California Native Plant Society
P O. Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org

May 31, 2016

Edith Hannigan, Board Analyst
Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460
VegetationTreatment@bof.ca.gov

Re: Draft Programmatic Environmental Impact Report For The Vegetation Treatment Program of the California State Board of Forestry and Fire Protection

Dear Ms Hannigan and Members of the Board:

We appreciate the opportunity to comment on the Draft Programmatic Environmental Impact Report for The Vegetation Treatment Program Of the California State Board of Forestry and Fire Protection ("DEIR," "VTP," "BoF").

The California Native Plant Society (CNPS) works to protect California's native plant heritage and preserve it for future generations. CNPS promotes sound plant science and action against climate change as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices. CNPS support appropriate land management practices to sustain California native plant species, both on properties dedicated to that purpose (e.g. State, Federal, County, or local and private conservation parks or preserves) and other properties, private and public, where these species occur, especially where their continued survival helps provide a genetic buffer for their survival, should catastrophic events destroy them in protected areas.

We strongly agree that fire and invasive species are critical issues that must be actively managed. However, **westrongly recommends that this DEIR NOT be certified, due to lack of substantial evidence to support contentions and conclusions made throughout the document, due to substantial procedural lapses and irregularities, as well as the other issues we list below. We further contend that it cannot serve the purpose it was apparently designed for, and propose possibly more workable solutions for the Board's consideration.**

Based on the DEIR, we have many questions, including:

1. How the DEIR deals with its procedural lapses and irregularities
2. How the DEIR deals with native plants issues
3. How the DEIR deals with climate change
4. Why the DEIR contains so many misstatements based on scientific papers, reliance on anecdotal evidence, and avoidance of scientific advice?
5. Why the DEIR contains so many internal contradictions.

The following groups of questions are based on the concerns summarized above. We formally request that the BoF fully consider and respond to our questions in an effort to improve the Draft DEIR by clarifying, among other things, its purpose, rationale, and management structure.

We note that this letter contains similar material to the San Diego CNPS (CNPSSD) comment letter on a previous version of the DEIR, sent February 15, 2013. That letter also included a formal request to the Board of Forestry to respond to the questions that letter raised. The BoF never responded to that request, which is unfortunate, as many of those questions were specifically designed to help the BoF write a better DEIR. As a result, the current Report repeats many of its predecessors' mistakes, and the same criticisms still apply.

Background

California is inarguably the most complicated state in the US, whether the complexity is biodiversity (California is a global biodiversity hotspot[1]), socio-political, geographic, geologic, or in the massive infrastructure of aqueducts, power grids, farms, forests, and cities that allow over 38,000,000 people to live here. Worse, climate change is affecting everything, from water availability to fire behavior. Writing a programmatic EIR (PEIR) is about analyzing the predictable, cumulative impacts of a program. Writing a PEIR for a program that proposes a diverse set activities across almost one-fifth of California is a truly titanic undertaking that the writers of the DEIR did not really engage in.

The main body of the DEIR is only 759 pages long, and it contains multiple repetitions. To show why this is a problem, compare it to the natural resources management plan and Mitigated Negative Declaration for 1,092 acres of urban park in San Diego, which was 159 pages long[2]. The DEIR, supposedly an analysis of a long-term program that proposes to treat up to 22,000,000 acres over decades, is barely five times longer than a routine local management document that deals with a few miles of trail. There is no way the DEIR can provide adequate analysis in so short a length, and it does not. The scale of the DEIR far too small for the VTP. Unfortunately, the issues do with the DEIR do not stop at its short length.

1. With respect to CEQA, we noticed numerous procedural lapses and irregularities:

1.A. Why is the DEIR written with such lack of detail? It certainly is not because it is a PEIR. According to CEQA, all EIRs, whether programmatic or not, need to contain a detailed analysis, and PEIRs are supposed to analyze impacts " as specifically and comprehensively as possible."[3] Indeed, the role of a PEIR is two-fold: it includes “more exhaustive consideration" of

[1] Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B., and J. Kent. (2000). Biodiversity hotspots for conservation priorities. *Nature*, 403(6772), 853-858.
[2] City of San Diego (2015). Carmel Mountain/Del Mar Mesa Natural Resources Management Plan and Trail System..
[3] CEQA Guidelines, 15168(a), (c)(5)

impacts, mitigation, and alternatives than an individual project EIR could include, and it considers cumulative impacts[4]. Projects are supposed to "tier" off the PEIR, depending on and supplementing its analysis only, not doing the work that it was supposed to contain.

