valid approach, but needs to provide far more evidence for the program description and the location of treatments in the 30 million acres of land and hundreds of communities.

Thank you for this opportunity to comment on documents relating to the DPEIR for the Vegetation Treatment Program.

Sincerely,

Anne S. Fege, Ph.D., M.F.S. Forest Science
Retired Forest Supervisor, Cleveland National Forest
Adjunct Professor, Department of Biology, San Diego State University

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

May 3, 2016

Edith Hannigan, Planner
California State Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244

Dear Ms. Hannigan:

FIRE PROTECTION DRAFT ENVIRONMENTAL IMPACT REPORT, "VEGETATION TREATMENT PROGRAM", A COMBINATION OF MANMADE AND NATURAL FACTORS HAS LED TO A SITUATION WHERE WILDFIRE ACREAGE, FIRE SUPPRESSION COST, AND LOSSES OF RESIDENTIAL STRUCTURES HAVE INCREASED DRAMATICALLY IN THE PAST THREE DECADES, STATEWIDE (FFER 201600052)

The Fire Protection Draft Environmental Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1. We have no comments at this time.

LAND DEVELOPMENT UNIT:

1. The Land Development Unit has no comments at this time. Please contact FPEA Wally Collins at either (323) 890-4243, or Wally.Collins@fire.lacounty.gov for any questions.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no comment regarding the "Vegetation Treatment Program" project.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

KEVIN T. JOHNSON, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

KTJ:ad

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Habitat Conservation Planning Branch
1416 9th Street
Sacramento, CA 95814
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

May 31, 2016

Edith Hannigan
Board Analyst
California State Board of Forestry and Fire Protection
PO Box 944246
Sacramento, CA 94244
VegetationTreatment@bof.ca.gov

ATTN: Mr. Matt Dias
Acting Executive Officer
California Board of Forestry and Fire Protection

Dear Ms. Hannigan:

VEGETATION TREATMENT PROGRAM (PROJECT)
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (DPEIR)
SCH# 2005082054

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DPEIR from the California State Board of Forestry and Fire Protection (BOF) for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1] CDFW previously submitted comments in response to the Notice of Preparation of the DPEIR.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through exercise of its own regulatory authority under the Fish and Game Code.

In 2013 CDFW commented on an earlier version of the PEIR and provided comments on the Notice of Preparation for this PDEIR (see *Attachment B*). Many of the issues detailed in this letter are similar to those that CDFW commented on in the past.

The 1994 *Interim Joint CDFW/Board Policy on Pre, During, and Post Fire Activities and Wildlife Habitat* (Joint Policy) outlines a process to facilitate needed coordination to achieve common goals and objectives, develop implementation plans for fire-related activities and address potential effects on wildlife habitat. CDFW recommends that the VTP PEIR acknowledge this Joint Policy and its guidance for developing and maintaining a cooperative working relationship between CAL FIRE and CDFW regarding BOF's VTP.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization, as provided by the Fish and Game Code, may be required.

PROJECT DESCRIPTION SUMMARY

Proponent: BOF

Objective: Treat vegetation for fire prevention and protection, and ecological restoration. Implement vegetation treatment activities that would meet the goals outlined in the Board of Forestry and Fire Protection's 2010 Strategic Fire Plan for California and California Department of Forestry and Fire Protection's 2012 Strategic Plan in a manner that both reduces wildfire risk and severity and avoids significant environmental effects, to the extent feasible. The primary purpose of these documents and the Project is to strategically implement actions to minimize the negative effects of wildfire in areas with high values at risk. Primary Project activities include:

- Prescribed fire (underburn, jackpot burn, broadcast burn, pile burn, establishment of control lines)
- Mechanical (chaining, tilling, mowing, roller chopping, masticating, brushraking, skidding and removal, chipping, piling, pile burning)
- Manual (hand pull and grub, thin, prune, hand pile, pile burning, lop and scatter, hand plant)
- Prescribed herbivory (grazing by domestic animals)
- Herbicides (ground applications only, such as backpack spray, hypohatchet, and pellet dispersal).

Location: Statewide in the CAL FIRE State Responsibility Area (approximately 31 million acres). The project would treat 60,000 acres annually for a total of 600,000 acres (937 square miles).

Timeframe: 10 years

COMMENTS AND RECOMMENDATIONS

Due to the multiple issues presented below, CDFW strongly encourages BOF to review, as an example, the Department of Conservation Draft Program EIR for Analysis of Oil and Gas Well Stimulation Treatments in California (http://www.conservation.ca.gov/dog/SB4DEIR) and to incorporate a similar structure and initial study checklist for subsequent activities.

With regards to this letter, "special status species" includes, but is not limited to, the following:

- A species that is listed as rare, threatened, or endangered under federal law
- A species that is listed as rare, threatened, endangered, candidate, or fully protected under California State law
- A sensitive species listed by the California Board of Forestry and Fire Protection (BOF)
- A species with a California Rare Plant Rank (CRPR) of 1 through 4 (http://www.cnps.org/cnps/rareplants/ranking.php)
- A California Species of Special Concern (SSC) (http://www.dfg.ca.gov/wildlife/nongame/ssc/)
- A local or regional rare plant identified in a local or regional plan, policy, or regulation

A species that meets the criteria of CEQA Guidelines section 15380 are "CEQA rare and endangered species."

Intended Uses of the DPEIR

The DPEIR should state that CDFW is anticipated to be a Responsible Agency that will use the DPEIR in its decision making for Project activities (CEQA Guidelines, § 15124).

Significance Thresholds

The DPEIR biological resource thresholds do not adequately identify potentially significant impacts (DPEIR Section 4.2.2.1). For example, the first threshold states that "a significant effect occurs when there is a [t]hreat to eliminate a plant community." However significant impacts on sensitive plant communities may occur well before elimination. For example, a substantial reduction in riparian or other sensitive plant communities would typically be a significant impact. CEQA Guidelines Appendix G (Appendix G) significance thresholds more adequately state that a project would cause a potentially significant impact if it would "[h]ave a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by [CDFW] or U.S. Fish and Wildlife Service [USFWS]."

The remaining DPEIR thresholds are insufficient to adequately analyze potentially significant impacts, and they do not adequately address the *mandatory findings of significance* found in the CEQA Guidelines section 15065 and Appendix G, which state, for

example, that a project would result in a potentially significant impact if it would "substantially reduce the number or restrict the range of a rare or endangered plant or animal…" It is unclear why the DPEIR only uses the CEQA Appendix G thresholds in the Cumulative Effects Analysis (DPEIR Section 5.5.1.1) and not elsewhere in the DPEIR.

The DPEIR should utilize the Appendix G significance thresholds to analyze Project impacts on biological resources. CDFW and most other agencies typically use the Appendix G significance thresholds because they are generally adequate. The thresholds should additionally identify potentially significant impacts on wetlands not subject to Section 404 of the Clean Water Act (currently under consideration by the Office of Planning and Research for inclusion in Appendix G).

Further, it is unclear if the DPEIR threshold (d) in Section 4.2.2.1 intends that *any* adverse impact on special status species or their habitats would be considered significant. It is unlikely that the Project objectives would be achieved if all adverse impacts would be avoided because special status species occur across broad areas of California. The DPEIR should clarify if *any* adverse impacts are anticipated, and state that additional analysis will be required to determine impact significance in additional tiered environmental documents.

Alternatively, the DPEIR could analyze potential impacts on a suite of fish, wildlife, and habitat resources that are more likely to be significantly impacted by the Project (e.g., species with a wide range), and include mitigation as necessary, to avoid frequent preparation of additional CEQA environmental documents. A program EIR is most helpful in addressing subsequent activities if it treats the effects of the program as specifically and comprehensively as possible (CEQA Guidelines, § 15168).

Impact Analysis

The DPEIR incorrectly concludes that impacts on biological resource will be less than significant with implementation of Standard Project Requirements (SPRs) and undetermined Project Specific Requirements (PSRs). The Project Scale Analysis (PSA) checklist indicates that SPRs may not be implemented for Project activities (e.g., checklist question 16). If SPRs are not implemented and it is not determined if PSRs could reduce impacts to less than significant, then impacts would be potentially significant. The purpose of the checklist questions unrelated to SPRs is unclear.

Additionally, the SPRs would not mitigate impacts to less than significant levels for "in scope" Project activities if implemented, as discussed below.

Mitigation

The SPRs do not mitigate impacts on biological resources to less than significant. For example, if a project may substantially adversely impact a special status species:

- The SPRs would not necessarily identify species potentially impacted because the method of establishing the environmental setting (baseline conditions) is inadequate (further discussed in specific comments).

- If a species was identified as potentially impacted, the field survey conducted by the project coordinator may not detect the species due to the absence of a disclosed accepted survey protocols or the need to follow adequate survey protocols.
- If species impacts were determined, BIO-4 states that CDFW, USFWS, and NOAA Fisheries (wildlife agencies) would be consulted to determine avoidance measures. CDFW may assist as resources allow; however, it is not incumbent on CDFW to assess take avoidance measures unless our project authorization (e.g., California Endangered Species Act Incidental Take Permit) is warranted (CEQA Guidelines, § 15020). Many special status species impacts do not require wildlife agency authorization (e.g., several California Species of Special Concern)

CDFW appreciates BOF's efforts to include in the DPEIR consultation with CDFW to assist in avoiding significant impacts on biological resources through SPR BIO-4 and the Burn Plan in DPEIR Appendix J. However, for the above stated reasons, SPR BIO-4 should not include CDFW consultation.

Tiering

The SPRs and PSA checklist do not adequately identify potentially significant impacts in or out of the DPEIR scope because the DPEIR significance thresholds, and the inadequate methods of establishing the environmental setting and determining impacts, as discussed above.

Establishing a procedure in the DPEIR for determining if subsequent Project activities are within the scope of the DPEIR, or require an additional environmental document, will be critical to ensuring adequate analysis of Project activity effects on biological resources. Such a procedure and checklist, which can be used as a model, was developed for infill projects and can be found in CEQA Guidelines section 15183.3 and Appendix N.

The checklist should be accompanied by enough relevant information and reasonable inferences from this information to support each conclusion concerning biological resources. For subsequent Project activities that may affect sensitive biological resources, a *site-specific analysis* should be prepared, from which the supporting information would be derived. A *qualified biologist* should prepare the site-specific analysis (see comments below). The checklist should cite the specific portions of the DPEIR, including page and section references, containing the analysis of the subsequent Project activities' significant effects and indicate whether it incorporates all applicable mitigation measures from the DPEIR.

The DPEIR should state that as soon as the lead agency has determined that an additional environmental document will be required for a subsequent Project activity, it shall consult with all responsible and trustee agencies, including CDFW, to obtain recommendations as to whether an additional EIR or negative declaration should be prepared (CEQA Guidelines, § 15063).

Mitigation Monitoring and Reporting

The DPEIR does not include a method of monitoring and reporting measures to avoid significant impacts on biological resources because it treats those measures as SPRs that are part of the project description rather than mitigation measures. CDFW understands the purpose of this practice, and recognizes the CEQA definition of mitigation (CEQA Guidelines, § 15370) and the "gray area" between measures that constitute mitigation and measures that may be considered a project feature. However, based on the scale and scope of the Project and anticipated measures to reduce impacts, SPRs should be designated as Project mitigation measures.

Regardless of whether BOF chooses to treat the measures as project features or mitigation, due to the broad scope of the project, large impact area, and high potential for multiple and ongoing significant impacts on fish and wildlife resources, the DPEIR should include a mechanism for monitoring and reporting measure implementation, and reporting should be available to CDFW (CEQA Guidelines, § 15097).

Resource Specific Comments and Recommendations

CDFW offers additional resource-specific comments and recommendations ("Mitigation Measures" or "MM") below to assist BOF in adequately identifying and/or mitigating the Project's significant or potentially significant direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions are also included below to improve the document. A Comment Organization Key is provided in *Attachment A*.

Implementation of CDFW proposed feasible mitigation measures would likely, in many cases, reduce impacts to less than significant. However, CDFW anticipates that BOF may not implement some mitigation measures for site-specific activities to achieve Project objectives. Based on the potential for the Project to have a significant impact on biological resources, CDFW concludes that *an Environmental Impact Report* is appropriate for the Project.

In the comment section below, ***bold and italicized text*** indicates a heading from the CEQA Guidelines Appendix G (subsection IV) Checklist.

I. Project Description and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

COMMENT 1:

Section 4.4.3, Pages 4-244 to 4-255

Issue: The hazardous materials section of the DPEIR includes a discussion of "various pesticides…and other hazardous materials (e.g., common household hazardous materials such as fuels, oils, lubricants, solvents, and detergents; retardants, foams, and water enhancers to control an escaped prescribed fire)." While the discussion of the possible impacts from pesticides is in-depth, there is no discussion of the "other hazardous materials." Common household hazardous materials," such as the hydrocarbon mixtures found in gasoline and oil, can have lasting impacts on the environment. Such impacts have typically been noted after large oil spills in marine environments (Chang et al. 2014). However, terrestrial impacts occur as well. In addition, use of "retardants, foams, and water enhancers" can also significantly adversely affect the environment (Backer et al. 2004)**.** Use of these materials needs to be fully disclosed and possible impacts discussed.

As stated above, the DPEIR includes an in-depth discussion of pesticide chemicals proposed for use during Project activities (see Appendix D).Three chemicals identified for VTP herbicide treatments are classified as "high mobility" during runoff events: Clopyralid, hexazinone, and imazapyr. Both Hexazinone and imazapyr have a half-life of 30 days after foliar application occurs (DPEIR Appendix D, Table D.2-2 and Table D.2-3). Due to the combination of high mobility and fairly long half-life, these chemicals are more likely to come into contact with non-target species, including special status species, after rain events following application.