CEQA further notes that "[t]iering does not excuse the lead agency from adequately analyzing reasonably foreseeable significant environmental effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration."[5] Also, "[d]esignating an EIR as a program EIR also does not by itself decrease the level of analysis otherwise required in the EIR."[6] Programmatic EIRs must contain "extensive, detailed evaluations" of a plan's impacts on the existing environment. The DEIR's reliance on future, project-level environmental review is contrary to CEQA's policy of favoring early identification of environmental impacts. CEQA does not allow agencies to defer analysis of a plan's impacts to some future EIR for specific projects contemplated by that plan. Finally, as we understand it (we are not lawyers) the courts have ruled that environmental review must take place before project approval, and specifically that, in an programmatic EIR, tiering" is not a device for deferring identification of significant environmental impacts that the adoption of a specific plan can be expected to cause."[7]

Given that the DEIR does exactly the opposite of what CEQA policy states and courts support, why was it written that way? Would it not have been better to follow CEQA and relevant case law?

1.B. What exactly is the Proposed VTP, and what are its boundaries in space and time?
Here is what we do know about the VTP, from the DEIR:

- (p. E-6) "The total land area where the vegetation formation assemblages are appropriate for a ...treatment is approximately 22 million acres, or 71 percent of the SRA [State Responsibility Area]."
- Maps in Figure ES-1 (pE-7) make it clear that many treatment acres are outside the SRA. Other maps (e.g. Figure A1-1, p. A-2) show that some of the "treatable acres in the VTP" are either in Local Responsibility Areas or Federal Responsibility Areas, although all maps in the DEIR are at too small a scale to see boundaries, a fact emphasized by the "blowup" sections on some to show the presence of undescribed and unanalyzed details (e.g. 2.2-9, p. 2-20).
- The VTP seeks to treat 60,000 acres per year, with 231 projects per year averaging 260 acres each (p. 2-35). This is huge (60,000 acres is 93.75 square miles, roughly the size of Oakland and Berkeley combined), but it is not clear if it is appropriate. For example, if every one of the 22,000,000 acres " appropriate for a treatment" were to be treated just once, it would take almost 367 years (22,000,000 acres/60,000 acres per year), which is clearly inadequate for any kind of sustained vegetation management. Clearly the VTP actually intends to treat a small subset of land " appropriate for a treatment, "but the actual parcels to be treated are not discussed, mapped, or analyzed, and may not be determined yet.
- The VTP breaks California down into nine ecoregions; it proposes three types of fuel management treatments, at the Wildand Urban Interface (WUI), on fire breaks, and as ecological restoration; it proposes a menu of treatment activities including controlled burns (supposedly half of the treatments), grazing with non-native herbivores, mechanical

[4] CEQA Guidelines, 15168(b)(1)-(2).
[5] CEQA Guidelines 15152(b)
[6] CEQA Guidelines 15160.
[7] Stanislaus Natural Heritage Project v. County of Stanislaus (1996)

clearance, clearance by hand, and herbicide application. Just a simple combinatorial analysis, 9 ecoregions times 3 management treatments times 5 treatment activities, leads to 135 different scenarios, even without adding further very necessary complexities. Analyzing the impacts of over one hundred scenarios is an enormous task, one that is impossible in a document that is only 759 pages long. Indeed, the DEIR does not grapple with this full complexity at all, so we have no idea exactly what will happen when, where, why, or how often.

There is a problem with this approach: as we understand it, the courts have ruled that "[a]n accurate, stable and finite project description" in an EIR is necessary to analyze its impacts, and a "truncated project concept" violates CEQA.[8] While exhaustive detail is unnecessary, CEQA mandates that EIR project descriptions should be sufficiently detailed, and sufficiently accurate, to permit informed decision making.[9]

Given that the DEIR does exactly the opposite of what CEQA policy states and courts support, why was the DEIR written that way? Would it not have been better to follow CEQA and relevant case law? What exactly is the VTP?