HAZ-2 requires that "prior to the start of vegetation treatment activities, the Project coordinator or contractor shall inspect all equipment for leaks." However, when addressing on-going inspection of equipment, HAZ-2 lacks specificity and inadequately requires the project coordinator to "regularly inspect [the equipment] thereafter until equipment is removed from the site." Without a definition of regular inspections, there is no way to ascertain how often equipment inspections would occur. Additionally, there is no instruction for actions to take if a leak is found.

Specific impact: Hazardous materials used during vegetation treatment, but not fully discussed in the DPEIR, could result in habitat destruction, injury, or mortality of special status species. Specifically, pesticide drift could occur and adversely impact special status species if herbicides are applied up to 30 days before a storm event. Additionally, leaks from equipment and vehicles can impact water and soil quality, and reduce the fitness of organisms that come into contact with them. (Bergeon Burns et al. 2014; Ball and Truskewycz 2013)

Why impact would occur: No description of the above mentioned household hazardous materials exists in the current DPEIR though these materials could substantially adversely affect special status species. In addition, HAZ-9 and HAZ-2 do not adequately prevent pesticide drift from rain events that could occur greater than 24-hours post-application or equipment leaks.

Evidence impact would be significant: The project's use of hazardous material, including herbicides, fuels, and fire retardants, could substantially adversely affect special

status species by resulting in further decline including local or regional extirpation of already vulnerable populations.

MITIGATION MEASURE 1a:

To reduce impacts to less than significant: The Project proponent will:

- Avoid herbicide application during the rainy season. The rainy season varies by Bioregion, and will be identified for each site specific activity.
- Inspect equipment every day prior to Project activities.
- Prohibit use of any leaky equipment during Project activities.
- Include spill scenarios in the Spill Prevention and Response Plan (SPRP) for house hold hazardous materials, not just pesticides, discussed in HAZ-4. Fully discuss when fire suppressants would be used during VTP activities and where they would be stored. Include the relevant materials (retardants, foams) in the SPRP.

Fully describe the common household hazardous materials that would be used and their specific purpose. Describe any on-site storage of these hazardous materials

The DPEIR should describe the additional actions to take if a leak is discovered, at minimum placing a drip pan beneath the leak to prevent hazardous materials from leaching into the soil.

Would the Project interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites?

COMMENT 2:

Section Chapter 4

Issue: Herbivory is included as a potential treatment method, including the potential of installing fencing to confine animals within the herbivory treatment unit. The Project description does not include the type of fencing that would be utilized or how fencing would be installed, nor do the PSA or SRAs include anything specific to herbivory fencing and potential impacts to wildlife corridors/movement and wildlife entrapment.

Specific impact: Fencing for herbivory treatment units may interfere substantially with movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors. Fencing may also potentially ensnare wildlife, including special status species.

Why impact would occur: Fencing may be installed within wildlife movement/migratory corridors which would not be identified for avoidance.

Evidence impact would be significant: The project could substantially adversely affect wildlife movement/corridors. Further, the type of fence and installation of the fence could ensnare, injure, or kill wildlife, including special status species

MITIGATION MEASURE 2a:

To reduce impacts to less than significant: A qualified biologist will assess potentially impacted wildlife corridors prior to fence installation for herbivory Project activities. The Project proponent, under the guidance of a qualified biologist, will avoid corridors as feasible and where infeasible, utilize wildlife friendly fencing. A qualified biologist will evaluate fence installation impacts on sensitive biological resources. The project proponent will avoid such impacts.

To be qualified, a biologist must hold a bachelor degree from an accredited university and: 1) be knowledgeable in relevant species life histories and ecology, 2) can correctly identify relevant species, 3) have conducted field surveys of relevant species, 4) is knowledgeable in survey protocols, and 5) is knowledgeable of state and federal laws regarding the protection of sensitive species.

MANDATORY FINDINGS OF SIGNIFICANCE Does the Project have the potential to threaten to eliminate a plant or animal community, or substantially reduce the number or restrict range of a rare or endangered plant or animal?

COMMENT 3:

Section 4.4.3, Pages 4-244 to 4-255

Issue: Same as Comment 1 for rare and endangered species.

Specific impact: Same as Comment 1 for rare and endangered species.

Why impact would occur: Same as Comment 1 for rare and endangered species.

Evidence impact would be significant: CEQA rare and endangered species are among the most vulnerable species in California and often are threatened with extinction. The project could substantially reduce the number or restrict the range of CEQA rare and endangered species by resulting in further decline including local or regional extirpation of already highly vulnerable populations.

MITIGATION MEASURE 3a:

To reduce impacts to less than significant: Implement Mitigation Measure (MM) 1a to ensure hazardous materials, herbicides, pesticides, and leaking equipment do not cause a potentially significant impact on CEQA rare and endangered species.

II. Environmental Setting and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?
COMMENT 4:

Section 4.2.3.1, Page 4-156

Issue: DPEIR BIO-1 and BIO-2 would not identify all special status species.

Specific impact: Vegetation treatment activities could result in habitat destruction, injury, or mortality of these special status species.

Why impact would occur: Special status species may be present and would not be identified for avoidance during vegetation treatment activities.

Evidence impact would be significant: The project could substantially adversely affect special status species by resulting in further decline including local or regional extirpation of already vulnerable populations.

MITIGATION MEASURE 4a:

To reduce impacts to less than significant: Identify all special status species that may be impacted by the Project through conducting an adequate and thorough database and literature review, and field survey (field survey as necessary, see Comment 3). The review shall be conducted by a qualified biologist. The review shall minimally include, and, based on a qualified biologist's professional discretion, exceed the following (or the most recent equivalents):

- A California Natural Diversity Database (CNDDB) nine-quad search or 5-mile radius surrounding the Project site (note CNDDB is a positive detection database and lack of data does not indicate species absence)
- USFWS critical habitat mapping
- USFWS Sacramento Information, Planning, and Conservation System (IPaC) (http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm).
- County lists of locally and regionally rare species
- Santa Barbara Botanical Garden list of locally rare or uncommon species (Santa Barbara County only)
- California Native Plant Society lists of locally unique species
- Current aerial imagery (past aerial imagery as necessary to review seasonal/historical habitat changes) (e.g., Google Earth)
- Aquatic habitat databases:
  - EcoAtlas (www.ecoatlas.org)

  - California Environmental Data Exchange Network (www.ceden.org)
  - USFWS National Wetlands Inventory (www.fws.gov/wetlands/Data/Mapper.html)
- USFWS species 5-year reviews and recovery plans (as applicable)
- Local Habitat Conservation Plans (HCPs)/Natural Community Conservation Plans (NCCPs)
- CDFW Species Accounts of Rare, Threatened, and Endangered Plants from 2004 Status Report (www.wildlife.ca.gov/Conservation/Plants/Info)
- U.S. Department of Agriculture web soil survey mapping (as applicable to identify soils suitable to support CEQA special status plants) (see websoilsurvey.sc.egov.usda.gov/App/HomePage.htm)
- Implement MITIGATION MEASURE 5a

COMMENT 5:

Section 4.2.3.1, Page 4-157

Issue: The DPEIR BIO-3 field review within the project area conducted by a project coordinator would often not identify presence or absence of special status species or their habitats that may be impacted by the Project.

Often, a species-specific protocol level survey is necessary to identify presence or absence of special status species (e.g., northern spotted owl (*Strix occidentalis caurina*) survey protocol from 2012). Additionally, the expertise of a qualified biologist is generally necessary to identify appropriate habitat for special status species. In most cases, surveys and habitat assessments include areas adjacent to the project site and any other areas that may support special status species that may be impacted by the project.

Specific impact: Vegetation treatment activities could result in habitat destruction, injury, mortality, or reduced survivorship or reduced reproductive success, of special status species and destruction of their habitat.

Why impact would occur: Special status species or their habitats may be present and would not be identified for avoidance during vegetation treatment activities.

Evidence impact would be significant: The Project could substantially adversely affect special status species by resulting in local or regional decline or extirpation of already vulnerable populations.

MITIGATION MEASURE 5a:

To reduce impacts to less than significant: The database and literature review conducted by the qualified biologist (see MM 1a and MM 2a) will identify special status species and their habitats with the potential to be impacted by the project. Species presence and impacts will be assumed unless a qualified biologist conducts an appropriate survey to infer absence. In many cases, a species-specific protocol survey

may be necessary if suitable habitat may be impacted by the project. Protocol surveys must be conducted by individuals with the qualifications required by the protocols, including in some cases CDFW or USFWS approval. Several protocol survey procedures for wildlife and plants are available on the CDFW webpage at: http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Plants).

If species presence or their habitat is assumed or documented during a survey, Project activities shall avoid impacts on special status species and their habitats.

COMMENT 6:

Section 4.2.3.1, Page 4-158

Issue: DPEIR BIO-8, 9, and 10 do not address impacts on special status species by aquatic invasive species (e.g., mudsnails, mussels), disease (e.g., sudden oak death, chytrid fungus), and plant pathogens such as *Phytophthora* spp.

Additionally, pile burning-related impacts on special status species are not assessed.

Specific impact: These invasive species could adversely impact special status species (as defined in Comment 1) and their habitat.

For example, sudden oak death affects many vegetation communities that support CEQA special status species, such as oak woodlands (Oak Mortality Task Force, 5/11/16, http://www.suddenoakdeath.org/about-sudden-oak-death/faq/).

Why impact would occur: The Project may transport these invasive species with logging/water drafting equipment.

The high heat of Project pile burning activities may damage native seed banks, soil structure, and micro-organisms, resulting in gradual replacement by invasive weeds and fragmented, degraded habitat.

According to the U.S. Forest Service: *"Burning to reduce fuels would increase the likelihood of noxious weed establishment due to the exposure of mineral soil by fire. Pile burning is especially conducive to weed establishment since it creates small areas devoid of any ground cover…Scattered burn piles would require more time and manpower to monitor for weeds… cheatgrass establishment post burning would be a major concern because of the difficulty in displacing established species with native plants… Depending upon the level of treatment completed and amount of access it will be important to monitor and treat any noxious invasive weeds post treatment to limit establishment or spread."* (U.S. Department of Agriculture 2005)

Use of weed-free straw described in BIO-8 would not measurably reduce damage caused to soils and seedbanks from the high heat caused by pile burning. Wind and animal-dispersed invasive seed may reach these areas and weeds are likely to establish and

persist, absent a direct program to control subsequent invaders and reintroduce appropriate native species. CDFW staff has repeatedly observed that burn piles in chaparral typically become weed dominated and support few, if any, native species.

Project activities, particularly those resulting in soil movement or plant parts via vehicles, clothing or equipment, has the potential to spread plant pathogens.

Evidence impact would be significant: The Project could substantially adversely affect special status species by resulting in their further decline through local or regional extirpation of already vulnerable populations.

MITIGATION MEASURE 6a:

To reduce impacts to less than significant: The Project proponent will implement protocols to decontaminate equipment and prevent the spread of aquatic invasive species and disease, including but not limited to the following:

- California Department of Fish and Wildlife. 2013. Aquatic Invasive Species Decontamination Protocol. Invasive Species Program, Sacramento, CA (http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=43333)
- California Oak Mortality Task Force. 2014. Sudden Oak Death Guidelines for Forestry. Berkeley, CA http://www.suddenoakdeath.org/wp-content/uploads/2014/12/forestry-08-10-with-new-2014-map.pdf
- Johnson, M.L., Berger, L., Philips, L., and R. Speare. 2003. Fungicidal effects of chemical disinfectants, UV light, desiccation and heat on the amphibian chytrid *Batrachochytrium dendrobatidis*. Diseases of Aquatic Organisms 57:255-260

The Project proponent will proactively control for invasive species by:

- Reducing or otherwise directly controlling existing weeds on existing or new fire lines, historic fuel or fire breaks, roadsides and staging areas prior to initiating treatments in adjoining areas;
- Ongoing Integrated Pest Management (IPM) activities: Direct weed management by appropriately trained personnel and direct monitoring of treatment areas annually for at least three years and including at least one year of average or above average rainfall. Weed management teams will undertake direct control of invasive weeds if they are establishing or expanding following treatments;
- Explicit incorporation of the Best Management Practices described in Chapter 10.2 of the California Invasive Pest Plant Council's (Cal-IPC) "Preventing the Spread of Invasive Plants: Best Management Practices for Land Managers (3rd edition)" (California Invasive Pest Plant Council, 2012).
- Locating burn piles only on previously disturbed ground and outside natural habitat areas. If infeasible, burn pile locations will receive direct subsequent weed control treatments and native species suitable to the location will be restored through direct methods including reseeding.
- Minimize disturbance in areas susceptible to invasive plant establishment.

All Project activities will fully incorporate specific measures, appropriate to the activity, to prevent the establishment, spread, and persistence of invasive weeds by following the established procedures outlined in Cal-IPC (2012). For projects on private lands with local stakeholders, their equipment and personnel will also comply with these procedures to prevent invasive from spreading into more remote areas where treatments may occur.

Plant pathogen best management practices will be implemented from the following sources:
http://www.valleywater.org/uploadedFiles/Programs/Safe_Clean_Water_and_Natural_Flood_Protection/Priority_D/sensitive_contam_site_final_bmp_072215.pdf?n=4310

http://www.valleywater.org/uploadedFiles/Programs/Safe_Clean_Water_and_Natural_Flood_Protection/Priority_D/General%20construction%20BMP_final_081915%20(2).pdf?n=1583

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

COMMENT 7:

Section 2.2.2 Page 2-12

Issue: The mapping standard for vegetation is extremely coarse and inaccurate, which could lead to undetected impacts on sensitive natural communities.

Specific impact: The Project could result in the destruction of sensitive natural communities.

Why impact would occur: The analysis within the PDEIR is based on an inadequate mapping standard. Vegetation is mapped to a coarse level of three categories: trees, shrubs, and grasses. These three categories are simplified from more specific California Wildlife Habitat Relationships (CWHR) categories; CWHR is a classification of habitat, not vegetation (CDFW 2014). Without a finer-scale mapping standard, impacts to natural communities cannot be adequately assessed. Many natural communities are rare globally or in the state.