1.C. Where is the program map, and what parcels are subject to the VTP? According to CEQA[10]: "The precise location and boundaries of the proposed project shall be shown on a detailed map, preferably topographic. The location of the project shall also appear on a regional map." While numerous maps are supplied, they are labeled as responsibility areas or as modeled areas that might be treated. We could find no hard-line map.

- How can local impacts be analyzed if the time and place affected by any program is not specified? How can cumulative impacts be analyzed if there is insufficient local data on where and when the program occurs, and what is affected?
- How can landowners determine whether they or neighboring properties are susceptible to the VTP, in case they want to take action?
- Why does the DEIR show maps that are insufficiently detailed for any landowner to determine whether they are subject to the proposed program or not?

Environmental impacts must, by definition, have an environment in which to occur. Phrasing the acreage as " appropriate for treatment" is insufficient. If a parcel is considered eligible for the Program, then the Program has a boundary, and all parcels within that boundary must shown on maps, to circumscribe the environment impacted by the Program.

There is a second map issue, which can be seen clearly in Figure ES-1, but which is repeated throughout the DEIR: **Why do the maps of the State Responsibility Area, Treatable Vegetation Formations, and Treatable Acres in the VTP not agree? It appears that there are quite a few acres (fire breaks?) that occur in the deserts and other areas outside the State Responsibility Area. Is CALFIRE responsible for these?**

- **Why is vegetation that is outside the State Responsibility Area discussed but not mapped?**
- **Why are there fuel breaks that appear to be in the Federal Responsibility Area (compare Figure A-1.1, page A-2, and A-1.3, page A-5)? If these areas are under Federal Responsibility should the DEIR not also be an environmental impact statement, and EIR/S?**

[8] Sacramento Old City Association. v. City Council (1991), Rio Vista Farm Bureau v. County. of Solano (1992)
[9] CEQA Guidelines § 15124
[10] ibid.

1.D How does the DEIR deal with thresholds of significance? CEQA presumes that agencies will use thresholds of significance as a tool for determining the significance of a project's possible impacts. [11] What are the thresholds of significance for biological impacts in the DEIR? We could not find them, and this causes problems throughout the document. For example, the DEIR states that the VTP would have a significant impact if it contributes to the substantial, long-term decline in the viability of any native species (p. 4-115). Unfortunately, there is no threshold to determine what substantial, long-term, and viability mean in order to determine when a significant impact has occurred. Without thresholds, there is no mechanism for determining whether impacts have been mitigated to below the level of significance, and thus the analysis is incomplete.

1.E. Why does the DEIR defer analysis of so many impacts and creation of mitigations until after it is approved? CEQA requires EIRs to be detailed, complete, and contain a sufficient degree of analysis to let the public and decision-makers understand the proposed project's adverse environmental impacts, so that corrections can be made and an informed decision can ultimately be undertaken.[12] As we understand it, the courts repeatedly have ruled against deferring analysis until after the EIR is approved.[13] Similarly, EIRs are generally not allowed to defer evaluation of mitigations.[14] Why does the VTP DEIR resort to these tactics so often?

1.F. Why does the DEIR inadequately analyze so many impacts from the VTP? Under CEQA, "[a]n EIR shall identify and focus on the significant effects of the proposed project."[15] As we understand it, the courts have ruled against merely incorporating the conclusions of an analysis, and that an EIR must contain facts and analysis as well.[16] We deal with one glaring botanical example of this problem below in 2.A., but it is ubiquitous throughout the DEIR. Why does the DEIR resort to inadequate analysis so often?

1.G. Why does the DEIR contain so many mitigation measures that are vague, unenforceable, and inadequate? CEQA requires all EIRs to not only identify significant impacts but also to find ways to mitigate them below the level of significance as much as possible.[17] Furthermore, the mitigation measures must be enforceable.[18] As we understand it, the courts have ruled against mitigation measures that are vague and unenforceable. [19] Why does the VTP DEIR resort to these tactics so often? Where is the detailed, complete, and sufficient analysis in the DEIR to allow anyone to conclude that the VTP will not have significant individual and cumulative impacts?