Evidence impact would be significant: Many natural communities within the Project area (SRA) are sensitive and face many threats, including: development, fire, climate change, and grazing. Examples that could be impacted by treatment activities include Oregon white oak woodlands and Valley oak woodlands which have a State-rank of S3 (“vulnerable”).

CDFW and CNPS maintain a list of natural communities derived from "A Manual of California Vegetation". This publication includes global and state rarity rankings:

- http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp
- http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp
- http://vegetation.cnps.org/

MITIGATION MEASURE 7a:

To reduce impacts to less than significant: The PDEIR must employ a finer-grain analysis to determine impacts on sensitive natural communities. The use of a vegetation classification scheme that employs a classification system with more detail than "trees, shrubs, and grasses" is an essential starting point. CDFW can work with the BOF and lead agencies to implement methods used to develop "A Manual of California Vegetation" and map natural communities and assess potential impacts. Once it is understood where sensitive natural communities are relative to the treatable area, the lead agencies can assess potential impacts to them and alter (or restrict entirely) the types of treatments relative to these sensitive resources. A description of methods to be employed to classify natural communities is found in: Survey of California Vegetation Classification and Mapping Standards, June 30, 2015. http://www.dfg.ca.gov/biogeodata/vegcamp/survey_ca_veg_class_and_mapping_stds.asp.

COMMENT 8:

Section 4.2.3.1, Page 4-158

Issue: DPEIR BIO-11 states aquatic habitats and species shall be protected through the use of watercourse and lake protection zones (WLPZ) as defined in the California Forest Practice Rules (FPRs) and HYD-3. However, the FPR's watercourse classification system (i.e., Class I, Class II, etc.) and standard WLPZs may not be adequate to avoid project-related impacts to riparian habitat, and to seeps, springs and wetlands, which are not defined under the FPRs.

Specific impact: Riparian habitat and the species that depend on them would be impacted by Project activities, e.g., prescribed fire, manual activities, and mechanical activities, prescribed herbivory, and targeted ground application of herbicides. Impacts would result from dust, project site run-off, soil compaction, soil erosion, sedimentation, release of pollutants, and exhaustion of important soil seed banks.

"Backing fires" are allowable within all classes of streams, suggesting that organic matter, herb layers, woody material, and live vegetation adjoining streams could be damaged by ground fire. This may reduce the ability of these areas to filter sediments and maintain channel integrity. Backing fires have the potential to consume or damage vegetation flanking streams and remove ground litter thereby increasing the potential for surface erosion and sediment discharge, adversely affecting resources onsite and downstream.

Why impact would occur: The classification system utilized in the DPEIR would not identify all riparian and other aquatic habitat types for avoidance.

Evidence impact would be significant: The Project could substantially adversely affect riparian habitats by resulting in loss or further destruction of these vulnerable habitat types.

MITIGATION MEASURE 8a:

To reduce impacts to less than significant: A qualified biologist will delineate riparian and other aquatic habitat and adjacent areas that may be impacted by the Project, and establish buffer areas to ensure avoidance. Project activities will avoid the buffer area except for existing crossings of aquatic habitat.

If impacts are unavoidable, potential site-specific significant impacts will likely require additional analysis and related mitigation in a subsequent environmental document prepared by the Lead Agency.

Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption or other means? [CDFW added same question for non-federally protected wetlands]

COMMENT 9:

Section 4.2.2.4, Pages 4-121 to 4-153

Issue: The DPEIR does not address the potential for the Project to directly or indirectly impact wetlands not subject to the federal Clean Water Act, which are important habitats for a variety of species. Note that wetlands that are not subject to the federal Clean Water Act ("state" wetlands) are addressed under Fish and Game Code and policies of the California Fish and Game Commission.

Specific impact: Project activities could result in loss or degradation of wetlands.

Why impact would occur: Wetlands not subject to the Clean Water Act could be impacted by the Project would not be detected because no site-specific surveys by qualified biologists with expertise in wetland identification and delineation are required. Fixed buffer distances applied to WLPZ and ELZ areas may not adequately protect the site-specific conditions that vary by specific geologic, topographic and biological conditions, and therefore may be ineffective.

State wetlands lacking permanent water may not be detected within proposed treatment areas. Drought cycles may influence the condition of wetlands, making detection more problematic. Furthermore, some seasonal wetlands which support vernal pool species or semi-aquatic species (e.g. western spadefoot (*Spea hammondii*)), may exhibit no evidence

of recent ponding (because of drought effects) or may lack aquatic plant indicator species. Three criteria are used to identify wetlands: indicator plants, inundation or saturation, and hydric soils. Only one of the three wetland criteria is necessary to define state wetlands (Cowardin et al. 1978). Drought can also affect isolated springs and seeps, some of which currently are releasing no water, yet retain an ability to recover when drought abates.

Evidence impact would be significant: More than 90 percent of California wetlands have disappeared primarily by development and habitat destruction (EPA 2016; USGS 1996). Wetlands are vital to many wildlife species including migratory birds, and provide a number of ecological services. Federal and California resources agencies generally have a no-net-loss policy for wetlands. Loss or degradation of wetlands would constitute a significant adverse impact.

MITIGATION MEASURE 9a:

To reduce impacts to less than significant: A biologist with experience conducting wetland delineations will identify all wetlands, including both those subject to the Clean Water Act and those described in the Fish and Game Commission policies that may be impacted by the Project.

The proponent, under the guidance of a qualified biologist, will:

- Avoid impacts to wetlands. This may include installation of silt fencing or other materials around waters and wetlands.
- Establish vegetative buffer strips within vegetation treatment areas around wetlands to maintain ground litter, shade, and root systems to minimize soil erosion, prevent sediment discharge maintaining channel and side slope integrity. Vegetative buffer strips will be established based upon specific topography and site conditions. Extending these areas to the first slope break is recommended.

If impacts to wetlands are unavoidable, avoidance of potential significant impacts will likely require additional analysis and related site-specific mitigation in a subsequent environmental document prepared by the Lead Agency.

Would the Project conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan?

COMMENT 10:

Section 2.5.1, Page 2-56, etc.

Issue: There is considerable overlap between the SRA and lands under NCCPs and/or HCPs. The PDEIR does not provide any maps or metrics detailing this overlap, or any provisions that tiered projects will detract from the goals and objectives of NCCPs or HCPs. In the PDEIR BIO-4 Standard Project Requirement, a CAL FIRE Environmental

Coordinator is directed to request information regarding special status species in HCPs (NCCPs are not mentioned). However, HCPs (and unmentioned NCCPs) cover more than just special status species. They all account for patterns, ecological processes, and natural communities with the goal of keeping landscape-level areas intact and ecologically functional.

Specific impact: Vegetation treatment activities could conflict with the goals and objectives of HCPs/NCCPs and/or have a significant effect on conservation areas.

Why impact would occur: If project proponents do not know the locations of and the potential impacts to HCPs or NCCPs, projects might occur in conservation plan areas without consideration of how to minimize or avoid impacts. There are numerous large HCP and NCCPs comprising a substantial extent of the state. The measures (BIO-4) meant to indicate awareness of these landscape-level plans is inadequate as they do not recognize the need to respond to the presence of NCCPs or coordinating with implementing agencies of HCPs or NCCPs to avoid significant impacts.

Evidence impact would be significant: Conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan is deemed to be a significant impact.

MITIGATION MEASURE 10a:

To reduce impacts to less than significant: The PDEIR needs to map the location of HCPs, NCCPs, or other approved local, regional, or state habitat conservation plans relative to vegetation treatment project impact area (i.e., SRA). After determining the overlap, the plan will indicate whether total avoidance with HCP/NCCP lands is warranted or how treatment activities would not conflict with the goals and objectives of the HCPs/NCCPs. The Project proponent will coordinate with state or local implementing agencies to ensure treatment activities are compatible.

MANDATORY FINDINGS OF SIGNIFICANCE: Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict range of a rare or endangered plant or animal?

COMMENT 11:

Section 4.2.3.1, Page 4-156

Issue: DPEIR BIO-1 and BIO-2 would not identify all species that may be impacted by the Project that are rare or endangered under CEQA (CEQA Guidelines, § 15380).

As with Comment 4, there are several other categories of species under CEQA that are rare and endangered species, including but not limited to:

- CRPR species ranked 1B, 2, and in some cases rank 3 or 4 (see Comment 4)
- SSC (see Comment 4).
- Locally or regionally rare plants identified in a local or regional plan, policy, or regulation (See Comment 4)

Specific impact: Same as Comment 4 for CEQA rare and endangered species (CEQA Guidelines, § 15380).

Why impact would occur: Same as Comment 4 for CEQA rare and endangered species.

Evidence impact would be significant: CEQA rare and endangered species are among the most vulnerable species in California and often are threatened with extinction. The project could substantially reduce the number or restrict the range of CEQA rare and endangered species by resulting in further decline including local or regional extirpation of already highly vulnerable populations or habitat destruction.

MITIGATION MEASURE 11a:

To reduce impacts to less than significant: Identify all CEQA rare and endangered species that may be impacted by the Project through conducting an adequate and thorough database and literature review, as described in MM 4a. Implement MM 5a.

COMMENT 12:

4.2.3.1, Page 4-157

Issue: The DPEIR BIO-3 field review within the project area conducted by a project coordinator would often not identify presence or absence of CEQA rare and endangered species or their habitats that may be impacted by the Project.

As with Comment 5, other surveys and expertise is required to identify CEQA rare and endangered species that may be impacted by the project.

Specific impact: Same as Comment 5 for CEQA rare and endangered species.

Why impact would occur: Same as Comment 5 for CEQA rare and endangered species.

Evidence impact would be significant: CEQA rare and threatened species are among the rarest and endangered in California and often are threatened with extinction. The project could substantially reduce the number or restrict the range of CEQA rare and endangered species by resulting in further decline including local or regional extirpation of already highly vulnerable populations or habitat destruction.

Mitigation Measure 12a:

To reduce impacts to less than significant: Determine presence or absence of CEQA rare and endangered species or their habitats and avoid impacts on such species by implementing MM 5a.

COMMENT 13

Section 4.2.3.1, Page 4-158

DPEIR BIO-8, 9, and 10 do not address aquatic invasive species (e.g., mudsnails, mussels) and disease (e.g., sudden oak death, chytrid fungus) impacts on CEQA rare and endangered species (as defined in Comment 11).

Specific impact: Same as Comment 6 for CEQA rare and endangered species.

Why impact would occur: Same as Comment 6 for CEQA rare and threatened species.

Evidence impact would be significant: CEQA rare and endangered species are among the most vulnerable species in California and often are threatened with extinction. The project could substantially reduce the number or restrict the range of CEQA rare and endangered species by resulting in further decline including local or regional extirpation of already highly vulnerable populations or habitat destruction.

MITIGATION MEASURE 13a:

To reduce impacts to less than significant: The Project proponent will implement the protocols in MM 6a to decontaminate equipment and prevent the spread of aquatic invasive species and disease:

If impacts are unavoidable, potential site-specific significant impacts will likely require additional analysis and related mitigation in a subsequent environmental document prepared by a Lead Agency.

COMMENT 14:

Section Chapters 2, 4, and 5

Issue: The Project may impact 600,000 acres, which covers a vast area and a wide variety of habitats in California. 600,000 acres is 2.73 percent of the total treatable area of the state. For each of the bioregions, the estimates are likewise calculated at 2.73 percent of the total treatable area for that bioregion. However, due to the use of inadequate mapping standards where all vegetation is classed into three broad categories, it is impossible to determine if impacts would occur in sensitive natural communities, or if the total effect of the treatment would represent a significant impact. Additionally, impacts could be significant on natural communities that have not yet been designated as sensitive.

Specific impact: The quantification of potentially impacted acres is not adequate to determine level of significance.

Why impact would occur: Sensitive and non-sensitive habitats may be disproportionally impacted by the Project; greater than 2.73 percent of these habitats may be impacted.

Evidence impact would be significant: As the information disclosure is incomplete, there is insufficient information to make an informed decision on whether the Project has the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or threaten to eliminate a plant or animal community.

MITIGATION MEASURE 14a:

To minimize significant impacts:

Implement MM 7a to minimize impacts on the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or threaten to eliminate a plant or animal community.

III. Mitigation Measure or Alternative and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?

COMMENT 15:

Section 4.2.3.1, Page 4-158

Issue: DPEIR BIO-7 50-foot and 15-foot buffer areas around species status species, nest sites, or den locations are generally inadequate to avoid impacts on these species.

Specific impact: Vegetation treatment activities could result in injury, mortality, or reduced survivorship or reproductive success of special status species.

Why impact would occur: Special status species would be impacted by vegetation treatment activities including: prescribed fire, manual activities, mechanical activities, prescribed herbivory, and targeted ground application of herbicides. Impacts would result from noise, dust, project site run-off, visual disturbances, soil compaction, soil erosion, sedimentation, release of pollutants, spread of plant pathogens such as *Phytophthora*, spread of invasive plant species, creation of conditions that are favorable for the spread of invasive species, exhaustion of important soil seed banks, and other impacts.

Evidence impact would be significant: The Project could substantially adversely affect special status species by resulting in further decline including local or regional extirpation of already vulnerable populations.

MITIGATION MEASURE 15a:

To reduce impacts to less than significant: A qualified biologist will establish special status species buffer areas based on the species-specific sensitivity, life cycle stage, local conditions, and documented and CDFW/USFWS-recognized species-specific recommended avoidance buffers.

The buffer area will be as large as necessary to ensure avoidance of species impacts. In some cases, the buffer distance may be considerably more than the proposed 50 and 15 feet, particularly for species defined as sensitive. Sections 919.3 and 919.9 of the FPRs provide for modification through consultation with CDFW on a case-by-case basis.

Regarding plants: under the guidance of a qualified biologist, the Project proponent will establish a buffer area of 50 feet or more around CEQA special status plant occurrences or populations that may be impacted by the Project. Experts on the affected plant taxa and how activities could affect them may recommend a smaller or larger buffer.

The Project proponent will install and maintain high-visibility flagging or fencing at the outer margins of buffer areas surrounding the plant populations before and during Project activities and prohibit all Project activities within the buffer zone. These measures will be included in all Project plans and contracts.

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

COMMENT 16

Section 2.5.1, Page 2-57

Issue: DPEIR BIO-6 states that older, acorn producing oaks may be retained during activities, indicating that young oaks and acorn mast would not be retained.

Specific impact: Vegetation treatment activities could result in the reduction in the extent of or local extirpation of some oak natural communities through the elimination of oak regeneration and recruitment.

Why impact would occur: Manual, mechanical, or fire removal of understory material would result in the elimination of young oaks and oak mast. This would negatively impact oak regeneration which is already well documented as low (Zavaleta et al. 2007).

Evidence impact would be significant: Oak natural communities are sensitive and facing many threats, including: development, fire, climate change, and grazing. Some oak natural communities are rare, with a state-rank of S3 or higher. Examples that could be impacted by treatment activities include Oregon white oak woodlands and Valley oak woodlands.

CDFW and CNPS maintain a list of natural communities derived from "A Manual of California Vegetation." This publication includes global and state rarity rankings.

MITIGATION MEASURE 16a:

To reduce impacts to less than significant: Implement MM 7a to avoid impacts on young oaks and acorn masts.

MANDATORY FINDINGS OF SIGNIFICANCE Does the Project have the potential to threaten to eliminate a plant or animal community, or substantially reduce the number or restrict range of a rare or endangered plant or animal?

COMMENT 17

Section 4.2.3.1, Page 4-158

DPEIR BIO-7 50 foot and 15 foot buffer areas around CEQA rare and endangered species, nest sites, or den locations are generally inadequate to avoid impacts on these species.

Specific impact: Same as Comment 15 for CEQA rare and endangered species.

Why impact would occur: Same as Comment 15 for CEQA rare and threatened species.

Evidence impact would be significant: CEQA rare and endangered species are among the most vulnerable species in California and often are threatened with extinction. The project could substantially reduce the number or restrict the range of CEQA rare and endangered species by resulting in further decline including local or regional extirpation of already highly vulnerable populations or habitat destruction.

MITIGATION MEASURE 17a:

To reduce impacts to less than significant: A qualified biologist will establish avoidance buffer areas around CEQA rare and endangered species by implementing MM 15a.

IV. Closely Related Past, Present, and Reasonably Foreseeable Probable Future Projects (*CUMULATIVE IMPACTS, MANDATORY FINDING OF SIGNIFICANCE: Does the Project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that incremental effects of the Project are considerable when viewed in connection with effects of past projects, effects of other current projects, and effects of probable future projects?*)

MANDATORY FINDINGS OF SIGNIFICANCE Does the Project have potential to degrade quality of environment, substantially reduce habitat of a fish or wildlife species, cause fish or wildlife population to drop below self-sustaining levels?

COMMENT 18:

Section 5.3.2 & 5.3.3, Pages 5-19 to 5-21

Issue: The cumulative effects analysis does not appear to consider and evaluate the impacts of an appropriate range of past, present and probable future projects in and near the Project area and how their impacts could add to those of the Project's to create a significant adverse cumulative impact on biological resources. Projects whose impacts will be considered include, but are not limited to, power line right-of-ways, highway construction, residential and commercial development, and all types of exemption notices. All of these to varying degrees entail removal of vegetation. For example, in less than one year, beginning in September of 2015, more than 40,000 acres have been the subject of exemption notices for the salvage of dead and dying trees submitted under Section 1038(k) of the FPRs. Many of these and others occur in the area covered by the Governor's State of Emergency declaration, and Executive Order (EO) regarding State's record drought conditions, which have exacerbated bark beetle infestation that is killing millions of trees across California. The Tree Mortality Task Force identified approximately 228,633 acres of Tier 1 High Hazard Zones and approximately 6.3 million acres of Tier 2 High Hazard Zones (as defined by watersheds) within the southern Sierra Nevada's (Tuolumne County south through Kern County). Many of these areas should be expected to be under future exemption notices, emergency notices, and THPs, the impacts of which will be estimated and included in the cumulative effects analysis.

Specific impact: Several forest vegetation communities including tree and understory growth would be removed and degraded. A variety of cavity user or nester species, including representatives from all classes of terrestrial animals, use partially live or dead trees for various life functions (Nietro et al. n.d.). These species' habitat would be degraded and the species would likely be killed or injured, or experience reduced survivorship or reproduction.

Why impact would occur: Project activities, such as prescribed fire, manual activities, and mechanical activities would cut, remove, and burn tree and understory vegetation habitat (alive and dead).

Evidence impact would be significant: Vast areas of California's varied forests have recently been deeply impacted by projects to remove dead trees, which provide high habitat value. According to the U.S. Forest Service (Nietro et al. n.d.):

> The dependency of many species on dead trees ranges from absolute to incidental, but for some species the presence of dead trees can mean the difference between local extinction and the perpetuation of existing populations. In forests, cavity-nesting birds may account for 30-45 percent of the total bird population (Jackman 1974a; Raphael and White 1984, Scott et al. 1980). Woodpeckers are dependent on snags and other dead wood for nesting, roosting, foraging, and other functions. Woodpecker nest cavities when abandoned are used by other animals (secondary cavity users) for nest sites. Some researchers believe that the use of cavities has allowed birds to become polygamous, nest earlier, have larger clutches, and fledge more young per nesting effort than noncavity-nesting birds (Nice 1957, Steinhart 1981).
>
> The absence of suitable snags can be the major limiting factor for some snag-dependent wildlife populations (Haapanen 1965, Balda 1975). The abundance and diversity of hole-nesting birds are directly related to the dead and dying wood characteristics and general vegetation features of a forest. Morrison and Morrison (1983), in analyzing 30 years of Audubon Society Christmas bird count data, found that populations of three species--common (northern) flicker, hairy woodpecker, and downy woodpecker--show a downward trend in the Pacific Northwest. They speculate that this may be the result of intensive forest management practices."

The Project will exacerbate these already potentially significant impacts from dead tree removal as described above, and therefore has the potential to degrade the quality of the environment and substantially reduce the habitat of a fish or wildlife species.

MITIGATION MEASURE 18a:

To minimize significant impacts: Minimize exacerbation of vast forest habitat degradation by conducting Project activities in a way that minimizes to the extent feasible destruction of California forests.

CDFW recommends digitizing all projects being conducted under the Governor's EO and all CAL FIRE Exemptions/Emergencies, and ensure these projects are included in the DPEIR Cumulative Impacts analysis.

V. Editorial Comments and/or Suggestions

<u>Global</u>

- CDFW is intermittently referred to as DFG. Please update these references to CDFW.

Chapter 2

- Section 2.5.1, page 2-53: ADM-3 states that if a SPR does not perform adequately to protect the specified resource the project coordinator should determine adaptation strategies in coordination with the contractor and/or CAL FIRE personnel. It is unclear if the potential impacts of the "adaptation strategies" must be within the original PSA for the project. Example: if the staging area must be moved to a new location, but the new location and potential impacts were not included in the original PSA would the "adaptation strategies" of moving the staging area be allowed? CDFW recommends a qualified biologist is also consulted prior to implementing "adaptation strategies" that may impact fish and wildlife resources, and that CDFW is notified.

Chapter 4

- Section 4.2.1, page 4-79: Please include the specific website for the Wildlife Action Plan. https://www.wildlife.ca.gov/SWAP
- Section 4.2.1.1, page 4-79: The California Laws and Regulations list is incomplete and does not include other relevant Fish and Game Codes, such as 3503 (regarding unlawful "take," possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the "take," possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful "take" of any migratory nongame bird). BOF is responsible for complying with all applicable local, State, and Federal laws, including the Fish and Game Code.
- Section 4.2.1.1, page 4-80: Capitalize "fish" in "fish and Game Commission."
- Section 4.2.1.1, page 4-80: This section cites "The California Endangered Species Act…was enacted in 1984…" Please correct this reference to identify the California Endangered Species Act was enacted in 1970 (Stats. 1970, ch. 1510, § 3). The current basic structure was added to the California Fish and Game Code in 1984, replacing the original Act from 1970 (stats. 1984, ch. 1162, §§ 5 & 6: stats. 1984, ch. 1240, §§ 1 & 2.).
- Section 4.2.1.2, pages 4-85 to 4-114: The Biological Setting and Concerns by Bioregion includes examples of sensitive species that occur in each bioregion, yet they do not meet the definition of "special status species" in the glossary, and therefore would not be identified in the PSA.
- Section 4.2.1.2, page 4-98: Text references the incorrect table for Sacramento Valley bioregion. Text references 4.2-17 and 4.2-18. Should be 4.2-11 and 4.2-12.
- Section 4.2.2.1, page 4-114, 4-115, 4-120: Use of direct/indirect take is inaccurate. Neither under the federal nor California Endangered Species Acts is there a reference to "direct" or "indirect" take. There is only "take." The authors may be referring to mortality vs. habitat loss or modification. Additionally, the over-arching assumption that treatment activities will avoid mortality of a special status species is not substantiated given measures to determine presence or absence of special status species are inadequate.
- Section 4.2.2.1, page 4-115: This section states a significant effect occurs when there is a violation of any state or federal wildlife protection law. The DPEIR does

not address Fish and Game Code sections 3503, 3503.5, or 3513, nor does the PSA or SPRs include any protection measures for nesting birds. The trees, shrubs, and grasses that would be removed and disturbed within and in the vicinity of the vegetation treatment activities likely provide nesting habitat for songbirds and raptors. If vegetation treatment activities occur during the breeding season (February through mid-September), BOF is responsible for ensuring that implementation of the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above. Due to the nature of the VTP, it is unclear how BOF will comply with the Fish and Game Codes referenced above, and avoid violating state or federal wildlife protection laws and, thus, a significant effect under CEQA by BOF's own definition.

- Section 4.2.2.2, page 4-115: Please include the specific website for CNDDB https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp
- Section 4.2.2.2, page 4-116: "(subterranean (" has a typo with extra parenthesis.
- Section 4.2.2.3.4, page 4-145: In the first paragraph in the Invasive Species section, the fifth sentence is unclear: "Prescribed herbivory treatments are expected to have a net beneficial effect on the status of non-native plant populations since livestock would often be used to reduce the spread of non-native seeds in livestock, from the movement of animals during implementation of projects."
- Section 4.5.1.1: This section describes the regulatory setting regarding water quality-related requirements. Please include in this section a discussion of Fish and Game Code section 5650 which describes the prohibition on discharge of specified substances.

Appendix A

- Section A.1.3: This section inaccurately describes the role of CDFW's Vegetation Classification and Mapping Program (VegCAMP) in mapping vegetation formations for the VTP. Specifically, the DPEIR conflates the Manual of California Vegetation (MCV) with the Survey of California Vegetation (SCV). While the MCV provides a description of vegetation and vegetation patterns in California, the mapped data used in VTP crosswalking comes from SCV data. Please edit this section to accurately describe the mapping process.

Appendix D

- Appendix D: There is no literature cited section for Appendix D. However, there are multiple parenthetical references. The references are not included in DPEIR Chapter 9 References. Please include these references.

Appendix J

- Appendix J, pages J-3 to J-13: The VTP Burn Plan Specific Resources Review questions include several questions that are also included in the PSA and SPRs; however, there are several inconsistencies. The VTP Burn Plan includes additional biological resources questions/evaluations, and it is unclear why items in the VTP Burn Plan are not included in the PSA or SPRs for all VTP projects. The VTP Burn Plan takes into consideration 'rare' species and 'sensitive' species, which are not

evaluated in the PSA or SPRs. Other types of vegetation treatments could potentially adversely affect species that can be shown to meet the criteria for Endangered, Threatened, or Rare as specified in the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, and Section 15380), and should be fully considered in the environmental analysis for all VTP projects. The Specific Resources Review questions also include a list of potential mitigation measures which are not included in the PSA or SPRs. Several of the biological resources questions include a statement of CDFW reviewing the project, or conducting a site inspection, and making a determination and/or conclusion about potentially significant impacts to biological resources. CDFW is not ultimately responsible for conducting an adequate analysis of significant impacts on biological resources (see Impact Analysis above).

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. An additional filing fee is required for each separate environmental document prepared for Project subsequent activities unless the Project proponent obtains a No Effect Determination from CDFW (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the DPEIR to assist BOF in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to William Condon, Environmental Program Manager, at (916) 651-3110, or William.Condon@wildlife.ca.gov.

Sincerely,

Richard Macedo
Branch Chief
Habitat Conservation Planning Branch

Attachments
A. Comment Organization Key
B. CDFW Response to Notice of Preparation

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Ms. Edith Hannigan, Board Analyst
California State Board of Forestry and Fire Protection
May 31, 2016
Attachment A

Comment Organization Key

Vegetation Treatment Program (Project)

CDFW Resource Specific Comments and Recommendations

Note: An unpopulated cell space does not necessarily indicate that CDFW concurs that the document is adequate concerning the related analysis.