---

[11] CEQA Guidelines § 15064(a), 15064.7
[12] CEQA Guidelines § 15151.
[13] No Oil, Inc. v. City of Los Angeles (1974), Sundstrom v. County of Mendocino (1988), Gentry v. City of Murrieta (1995).
[14] CEQA Guidelines § 15126.4(a)(1)(B)
[15] CEQA Guidelines § 15126.2(a)
[16] Citizens of Goleta Valley v. Board of Supervisors (1990)
[17] Public Resources Code, §§ 21002, 21061.1; CEQA Guidelines §§ 15021(b), 15364
[18] Public Resources Code, § 21002; CEQA Guidelines §§ 15002(a)(3), 15126.4(a)(2)
[19] Anderson First Coalition v. City of Anderson (2005)

1. H. Why are the Objectives so badly defined?

- **Aren't Objectives 2, 3, and 4 subsets of Objective 1?** Objective 1, "Modify wildland fire behavior to help reduce losses to life, property, and natural resources,"(p. E-3) includes objectives 2-4 so one can argue that 2-4 are redundant. These objectives perhaps refer instead to the three treatment activities respectively deal with fire in the wildland urban interface ("WUI"), fire breaks, and "ecological restoration," although not only are they not named as such. In any case, they are, at best, sub-goals of #1. Why separate them out?
- **Can the VTP accomplish Objectives 2 and 3?** Objective 2 (p. E-2) states: "[i]ncrease the opportunities for altering or influencing the size, intensity, shape, and direction of wildfires within the wildland urban interface," and Objective 3 (p. E-3) states: "Reduce the potential size and total associated suppression costs of individual wildland fires by altering the continuity of wildland fuels." If the average VTP project is 260 acres, less the half a square mile, and embers can travel up to 12 miles (see section 4 below), then are VTP projects at the right scale to make any meaningful difference? The VTP needs to make clear what kinds of fires it envisions protecting against, because these two objectives seem to be scaled too small to control the wind-driven fires that cause a vast majority of destruction in California.
- **What is meant by Objective 4?** Objective 4 (p. E-3) is to "[r]educe the potential for high severity fires by restoring and maintaining a range of native, fire-adapted plant communities through periodic low intensity treatments within the appropriate vegetation types." While this might make sense in, for instance, ponderosa pine forests that have become overgrown with saplings due to fire suppression, it appears that the majority of controlled burns are aimed at shrub-dominated vegetation, e.g. chaparral (p. 4-427). As both the California Chaparral Institute and CNPSSD have argued repeatedly, there is too much fire in chaparral, especially in southern California. The simplest way to improve this fire return interval is to not burn in chaparral for the next century or so. Both Objective 4 and the VTP itself need to become consistent and transparent about what they intend to burn, where, and why. CNPSSD does not disagree that some plant communities, such as some ponderosa pine stands in the Sierra Nevada, could benefit from controlled burns. These need to be called out so that the impacts of treating them can be analyzed. Why were they not identified in this DEIR?

1.I. Why does the Alternatives Analysis depend so much on acres treated? One major issue here is that treating 60,000 acres per year is not one of the official objectives of the VTP, so it should not be used to judge alternatives. Clearly, however, it is the main *unofficial* objective. Nonetheless, the goal of 60,000 acres per year with unlimited potential for expansion to 22,000,000 acres is problematic, because it means that areas get treated once per century or once per 366 years, as noted above. Things like fire breaks only work if they are cleared regularly, ideally every year. However, limiting the VTP to acres that could be cleared every year would limit the program to something as small as 60,000 high-value acres (so that each acre could be cleared once every year). Any realistic VTP should be something in between 300,000 and 22,000,000 acres (probably less than a few million acres, as even projects in a 1,200,000 acre program would only be visited once every 20 years). That requires a much reduced project, so that some sites are visited frequently, some once. Regardless, any argument that downgrades alternatives because they limit the acreage treated is doomed by logistics and math. It is a criterion based on greed rather than analysis or logistics. Why use it?

We strongly suggest that the BoF consider how much they truly need to work on, and make that the area of the VTP. We also strongly suggest that, if acreage treated is so important, that

the VTP make that the first official objective, and stop trying to hide this fundamental motivation for the VTP.