POTENTIALLY SIGNIFICANT IMPACTS ON BIOLOGICAL RESOURCES – CEQA Guidelines Appendix G

ENVIRONMENTAL IMPACT → **PROJECT ↓**	*Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS?*	*Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?*	*Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?* *[CDFW added same question for non-federally protected wetlands]*	*Would the Project interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites?*	*Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*	*Would the Project conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*	***MANDATORY FINDINGS OF SIGNIFICANCE*** *Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict range of a rare or endangered plant or animal?*
PROJECT DESCRIPTION AND RELATED IMPACT COMMENTS	**COMMENT 1**			**COMMENT 2**			**COMMENT 3**
ENVIRONMENTAL SETTING AND RELATED IMPACT COMMENTS	**COMMENTS 4, 5, 6**	**COMMENT 7, 8**	**COMMENT 9**			**COMMENT 10**	**COMMENTS 11, 12, 13, 14**
MITIGATION MEASURE OR ALTERNATIVE AND RELATED IMPACT COMMENTS	**COMMENT 15**	**COMMENT 16**					**COMMENT 17**
	CUMULATIVE IMPACTS (MANDATORY FINDING OF SIGNIFICANCE) *Does the Project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that incremental effects of the Project are considerable when viewed in connection with effects of past projects, effects of other current projects, and effects of probable future projects.*						
CLOSELY RELATED PAST, PRESENT, AND REASONABLY FORESEEABLE PROBABLE FUTURE PROJECTS							**COMMENT 18**

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Director's Office
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www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

October 26, 2015

Ms. Edith Hannigan
Department of Forestry and Fire Protection
P.O. Box 94244-2460
Sacramento, CA 94244-2460

ATTN: Mr. Matt Dias
Acting Executive Officer,
California Board of Forestry and Fire Protection

Dear Ms. Hannigan:

NOTICE OF PREPARATION, DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT FOR CALIFORNIA BOARD OF FORESTRY AND FIRE PROTECTION VEGETATION TREATMENT PROGRAM

Thank you for the opportunity to provide comments to the October 5, 2015 Notice of Preparation (NOP) for the intended Draft Programmatic Environmental Impact Report (DPEIR) for the California Board of Forestry and Fire Protection's (Board's) Vegetation Treatment Program (VTP).

The California Department of Fish and Wildlife (CDFW) has jurisdiction over the conservation, protection, and management of fish, wildlife, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code, § 1802). CDFW also has regulatory authority under the California Endangered Species Act (CESA), Native Plant Protection Act, the Natural Community Conservation Planning Act, and other provisions of Fish and Game Code that afford conservation and protection to California's fish and wildlife resources.

CDFW offers the following general comments and recommendations in response to the NOP to aid Board's efforts in adequately scoping important issues. CDFW will provide additional and more specific comments after release of the DPEIR.

Consistency with Existing Plans: CDFW recommends the VTP DPEIR reference and be consistent with existing applicable plans such as the 2015 State Wildlife Action Plan, various cooperative fire protection agreement and operation plans, habitat conservation plans and natural community conservation plans.

Vegetation Analysis, Mapping, and Standardization: CDFW has worked closely with local, state, and federal agency partners to develop the Second Edition of *A Manual of California Vegetation* to provide a standardized, floristic-based systematic classification and description of vegetation in California (Sawyer et. al, 2009). The method of vegetation classification used in this manual represents the standards for large-scale vegetation maps recently adopted by the State of California. CDFW recommends the DPEIR use this vegetation classification system to help better determine the extent of common, rare, and unique habitats in need of protection and allow for a more comprehensive planning effort.

Subsequent Environmental Review: CDFW is concerned that forthcoming projects that will be tiered to the VTP PEIR may prompt parties to merely query the California Natural Diversity Database (CNDDB) or the Biogeographic Information and Observation System (BIOS) in lieu of on-the-ground general biological surveys. Although these databases provide useful information for determining which species are potentially present on a site, they alone are not always an appropriate substitute for project-level general biological surveys. It is not clear what criteria would determine the need for surveys.

Projects conducted under the VTP PEIR within habitat occupied by species listed as threatened, endangered, or candidate for listing under CESA would require further consultation with CDFW. Such pre-project consultation would be necessary to determine if a permit would be warranted because of the potential for the incidental take of a listed species (Fish & G. Code, § 2080 *et seq.*).

Climate Change: One of greatest effects of a changing climate in California will be on the frequency and intensity of fires. As the state warms, the length of the dry season expands, and precipitation becomes more unpredictable, vegetation regimes will change across the state. These altered regimes may be more or less fire-adapted, in a climate that is potentially less resilient to large fires. CDFW recommends that the DPEIR incorporate the most current scientific literature detailing the effects of climate change on California's vegetation and fire regime.

Invasive Species Management: CDFW believes removing invasive species and retaining native species should be a goal for every VTP project, not on a case-by-case basis. VTP projects should include field analyses and effective strategies to prevent invasive species from expanding into project treatment areas. Post-treatment follow-up monitoring should also be considered to address changed conditions stemming from the project and include mitigation to actually effectively control and remove noxious and problematic weeds.

Coordination with CDFW: The 1994 *Interim Joint CDFW/Board Policy on Pre, During, and Post Fire Activities and Wildlife Habitat* (Joint Policy) outlines a process to facilitate

needed coordination to achieve common goals and objectives, develop implementation plans for fire-related activities and address potential effects on wildlife habitat. CDFW recommends VTP PEIR acknowledge this Joint Policy as part of a basis for a cooperative working relationship between CalFire and CDFW regarding CalFire's VTP.

If you have any questions, please contact CDFW Environmental Program Manager William Condon at (916) 651-3110 or William.Condon@wildlife.ca.gov.

Sincerely,

Richard Macedo
Chief, Habitat Conservation Planning Branch

Literature Cited:

Sawyer, John O.; Keeler-Wolf, Todd and Julie M. Evens. 2009. A Manual of California Vegetation. Second Edition. California Native Plant Society, Sacramento, California, USA. 1,300 pages. ISBN 978-0-943460-49-9

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UtahStateUniversity
COOPERATIVE EXTENSION

DETERMINING YOUR STOCKING RATE

Mindy Pratt and G. Allen Rasmussen

Range Management Fact Sheet

May 2001 NR/RM/04

To determine how many animals your land will support (stocking rate), you need to know two things: 1) How much forage the particular animal or group of animals you have on your rangeland will consume, and 2) How much forage you have available.

THE ANIMAL UNIT MONTH OR AUM

The animal unit month (AUM) concept is the most widely used way to determine the carrying capacity of grazing animals on rangelands. The AUM provides us with the approximate amount of forage a 1000 lb cow with calf will eat in one month. It was standardized to the 1000 lb cow with calf when they were the most prevalent on rangeland. This AUM was established to be 800 lbs of forage on a dry weight basis (not green weight). All other animals were than converted to an "Animal Unit Equivalent" of this cow. For example, a mature sheep has an Animal Unit Equivalent of 0.20. This means a sheep eats about 20% of the forage a cow will eat in one month. This allows mangers to match the number of animals with the amount of available forage. While there are numerous ways to calculate how many animals can be carried on a particular range, based on what is available and what is being eaten, the following table is a starting point. How it can be altered depends on your management goals and management intensity.

TABLE 1: Commonly used Animal Unit Equivalents

CLASS OF ANIMAL	*ANIMAL UNIT EQUIVALENT*
Cow, 1000 lb, dry	**0.92**
Cow, 1000 lb, with calf	**1.00**
Bull, mature	**1.35**
Cattle, 1 year old	**0.60**
Cattle, 2 years old	**0.80**
Horse, mature	**1.25**
Sheep, mature	**0.20**
Lamb, 1 year old	**0.15**
goat, mature	**0.15**
Kid, 1 year old	**0.10**
Deer, white tailed, mature	**0.15**
Deer, mule, mature	**0.20**
Elk, mature	**0.60**
Antelope, mature	**0.20**
Bison, mature	**1.00**
Sheep, bighorn, mature	**0.20**

(from USDA NRCS National Range and Pasture Handbook)

TABLE 2: Adjusted Animal Unit Equivalents for Heavier Cattle

CLASS OF ANIMAL	*ANIMAL UNIT EQUIVALENT*
Cow, 1000 lbs, with calf	**1.0**
Cow, 1200 lbs, with calf	**1.2**
Cow, 1400 lbs, with calf	**1.4**
Cow, 1600 lbs, with calf	**1.6**

Calculating Animal Unit Months has created a controversy for the last several years. The original theory behind the method was to make an easy standard approach for everyone to calculate stocking rates on rangelands. They took the average sized cow with calf and determined the amount of forage the animal would require. This was based on the metabolic requirements of the animal. This was also done in the 1950's and 1960's, when an average cow size was estimated to be 1000 lbs. Because of the changes in animal selection and the desire to alter the size of a cow, the average cow size has grown above 1000 lbs. If your average cow in your herd is larger than 1000 lbs, the corresponding Animal Unit Equivalent numbers in Table 2

should be used. The Average Animal Weight method (explained below) can also help to determine a more accurate Stocking Rate.

Working through and determining your own stocking rate is something every livestock producer should do. The steps to calculate stocking rate using Animal Unit Equivalents and the Average Animal Weight Method are listed below with an example problem.

CLASSIC STOCKING RATE PROBLEM

1. Determine total production of the area
2. Calculate total "available" forage by using the "take half, leave half" method, either divide total production by 2, or multiply by 0.5.
3. Determine pounds of forage eaten by cattle per month. This is generally 80% of the body weight of a 1000 lb cow, but often ranges from 600 to 900.
4. Calculate proper stocking rate for cattle:

$$\text{Stocking Rate} = \frac{\text{Available forage}}{\text{Pounds eaten/month}}$$

5. Convert for Animal type you are using with Animal Unit Equivalents:

$$\text{Animal Unit Months for your animal} = \frac{\text{Stocking Rate}}{\text{Animal Unit Equivalent}}$$

6. Determine number of animals you can keep over the time needed:

$$\text{Number of Animals} = \frac{\text{Animal Unit Months for your animal}}{\text{Number of months on pasture or allotment}}$$

***EXAMPLE STOCKING RATE PROBLEM**:*

1. Determine Total Production of the Area.

Information:

- *After clipping and weighing plots, the total production of the 1000 acre allotment is determined to be 1200 lbs/ac.*

2. Calculate Total Available Forage:

Total Available Forage = Total Production X (how much you can use) 0.5 X Allotment Size*

Total Available Forage = 1200 lbs/ac X 0.5 X 1000 ac

**(50% is the most common use factor. This can vary based on management and species present.)*

Total Available Forage = 600,000 lbs/ac

3. Determine pounds per month intake for a 1000 lb animal.

Intake = 1000 lb animal X 80% of bodyweight

Intake = 800 lbs/month

4. Calculate Proper Stocking Rate:

$$\text{Stocking Rate} = \frac{\text{Available Forage}}{\text{Pounds Eaten/Month}}$$

$$\text{Stocking Rate} = \frac{600{,}000 \text{ lbs/ac}}{800 \text{ lbs/month}}$$

Stocking Rate = 750 animals/month

5. Convert for animal type you are using with Animal Unit Equivalents:

Information:

- *The cow herd on the allotment has an average weight of 1400 lbs.*

$$\text{Animal Unit Month for class of livestock} = \frac{\text{Stocking Rate}}{\text{Animal Unit Equivalent}}$$

$$\text{Animal Unit Month for class of livestock} = \frac{750 \text{ animals/month}}{1.4}$$

Animal Unit Month for class of livestock = 535 animals/month

6. Determine amount of animals that can be grazed over allotted time:

Information:

- *The allotment can be grazed for 3 months*

$$\text{Number of Animals} = \frac{\text{Animal Unit Month for class of livestock}}{\text{Number of months on allotment}}$$

$$\text{Number of Animals} = \frac{535 \text{ animals/month}}{3 \text{ months}}$$

Number of animals = 178 animals

AVERAGE ANIMAL WEIGHT METHOD OF DETERMINING STOCKING RATE

The Average Animal Weight (AAW) method of determining stocking rate is a more accurate method than the classic stocking rate method. The Average animal weight method uses one conversion factor, 0.02667. This number was derived using the metabolic rate requirements of a cow with calf. In order to achieve its daily metabolic requirement, a cow with calf needs to consume 2.667% of its body weight each day. This number can vary depending on animal and forage conditions. To determine your herds stocking rate using the Average Animal Weight method, use the following steps:

1. Determine total production of the area
2. Calculate total "available" forage. First you need to determine the percentage of use you would like on the area. This number varies based on your management objectives. A conservative figure often used is the "take half, leave half" (or 50%) rule of thumb. Calculate your available forage by multiplying total forage by your percentage of use (0.5 in the case of 50% use).
3. The Average Animal Weight method allows you to calculate the required forage for the animal, regardless of the breed or species, and determine the daily and monthly forage requirement for their size by using the conversion factor of 2.667%.

    a. Estimate your average size of animal (in pounds).
    b. Multiply this number by the Average Animal Weight method conversion factor (0.02667)
    c. Multiply this figure by 30 days/month to get your herds AUM consumption

Monthly Forage Requirement = Average Animal Size X 0.02667 X 30 days/month

4. Calculate proper stocking rate for class of livestock you are using

$$\text{Stocking Rate} = \frac{\text{Available forage}}{\text{Monthly Forage Requirement}}$$

5. Determine the number of animals you can graze over the time needed:

$$\text{Number of Animals} = \frac{\text{Stocking Rate for class of livestock}}{\text{Months on pasture or allotment}}$$

(from Zobell, personal communication)

***EXAMPLE AVERAGE ANIMAL WEIGHT (AAW) PROBLEM**:*

1. Determine Total Production of the Area.

Information:

- *After clipping and weighing plots, the total production of the 1000 acre allotment is determined to be 1200 lbs/ac. The area will be grazed using the take half, leave half rule (50%).*

2. Calculate Total Available Forage:

Total Available Forage = Total Production X Estimated Use X Allotment Size

Total Available Forage = 1200 lbs/ac X 0.5 X 1000 ac

Total Available Forage = 600,000 lbs/ac

3. A) Determine average animal size in pounds:

Information:

- *The Cattle you raise average 1400 lbs.*

B) Multiply this number by the conversion factor to determine amount of forage consumed per day:

Forage consumed per day = Animal Weight X AAW Conversion Factor

Forage consumed per day = 1400 lbs X 0.02667

Forage consumed per day = 37.338 lbs forage eaten per day

C) Multiply this figure by 30 days/month to determine the amount of forage consumed per month:

Monthly intake = 37.338 lbs X 30 days

Monthly intake = 1120.14 lbs

4. Calculate Proper Stocking Rate:

$$\text{Stocking Rate} = \frac{\text{Available Forage}}{\text{Pounds Eaten/Month}}$$

$$\text{Stocking Rate} = \frac{600{,}000 \text{ lbs/ac}}{1120.14 \text{ lbs/month}}$$

Stocking Rate = 535.65 animals/month

5. Determine amount of animals that can be grazed over allotted time:

Information:

- *The allotment can be grazed for 3 months*

$$\text{Number of Animals} = \frac{\text{Animal Unit Month for class of livestock}}{\text{Number of months on allotment}}$$

$$\text{Number of Animals} = \frac{\text{535.65 animals/month}}{\text{3 months}}$$

Number of animals = 178.55 animals

REFERENCES

USDA Natural Resources Conservation Service. National Range and Pasture Handbook. 1997.

Zobel, Dale R. Beef Extension Specialist. Personal Communication. 2000.

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Via email

May 18, 2016

Chairman and Members of the Board,

The Range Management Advisory Committee (RMAC) is a statutorily derived committee (Public Resources Code § 741) which advises the Board of Forestry and Fire Protection, the Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture on rangeland resources. It is the only committee in State government that specifically addresses range issues. The mission of RMAC is to be an advocate for the sustained management of California's rangeland through the promotion of scientifically and economically sound regulation and policy.

The Range Management Advisory Committee has reviewed the Draft Vegetation Treatment Program Programmatic Environmental Impact Report (VTP EIR) and would like to provide comments to improve the practical value and utility of this program, especially regarding the utilization of prescribed herbivory for fuels reduction and ecological management. The use of animals to reduce fuel loads has grown in acceptance for its low impact, and especially to maintain projects once initial treatments are completed. The purpose of the VTP EIR is to provide a framework that can facilitate projects undertaken to manage wildland fuels in WUIs and similarly critical areas statewide. The Committee recognizes the need for this program, and unequivocally supports the ambition of it.

An RMAC report titled "Status and Recommendations Regarding the Department of Forestry and Fire Protection Vegetation Management Program" was submitted on June 22, 2005 and outlined the committee's views on implementing a statewide vegetation treatment program. RMAC submitted a public comment letter on February 25, 2013 that expanded on the themes from that report and directly linked those concerns to the VTP as proposed at that time . RMAC believes many of those overall themes remain relevant to the ongoing fuels issue in California and barriers to implementing vegetation management projects, and provides the following comments on the 2016 Draft VTP EIR to support fuels management and ecological health throughout California.

1. Use of Prescribed Herbivory as a treatment activity

"Prescribed" grazing is a management practice whereby herbivory and animal activity is managed to accomplish specific ecological and/or production objectives. Controlling invasive weeds is one, but so also is managing for certain habitat structures or conditions required by wildlife species, or managing for certain population densities or seasonal biomass densities of edible shrubs (aka fuels management, particularly ladder fuels). Animals can be concentrated and moved as necessary as vegetation on a site progresses through its seasonal changes to achieve the desired fuel reduction or project maintenance objectives. The Committee believes there is a significant opportunity to utilize prescribed herbivory in

all three project types (WUI, fuel break, and ecological restoration) to achieve the target objectives of the VTP with no significant environmental impacts at the project level. However, the Committee is concerned that unfamiliarity with implementing prescribed herbivory projects and the nuances between different grazing and browsing species will limit the use of this tool in project types other than ecological restoration.

To this end, the Committee proposing the following revisions to the VTP EIR:
1.a In Section 4.1.6.4 Prescribed Herbivory Activities, page 4-70, add the following language:

> Prescribed herbivory can offer a variety of benefits in comparison to other types of vegetation treatments. Herbivory is a historic, natural way of removing biomass and can yield a quality protein product for commercial benefit. Herbivores are essentially a "biological masticator" that can reproduce themselves and turn unwanted biomass into a consumable product. In addition to fire prevention benefits, carefully managed grazing can provide important environmental benefits such as increased soil organic matter, control of invasive species, and improved plant and wildlife habitat.
>
> Consider using prescribed herbivory as a low-impact treatment when the following concerns arise:
>
> - Air quality, when compared to the use of prescribed fire.
> - Noise, when compared to mechanical and some manual treatments.
> - Proximity to structures, when compared to risks of using prescribed fire or mechanical treatments.
> - Steep slopes, when compared to prescribed fire, manual, or mechanical treatments.
> - Soil compaction and surface disturbance, when compared to mechanical treatments.
> - Noxious weed control, when compared to manual or mechanical treatments.
>
> When considering a fuel reduction or ecological restoration project, it may be helpful to utilize the Range Management Advisory Committee's *Prescribed Herbivory for Vegetation Treatment Projects* document, which provides information about different plants and animal species compositions; developing and contracting a prescribed herbivory project; and best management practices. This document is online at http://bofdata.fire.ca.gov/board_committees/range_management_advisory_committee/policy_and_reports/ as "Prescribed Herbivory for Fuel Reduction." *Planned Herbivory in the Management of Wildfire Fuels* may also help project proponents determine when best to use herbivory (https://journals.uair.arizona.edu/index.php/rangelands/article/view/12320/11609).
>
> Two publications from the University of California Agriculture and Natural Resources's *Understanding Working Rangelands* series: *Grazing Systems Management* (http://anrcatalog.ucanr.edu/pdf/8529.pdf) and *Cattle, Sheep, Goats, and Horses: What's the difference for Working Rangelands?* (http://anrcatalog.ucanr.edu/pdf/8524.pdf) may provide implementation assistance once a project proponent decides to initiate a prescribed herbivory project, along with the *Targeted Grazing Handbook*, from the University of Idaho (http://www.webpages.uidaho.edu/rx-grazing/handbook.htm).

1.b The VTP EIR uses the terms "prescribed herbivory," "prescribed grazing," and "grazing" but only defines "prescribed herbivory." RMAC recommends a close review of when those terms are used in

the document and revising the language choices when necessary, and adding "prescribed grazing" and/or "grazing" into the glossary if needed. The VTP EIR talks extensively about grazing in several sections (page 44-145, page 5-11, et al) but does not relate those discussions back to the use of prescribed herbivory for fuel reduction nor how grazers might utilize other treatment activities, such as prescribed fire, for ecological benefit. *"Planned Herbivory in the Management of Wildfire Fuels,"* by Glenn Nader, Zalmen Henkin, Ed Smith, Roger Ingram, and Nelmy Narvaez (https://journals.uair.arizona.edu/index.php/rangelands/article/view/12320/11609), provides information that may be helpful in connecting the two issues in, for example, Section 4.1.3 Rangeland Base and Ownership and page 5-11, part of Section 5.3.1.2 Related Past Projects, as well as Section 4.1.6.4 Prescribed Herbivory Activities.

1.c Prescribed herbivory is a treatment activity appropriate for WUI, fuel break, and ecological restoration treatment types as well as grass, shrub, and tree vegetation formations. The Committee is concerned that the VTP EIR, as written, implies that prescribed herbivory is only appropriate for ecological restoration projects and disregards the fuel reduction and ecological benefits that grazing can provide if used for WUI or fuel break treatments. The Committee recommends adding brief language about how prescribed herbivory or grazing may accomplish WUI or fuel break goals into 2.2.2.2.1 Wildland-Urban Interface (WUI) and 2.2.2.2.2 Fuel Breaks, similarly to how it's mentioned in 2.2.2.2.3 Ecological Restoration on page 2-29. It is also suggested a discussion of the use of prescribed herbivory be added to pages 4-38 and 4-54, in the discussion of how WUI (Section 4.1.5.1.2) and fuel break treatments (Section 4.1.5.3.2) might be accomplished.

1.d In Section 4.1.3 Rangeland Base and Ownership, as well as 4.1.6.4 Prescribed Herbivory, RMAC suggests a discussion of the utility of prescribed herbivory in all three stages of fuels management – pre-fire vegetation management, project maintenance, and post-fire recovery. Prescribed herbivory is a management tool that can be ideal throughout the entire fire ecological cycle, and RMAC believes the VTP EIR provides an opportunity to emphasis the benefits of prescribed herbivory throughout this cycle.

2. Inaccurate or Outdated Statistics

There are several places the VTP EIR could use improvement in regards to improving inaccurate or outdated statistics.

2.a On page 4-12, "Condition of Non-Federal Grasslands," there is a reference to the 2003 FRAP report on the condition of annual grasslands. The writer explained the "poor" rating (the 2003 report actually stated "fair to poor") as being due to applying methods for perennial grasslands to annual grasslands. That's somewhat right. What they meant was that NRCS (in the 1980s) did not directly evaluate the health of rangelands in terms of soil surface condition, water retention, productivity, etc. but instead against a long out-of-date method of identifying 'seral' ecological stages on the basis of the relationship of the species present to some hypothetical idea of what the ideal plant community composition should be. That particular result was fairly meaningless, and the Committee believes its inclusion in the EIR is bound to confuse readers. RMAC suggests the Board contact the NRI rangeland programs director, Lori Metz, for a simplified NRI report on conditions of California annual grasslands.

2.b Another section, "Grazing Capacity Estimates" on page 5-14, describes animal unit months (AUMs) inaccurately in important regards. **An AUM is the amount of forage (dry basis) that a 1,000 pound herbivore will eat in 30 days.** Most primary references give it as 780 pounds of dry matter, but the USDA estimates it as 1,000 pounds to be 'conservative' as possible and make the math very slightly easier. In addition to adjusting the AUM discussion, RMAC suggests this section include AUMs for goats and sheep, as those animals are likely to be used in prescribed herbivory projects under this

VTP. A fact sheet provided by the Utah State University Cooperative Extension, *Determining Your Stocking Rate*, by Mindy Pratt and G. Allen Rasmussen (attached) provides the following table, which RMAC recommends inserting on page 5-14 as a "quick reference" for VTP project proponents, along with a reference to the document:

TABLE 1: Commonly used Animal Unit Equivalents

CLASS OF ANIMAL	*ANIMAL UNIT EQUIVALENT*
Cow, 1000 lb, dry	0.92
Cow, 1000 lb, with calf	1.00
Bull, mature	1.35
Cattle, 1 year old	0.60
Cattle, 2 years old	0.80
Horse, mature	1.25
Sheep, mature	0.20
Lamb, 1 year old	0.15
goat, mature	0.15
Kid, 1 year old	0.10
Deer, white tailed, mature	0.15
Deer, mule, mature	0.20
Elk, mature	0.60
Antelope, mature	0.20
Bison, mature	1.00
Sheep, bighorn, mature	0.20

(from USDA NRCS National Range and Pasture Handbook)

RMAC members are available to Board staff to provide any additional information or data the Board deems appropriate. We are glad for the hard effort that has gone into this, and look forward to a final document that will facilitate a substantial increase in locally-developed projects that protect residents, improve productivity, and contribute to the quality and sustainability of the ecological wealth of California.

Thank you,

Marc Horney, PhD, CRM
Lesa Osterholm
Co-Chairs, Range Management Advisory Committee

Attachment: *Determining Your Stocking Rate*, Utah State University Extension, Mindy Pratt and G. Allen Rasmussen, 2001.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

May 31, 2016

ATTN: Edith Hannigan, Board Analyst
VTP Draft PEIR Comments
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DRAFT VEGETATION TREATMENT PROGRAM ENVIRONMENTAL IMPACT REPORT (VTPEIR), CALIFORNIA STATE BOARD OF FORESTRY AND FIRE PROTECTION – NO SCH# INDICATED

Dear Ms. Hannigan:

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) reviewed the Draft Vegetation Treatment Program Environmental Impact Report (Draft VTPEIR) for the California State Board of Forestry and Fire Protection (Board of Forestry). The VTPEIR is meant to be consistent with the Board of Forestry's comprehensive wildfire control strategy, the *2010 Strategic Fire Plan for California.* Under this statewide Vegetation Treatment Program (VTP; Project), the California Department of Forestry and Fire Protection (Cal Fire) will conduct wildland fuel management projects, or "vegetation treatments," in its designated State Responsibility Areas (SRA). Periodic low-intensity treatments within fire-adapted plant communities (Executive Summary p.E-3; VTPEIR p.2-6) would consist of grouped activities within three main categories: fuel reduction near structures at the Wildland-Urban Interface (WUI); fuel-break installation and maintenance; and/or restoration designed to enhance ecological resiliency to fire (p.E-8; p.2-11).

Within these three categories, the vegetation treatment projects themselves would adapt alteration activities to three vegetation classifications ("treatable formations") distributed upon a given subregional landscape ("tree," "shrub," or "grass"–dominated habitats), including prescribed canopy burns and understory "underburns;" manual and mechanical work to reduce non-natives or native species; planting of native species in ecologically strategic locations; beneficial grazing by goats and sheep; and targeted applications of specific herbicides. Mechanical thinning, hand pruning, mastication (grinding), sawing, uprooting and chaining by bulldozers, drill seeding, tilling, and other methods would be used to alter a forest floor to a desirable outcome.

We recommend that the Project incorporate the following comments into the Final EIR, in order for the Project to best protect water quality standards (water quality objectives and beneficial uses) contained in the Water Quality Control Plan for the Santa Ana River Basin (Region 8 Basin Plan, 1995, as amended):

1. Total VTP treatments are projected for an average of 60,000 acres per year statewide during a 10-year period. Region 8 contains 1.6% of the treatable area (p.4-282). The proposed Project is preferred by the Board of Forestry over five alternatives (listed in compliance with CEQA) that would reduce the vegetation treatments. Regional Board staff agrees that the maximum treatment possible under the VTPEIR program, as proposed, would likely have low risk of significant, long-term adverse environmental impacts, including to water-quality beneficial uses and Total Maximum Daily Loads (TMDLs).

2. VTPEIR p.4-62 describes the routine use of an ignited gelled fuel mixture as an accelerant for starting prescribed burns. Another mixture of potassium permanganate and ethylene glycol contained in polystyrene spheres is said to be optimum for starting spot-fires from helicopters. The VTPEIR should consolidate and evaluate the results of toxicity studies on the residues of fire accelerants intended for Project use, particularly in subwatersheds having rapid stormwater runoff. We understand that the U.S. Forest Service has conducted such studies.

3. In Chapter 4 and Appendix D, Herbicides, the VTPEIR thoroughly evaluated the known potential environmental impacts of the seven herbicides[1], and one fungicide for heterobasidion root disease (borax), intended for varied, targeted use statewide. This evaluation includes review of any documented acute and chronic toxicity for each herbicide selected, with risk for aquatic biota and discussion of epidemiological pathways into plant and animal life. Perhaps ten percent of the activities in the various watersheds would constitute herbicide application at diluted concentrations, as part of an effort to first find all other feasible options to remove targeted vegetation (VTPEIR p.2-38; 4-77; 4-239). Herbicides would not be applied aerially, but instead manually from walking personnel, tractors, or all-terrain vehicles using various techniques: backpack applicator, spray bottle (p.4-73), pellet dispersal (4-73, p.2-33-4), or wiping. As part of Mitigation Measures HYD-1 through HYD 13, Board staff understands that Cal Fire intends to comply with each Regional Board and its Basin Plan by issuing a standard notification of components for each upcoming project with requests for consultation and site visits with Board staff. Similarly, Mitigation Measure BIO-11 states that aquatic habitats and species shall be protected through the use of watercourse and lake protection zones (WLPZ; California Forest Practice Rules, CCR Chapters 4, 4.5, and 10), and that the Regional Board may be consulted for operational restrictions. Regional Board staff believes that such notification via electronic mail, to addresses below, would suffice and we appreciate this level of communication. While consultations and visits may be necessary depending on the treatment situations, they may be limited once the program is established.

   The Board of Forestry should discuss with the U.S. Army Corps of Engineers the appropriate compliance with Clean Water Act Section 404 (p.4-165). A 404 Permit would likely require an applicable statewide Water Quality Standards Certification from

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[1] From Appendix D p.8, 22 23 - Sodium tetraborate decahydrate (Borax/boric acid), clopyralid, glyphosate (Roundup©), hexazinone, imasapyr, sulfometuron methyl, triclopyr, and p-Nonylphenol (NP9E). Each variously targets cell structure, metabolism, or attacks a predatory organism/fungus.

the State Water Resources Control Board (SWRCB) to cover inevitable stream crossing impacts and any temporary fill to a water body.

4. At sufficient dosages, herbicides can be deleterious to invertebrates and vertebrates in riparian environments (p. 4-74). Therefore, the VTPEIR provides assurances of protection of water bodies from adverse effects, with several commendable measures:

- Mitigation Measure HAZ-8 (p.244) states that projects shall avoid herbicide treatment in riparian areas or other sites adjacent to water bodies. P. 4-72 states that herbicides shall be handled in accordance with their attendant Material Safety Data Sheets (MSDSs), and that "minimum buffer widths are specified between activity areas and water bodies when using herbicides not approved for aquatic use." Where aquatic habitats, sensitive habitats, or sensitive plant species are identified, these areas shall be marked and herbicides would not be applied within 50 feet of these areas (p.4-239 says 15 feet for sensitive plant species); where such areas cannot be avoided during an area's treatment, Cal Fire would proceed with separate environmental review of that particular project.

- A Spill Prevention and Response Plan would be prepared and implemented (p.4-244) to keep herbicides out of water bodies.

- Mitigation Measures HAZ-3 and HAZ-4 (p.2-61, -62) require examination of whether herbicide use is warranted in the onsite situation and how the application may be implemented safely. The storage, loading, and mixing of herbicides shall be set back at least 150 feet from any aquatic feature or special status species/habitat, and non-toxic colorants may be added to the herbicide mixture to indicate treated areas (HAZ-11-12).

- P.App.D-97 states that the chemical active ingredients, and the parameters under which they will be used, are well within U.S. Forest Service guidelines.

- P.4-239 notes that the herbicides to be used have been selected for minimal ecological toxicity and environmental fate, minimal transport, and proven efficacy against targeted species. Where repeated exposures to most of these herbicides have been anticipated to disrupt endocrine, neurological, reproductive, and/or immune systems, or have somatic (carcinogenic) and mutagenic (generational) effects, lab testing has indicated that there is No Observed Adverse Effect Level (NOAEL) for chronic toxicity.

- Prescribed herbivory by domesticated animals may prove to reduce the need for herbicides (p.4-70) during the VTP.

- Animal ingestion, including human exposure, is expected to be non-toxic (p.4-240) and impacts to the food-web through insect uptake are anticipated to be limited.

Notwithstanding the above, Board Staff note that Glyphosate (Roundup©) has toxic effects in water and around amphibians (p.App.D-120, 121), with a corresponding increase in general toxicity with an increase in temperature and acidity (low pH) of the

water it is released into. Although Board staff conventionally understand that Rodeo© is more compatible with aquatic use than Roundup©, the p. App.D-121 discussion of Roundup Biactive© indicates that this Australian formulation is less toxic to rainbow trout than Rodeo©. Further, P.D-123 indicates that Rodeo© is far more toxic at a pH of 8.0 than at a normal 6.5. We note that this more basic pH may occur where formations are naturally releasing salts into ponds and streams. Therefore, this information leads to our request to consider the use of Roundup Biactive© outside of the proposed aquatic buffers instead of Rodeo©.

Nonylphenol (NP) is an herbicide surfactant highly toxic to aquatic organisms (EPA finding, App.D-136) and its use, even outside of aquatic buffers, should be reconsidered.

5. Prescribed burns would be conducted in a mosaic pattern to maintain old and new growth, and when burn intensities are low to moderate during the spring season (p.4-241). If vegetation is to be thinned or burned such that sediment is more likely to be washed into a subwatershed's drainage, then p.4-122 and/or an appropriate page should state what "Standard Project Requirements (SPRs), or Best Management Practices (BMPs) will be used to retain soil and nutrients.

6. Water drafting (p.4-158; Mitigation Measure BIO-10) is taken to mean the pumping of water from streams for temporary uses such as controlling burns. Screens would be used at pump intakes to keep out egg masses and small fauna. Board staff suggests the vertical insertion of slotted polyvinyl chloride pipe into soft streambeds, in order to create mobile temporary wells that may harvest underflow and pose little impact to surface waters. The general use of this water and streambed should be discussed with the SWRCB Division of Water Rights and the California Department of Fish and Wildlife.

If you have any questions regarding our comments, please contact Glenn Robertson at (951) 782-3259 or Glenn.Robertson@Waterboards.ca.gov ,
or me, at (951) 782-4468 or Wanda.Cross@Waterboards.ca.gov

Sincerely,

Glenn Robertson, for

Wanda M. Cross, Chief
Regional Planning Programs Section

cc: California Board of Forestry and Fire Protection – VegetationTreatment@bof.ca.gov
State Clearinghouse
State Water Resources Control Board, Division of Clean Water Programs – Clifford Harvey
Clifford.Harvey@waterboards.ca.gov
California Department of Fish and Wildlife, Ontario office - Jeff Brandt , jbrandt@Wildlife.ca.gov
U.S. Fish and Wildlife Service, Palm Springs office – Karin Cleary-Rose, Karin_Cleary-Rose@fws.gov

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CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

May 31, 2016

ATTN: Edith Hannigan, Board Analyst
VTP Draft PEIR Comments
California Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460

DRAFT VEGETATION TREATMENT PROGRAM ENVIRONMENTAL IMPACT REPORT (VTPEIR), CALIFORNIA STATE BOARD OF FORESTRY AND FIRE PROTECTION – NO SCH# INDICATED

Dear Ms. Hannigan:

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) reviewed the Draft Vegetation Treatment Program Environmental Impact Report (Draft VTPEIR) for the California State Board of Forestry and Fire Protection (Board of Forestry). The VTPEIR is meant to be consistent with the Board of Forestry's comprehensive wildfire control strategy, the *2010 Strategic Fire Plan for California*. Under this statewide Vegetation Treatment Program (VTP; Project), the California Department of Forestry and Fire Protection (Cal Fire) will conduct wildland fuel management projects, or "vegetation treatments," in its designated State Responsibility Areas (SRA). Periodic low-intensity treatments within fire-adapted plant communities (Executive Summary p.E-3; VTPEIR p.2-6) would consist of grouped activities within three main categories: fuel reduction near structures at the Wildland-Urban Interface (WUI); fuel-break installation and maintenance; and/or restoration designed to enhance ecological resiliency to fire (p.E-8; p.2-11).

Within these three categories, the vegetation treatment projects themselves would adapt alteration activities to three vegetation classifications ("treatable formations") distributed upon a given subregional landscape ("tree," "shrub," or "grass"–dominated habitats), including prescribed canopy burns and understory "underburns;" manual and mechanical work to reduce non-natives or native species; planting of native species in ecologically strategic locations; beneficial grazing by goats and sheep; and targeted applications of specific herbicides. Mechanical thinning, hand pruning, mastication (grinding), sawing, uprooting and chaining by bulldozers, drill seeding, tilling, and other methods would be used to alter a forest floor to a desirable outcome.

We recommend that the Project incorporate the following comments into the Final EIR, in order for the Project to best protect water quality standards (water quality objectives and beneficial uses) contained in the Water Quality Control Plan for the Santa Ana River Basin (Region 8 Basin Plan, 1995, as amended):

1. Total VTP treatments are projected for an average of 60,000 acres per year statewide during a 10-year period. Region 8 contains 1.6% of the treatable area (p.4-282). The proposed Project is preferred by the Board of Forestry over five alternatives (listed in compliance with CEQA) that would reduce the vegetation treatments. Regional Board staff agrees that the maximum treatment possible under the VTPEIR program, as proposed, would likely have low risk of significant, long-term adverse environmental impacts, including to water-quality beneficial uses and Total Maximum Daily Loads (TMDLs).

2. VTPEIR p.4-62 describes the routine use of an ignited gelled fuel mixture as an accelerant for starting prescribed burns. Another mixture of potassium permanganate and ethylene glycol contained in polystyrene spheres is said to be optimum for starting spot-fires from helicopters. The VTPEIR should consolidate and evaluate the results of toxicity studies on the residues of fire accelerants intended for Project use, particularly in subwatersheds having rapid stormwater runoff. We understand that the U.S. Forest Service has conducted such studies.

3. In Chapter 4 and Appendix D, Herbicides, the VTPEIR thoroughly evaluated the known potential environmental impacts of the seven herbicides[1], and one fungicide for heterobasidion root disease (borax), intended for varied, targeted use statewide. This evaluation includes review of any documented acute and chronic toxicity for each herbicide selected, with risk for aquatic biota and discussion of epidemiological pathways into plant and animal life. Perhaps ten percent of the activities in the various watersheds would constitute herbicide application at diluted concentrations, as part of an effort to first find all other feasible options to remove targeted vegetation (VTPEIR p.2-38; 4-77; 4-239). Herbicides would not be applied aerially, but instead manually from walking personnel, tractors, or all-terrain vehicles using various techniques: backpack applicator, spray bottle (p.4-73), pellet dispersal (4-73, p.2-33-4), or wiping. As part of Mitigation Measures HYD-1 through HYD 13, Board staff understands that Cal Fire intends to comply with each Regional Board and its Basin Plan by issuing a standard notification of components for each upcoming project with requests for consultation and site visits with Board staff. Similarly, Mitigation Measure BIO-11 states that aquatic habitats and species shall be protected through the use of watercourse and lake protection zones (WLPZ; California Forest Practice Rules, CCR Chapters 4, 4.5, and 10), and that the Regional Board may be consulted for operational restrictions. Regional Board staff believes that such notification via electronic mail, to addresses below, would suffice and we appreciate this level of communication. While consultations and visits may be necessary depending on the treatment situations, they may be limited once the program is established.

   The Board of Forestry should discuss with the U.S. Army Corps of Engineers the appropriate compliance with Clean Water Act Section 404 (p.4-165). A 404 Permit would likely require an applicable statewide Water Quality Standards Certification from

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[1] From Appendix D p.8, 22 23 - Sodium tetraborate decahydrate (Borax/boric acid), clopyralid, glyphosate (Roundup©), hexazinone, imasapyr, sulfometuron methyl, triclopyr, and p-Nonylphenol (NP9E). Each variously targets cell structure, metabolism, or attacks a predatory organism/fungus.

the State Water Resources Control Board (SWRCB) to cover inevitable stream crossing impacts and any temporary fill to a water body.

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If you have any questions regarding our comments, please contact Glenn Robertson at (951) 782-3259 or Glenn.Robertson@Waterboards.ca.gov ,
or me, at (951) 782-4468 or Wanda.Cross@Waterboards.ca.gov

Sincerely,

Glenn Robertson, for

Wanda M. Cross, Chief
Regional Planning Programs Section

cc: California Board of Forestry and Fire Protection – VegetationTreatment@bof.ca.gov
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State Water Resources Control Board, Division of Clean Water Programs – Clifford Harvey
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26 May 2016

Edith Hannigan, Board Analyst
VTP Draft PEIR Comments
Board of Forestry and Fire Protection
PO Box 944246
Sacramento, CA 94244-2460

COMMENTS AND RECOMMENDATIONS FOR CAL FIRE VEGETATION TREATMENT PROGRAM ENVIRONMENTAL IMPACT REPORT 2016

Central Valley Regional Water Quality Control Board staff has reviewed CAL FIRE's Vegetation Treatment Program draft Program Environmental Impact Report (VTP PEIR) dated March 2016. Staff is providing the following comments and recommendations for consideration by CAL FIRE.

1. Multiple references to HYD-2 and other Hydrologic and Water Quality-Related Standard Project Requirements appear throughout the document. Please update all corresponding sections to reflect the following:
    a. If herbicide use is planned, the standard letter to the Regional Board should include the herbicide trade name or active ingredient and season of application.
    b. Project maps should include at a minimum: topographic lines, watercourses and their associated classification, and roads within the project area of sufficient scale for desktop review.
    c. The standard letter to the Regional Board should discuss any alternative mitigation measures to the Forest Practice Rules (14 CCR, Ch. 4&4.5) that are necessary to meet site-specific conditions and how those alternatives will provide equal to or greater protection to the beneficial uses of water quality.

2. Multiple references to HYD-11 and associated water drafting operations contain no reference to the use of absorbent pads underneath vehicles. At a minimum, it is recommended that absorbent pads or similar materials be made available at each drafting location in the event that leaking fluids are discovered during operations.

3. The VTP PEIR states that burning will not occur within any WLPZ unless a backing fire is allowed to enter the zone. However, when referring to burn piles, there is no specific mention of standard mitigations as it relates to the distance away from any WLPZ. Please clarify HYD-15 to include language about locating burn piles outside of the WLPZ corresponding to stream classification.

4. Table 4.5-1 and other tables contain information that is not directly attributed to a source. Please provide a reference or description for where information presented in each table has been obtained.

5. In Table 4.5-2, p. 4-264, there are several abbreviations of "BIOL", yet no definition is provided in the left column. Please include a definition for "BIOL".

6. Many references in the VTP PEIR discuss hydrologic disconnection of watercourses and roads to mitigate any potential discharge. However, hydrologic disconnection is not achievable in all cases. Please update the discussion to include a description of additional mitigations that may be used where hydrologic disconnection cannot be achieved.

7. On page 4-283, the 4th paragraph states that no new road construction or reconstruction is allowed under the VTP. In areas where road access is a limiting factor, please list any alternatives that may be available to project proponents.

8. Mitigation HYD-16 and page K-1, indicates that additional hydrologic analysis will be performed when the percent watershed disturbance exceeds 20 percent. The type of analysis is not described and this requirement is not sufficiently clear.

    a. Provide the reference document(s) that explains the origin and significance of the 20% disturbance threshold statewide.

    b. Please provide the type(s) of additional hydrologic analysis that will be conducted when disturbance exceeds the 20 percent threshold.

If you have questions regarding these recommendations, please contact me at Tal.Robinson@waterboards.ca.gov or (916) 464-4826.

Talmadge (Tal) Robinson
Forest Activities Program

United States Department of the Interior

NATIONAL PARK SERVICE
Santa Monica Mountains National Recreation Area
401 West Hillcrest Drive
Thousand Oaks, California 91360-4207

May 31,2016

California Board of Forestry and Fire Protection
Attn: Edith Hannigan, Board Analyst
Email: VegetationTreatment@bof.ca.gov

Dear Ms. Hannigan and Members of the Board,

The National Park Service (NPS) provides the following comments on the Vegetation Treatment Program (VTP) Draft Program Environmental Impact Report (DPEIR). The Santa Monica Mountains National Recreation Area (SMMNRA) was created by Congress in 1978 and includes 153,250 acres, more than 84,000 of which are managed as park land. The NPS owns 23,500 acres of these acres. A cooperative management agreement between the Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, and California State Parks provides a framework under which the three agencies share resources and responsibilities for public land management.

Lands within the SMMNRA area have been marked by frequent, large, and in many cases, destructive wildfires. Since its creation, the SMMNRA has recognized the need to manage wildland fire to reduce threats to life, property, and park resources.

The most important aspect of our fire management program is to work collaboratively with our partner agencies and local communities. A model of this collaboration is the Santa Monica Mountains Fire Safe Alliance (SMMFSA) founded by Los Angeles County Supervisor Zev Yaroslavsky and co-chaired by the Los Angeles County Fire Department. The alliance is a broad group of wildfire stakeholders whose mission is to "work together to improve stewardship in the wildland urban interface…to create defensible space while protecting wildlands".

The NPS has provided more than $250,000 to communities to develop a Community Wildfire Protection Plan and provides substantial funding to complete fuels treatments to provide defensible space. The NPS has also worked with the local fire agencies, homeowner groups and firesafe councils to emphasize a "house out" strategy to harden existing structures against ember ignition followed by fuel modification of a modest-sized defensible space as the most effective way to reduce wildfire risk to lives and property, while minimizing damage to resources (Syphard et al, 2012; Miner, 2014; Keeley and Brennan, 2012; North Topanga Canyon Firesafe Council).

The NPS shares concerns articulated by our partner, the Santa Monica Mountains Conservancy, namely anticipated loss of habitat, resulting loss of diversity within the habitat, and the apparent inability of the proposed VTP to protect lives, property, and natural environment from wildland fire.

Specifically, the NPS has serious concerns with several areas of controversy listed in the DPEIR (p. E-12):

- Cumulative impacts to chaparral communities from program treatments and wildfires.
- Impacts to water quality, biological resources, and human health.
- Ability to address the ecological and social complexities of the state in a single Program.

The revised VTPEIR is disappointing in that it has proposed a set of general vegetation treatment objectives of unsupported effectiveness (p.E2-E3) instead of goals based on current science to reduce wildfire threats related to structure loss, habitat loss, type conversion and reduced carbon storage. Not all vegetation treatments reduce fire risk. Research funded by the Department of the Interior has demonstrated that defensible space is effective. Strategic fuel breaks have proved ineffective and may increase fire risk by encouraging conversion to fine fuel (see Syphard et al, 2012).

Wildfire management must be nimble and able to adapt to new or unpredicted circumstances based on sound science. In the Santa Monica Mountains we have seen unprecedented changes in the last five years. Our first ever major spring season wildfire burned 24,000 acres in May 2013. Extended drought for the past four years has inhibited normal postfire vegetation recovery and caused major shrub dieback in unburned areas. Shrub dieback has opened closed canopies and allowed herbaceous fuel growth in the understory in 2016, creating potentially increased wildfire risk for this year. Even with environmental conditions remaining status quo, the VTPEIR does not offer appropriate solutions to known wildfire problems for our region; in a rapidly changing environment it does not address new and emerging wildfire threats and how the proposed treatment program may exacerbate them (Enright et al, 2015; Pratt et al, 2014: Pausas et al, 2015).

The VTPEIR will be one the most important wildland fire management document in California, one that will guide the activities of our partners - communities, local governments, and state agencies - for the next decade. We hope that the VTPEIR can be modified through a collaborative process to better address the wide range of wildfire solutions needed in the state and to build in adaptation mechanisms as more is learned about the most effective management strategies for fire safety and ecosystem resilience.

Thank you for the opportunity to comment. If you have questions, please contact NPS fire ecologist, Dr. Marti Witter at (805)370-2333 or Derrek Hartman, SMMNRA Fire Management Officer, at (805) 501-9444.

Sincerely,

David M. Szymanski

David Szymanski
Superintendent

References

Enright, N. J., J. B. Fontaine, D. M. J. S. Bowman, R. A. Bradstock, and R. J. Williams. 2015. Interval squeeze: altered fire regimes and demographic responses interact to threaten woody species persistence as climate changes. Frontiers in Ecology and the Environment 13:265-272.

Keeley, J. E., T.J. Brennan. 2012. Fire-driven alien invasion in a fire-adapted ecosystem Oecologia 169:1043-1052.

Miner, A. J. 2014. Defensible space optimization for preventing wildfire structure loss in the Santa Monica Mountains. M.S. Johns Hopkins University.

Pausas, J. G., Pratt, R. B., Keeley, J. E., Jacobsen, A. L., Ramirez, A. R., Vilagrosa, A., Paula, S., Kaneakua-Pia, I. N. and Davis, S. D. (2015), Towards understanding resprouting at the global scale. New Phytologist. doi: 10.1111/nph.13644

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Syphard, A. D., T. J. Brennan, and J. E. Keeley. 2014. The role of defensible space for residential structure protection during wildfires. International Journal of Wildland Fire 23:1165-1175.

Hannigan, Edith@BOF

From: Taylor, Robert <robert_s_taylor@nps.gov>
Sent: Wednesday, June 01, 2016 7:16 PM
To: Elisabeth Landis
Cc: Vegetation Treatment Program@BOF; Hannigan, Edith@BOF; Greg Suba; Frank Landis; Snowdy Dodson; Hartman, Steve; Julie Clark De Blasio; Witter, Martha
Subject: Re: Vegetation Treatment Program PEIR comments from LASMM Chapter CNPS

Thanks Snowdy et al,

That is a terrific letter emphasizing a number of very important points that have generally gone unmentioned by our colleagues!

You made one standout suggestion that could be a very welcome game-changer: Bullet 7, page 2.

I wonder if the CalFire veg clearance folks might get very excited about your suggested large scale program of removing dead and dying trees in the service of a biofuel program? That could be a real win-win project that would get them off their current problematic track, help get us off their case, and allow them to achieve a number of truly appealing things that lots of stakeholders could support:

- Those at CalFire who just really really want to keep cutting woody vegetation on large areas of land get to keep doing that.
- Biologists become CalFire's friends and allies rather than "obstacles to fuel treatment" when biologists are helping them identify vast acreages of dead and dying trees that biologists want them to remove.
- CalFire fuel treatment people get to claim an honest, clear, and demonstrable ecological benefit for their projects that biologists will affirm. No more need to justify projects with defensive, weasel-wordy hand waving about creating vague hypothetical "habitat value" for undefined species.
- CalFire fuel treatment people can keep calling their work "hazard fuel removal," and count the acres as such if they want to. It is not a stretch to characterize a large stand of Sudden Oak Death (SOD)-killed woodland as some kind of fire hazard. They get to claim a fire safety benefit for their projects, so multiple objectives are met. Woo hoo!
- But wait, there's more! If they really help take a lot of diseased, fire prone biomass off the landscape before it burns, and run it through newly constructed biofuel facilities to make something that replaces a fossil fuel, and they also help prepare SOD-killed woodlands for a speedier return to healthy, carbon-sequestering native plant cover, then we avoid some of the current shady carbon accounting and it becomes easier to demonstrate honest benefits for CA's carbon footprint. (If all those trucks and chainsaws don't blow our carbon budget)
- One could honestly call it a proactive natural resource management program addressing expected climate change effects on CA landscapes. This would be especially true if any aids to revegetation on the backside of a treatment are sensitive to expected changes in future habitat suitability for dominant species. Biologists will need to help advise them on that part too.
- New biofuel facilities can be characterized honestly as centers of rural job creation.
- New biofuel facilities can be characterized honestly as renewable energy development.
- Some new biofuel facilities can probably also become sources of certified sterile, pathogen-free compost and other soil amendments. (Let the thermophilic fungi cook the pathogens out of the biomass in big temperature-controlled composting barns or something?) Plug them in with organizations like Ecology Action in Willits and let a thousand gardens bloom.

- Those at CalFire who really really want to keep modeling fire hazard for project planning purposes could keep doing that. Some SOD-killed areas that need treating will also fall near human communities or adjacent to existing anchor points for fire suppression. CalFire could still prioritize some SOD-killed areas that they figure will create new tactical advantages to wildland firefighters and claim some arguable fire safety benefits for their projects in addition to all the other benefits. Why not?
- If the primary objective is removing disease-killed biomass (=dead hazard fuels) to stimulate vegetation recovery (replacement with less hazardous, live fuels), then it will not be necessary to treat an area over and over again to achieve their objectives. So they'll be able to treat a lot more acres in the long run than if they were just making fuelbreaks requiring annual treatment from now until forever. Woot!

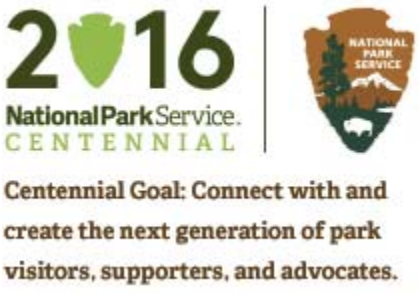
One of the scary things about SOD and other impending woodland epidemics is the vast spatial scale of the damage. And CalFire's VTP is a vast, potentially damaging project in search of a legitimate mission. So give it a good one and everyone is happy. If sensitively directed and implemented, CalFire's VTP could actually be a really helpful service to our state. Its huge proposed scope would actually be appropriate to tackling a huge problem like epidemics of woodland dieback. In fact, CalFire is one of the only entities capable of undertaking coordinated work on such a large scale. CalFire management might really love this new mission once they got their heads around it.

I think now would be a terrific time to get a cabal of subject matter experts together to develop this general idea into a more specific proposal. The first thing to prove would be the specific technical feasibility and economic viability of the proposed biofuel facilities.The fact that the VTP does not need to pay for itself will probably be one of the keys to making the whole thing break even. I expect the cost of cost effectively transporting all the biomass (instead of masticating and leaving it onsite) frmo project sites to biofuel facilities without spreading fungal pathogens will be a challenge.

So what do folks think about this? Does this general notion even pass the laugh test? Did anyone else have an "Aha!" moment thinking about this?

RT

Robert S Taylor
Fire GIS Specialist
Coast Mediterranean Network, National Park Service
Santa Monica Mountains National Recreation Area
401 W. Hillcrest Dr.
Thousand Oaks, CA 91360



On Tue, May 31, 2016 at 1:37 PM, Elisabeth Landis <betseylandis@sprintmail.com> wrote:
Dear Edith Hannigan and all-
The Los Angeles / Santa Monica Mountains Chapter of California Native Plant Society submits a letter of

comments on the Vegetation Treatment Program PEIR. See attached letter.

We would appreciate a reply that you have received the document and can open the document.

Thank you.

Snowdy Dodson
President
Los Angeles / Santa Monica Mountains Chapter
California Native Plant Society