2. With respect to native plant issues, we noticed many problems. The treatment of native plants issues is riddled with issues, starting with the trivial (CNPS is repeatedly referenced in the DEIR, but the acronym is not spelled out nor included in the front glossary). In addition, the plural of plant is not vegetation, and vegetation has different issues than plants, despite the attempt of the DEIR to bundle them together), and going rapidly to the seriously non-functional.

We have the following questions about how native plant issues were treated in the DEIR:

2. A. Why were Standard Project Requirements (SPRs) BIO-1, BIO-2, and BIO-3 not carried out in preparation of the DEIR itself, rather than as a task to be carried out in subsequent analyses? ***The entire botanical analysis*** is the following statement: "[i]mpacts to botanical resources were analyzed by examining special status plants and communities listed in the California Natural Diversity Database (CNDDB) for each bioregion."**How does this meet CEQA Guideline 15125(c): "The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context[?]"**

Note that CEQA requires this analysis in all EIRs. It is not option, nor, as noted above, is it allowable to forego this impacts analysis until after the VTP DEIR is approved.

- Where is the detailed evidence that this analysis was ever done?
- What were the detailed results of this analysis?
- What can we check to determine that this analysis was done properly, so that we can help fix any deficiencies?
- What were the impacts to populations of sensitive species? How many will be lost? How many will need to be transplanted or replanted? How many new populations were discovered?
- How are the impacts to each species to be mitigated below significance?
- What are the cumulative impacts?
- How are they to be mitigated below the level of significance?
- Are there unavoidable impacts? Where is the declaration of over-riding consideration for them?
- How did impacts to sensitive plants and the mitigation thereof influence the design of the VTP?

The current version of the DEIR has the dubious distinction of containing even less information about California's native plants than did its predecessors. Note that not all of California's plant species are affected by the VTP. Insular species like the extremely rare *Cercocarpus traskiae* will never be subject to vegetation treatment. Nor will a wide selection of beach dune plants (e.g. *Acmispon prostratus*, *Phacelia stellaris*, and *Nemacaulis denudata* var. *denudata*) that mostly occur on urban dunes. The fundamental point is that the Program does not affect all listed plants, it affects a subset of them. Why was this subset not identified?

2.B. Why is the biological description of the project area so incomplete? 4.2.1.2, the Biological Setting and Concerns, is a description of the "nine ecoregions" used in the analysis

(p.4-85-4-109) is not useful for environmental analysis. It does not describe what is important, it does not describe what is impacted, it does not use scientific names, but it does lump together plants with radically different fire ecologies and pretends they are equivalent. Indeed, it does not describe concerns or in any way highlight which bits of information are actually important. (For example, the Sierra Nevada is described as having "bold topography," rather than by the elevation range of any vegetation type or species mentioned).

According to CEQA,"[a]n EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published."[20] This includes the plants and animals within the project's boundary. Section 4.2.1.2. fails to do this. To pick one concern that is left undescribed, we learn on page 4-427, in the climate change section, that the majority of the 30,000 acres subject to controlled burns will occur in "shrub dominated vegetation." Despite the presence of BIO-5, it appears that the VTP specifically targets chaparral, but this is not mentioned in the Biological Setting and Concerns. Why is it not mentioned?

Worse, the DEIR contradicts itself on the utility of ecoregions. For example, it notes (p. 4-79) that "evaluating impacts at the bio-regional scale allows for a reasonable analysis of the foreseeable impacts without being neither so large an area as to dilute the impacts or too small an area to magnify the impacts," but later (p. 4-121) states that "[i]n order for an effect to be considered significant at the bioregional level, the species in question would have to be impacted enough to meet one of the Significance Criteria stated above. The amount of habitat that would have to be adversely modified to cause a substantial adverse effect has not been scientifically determined for most species and is likely unknowable until the threshold has been crossed and the species is in jeopardy." In other words, despite the importance of threshold analysis in CEQA as noted above, this document appears to regard threshold impacts as unknowable, at least at the bio-regional scale. Why was this scale used? It is also very unclear what the "Significance Criteria stated above" are, since this is the first use of the term "Significance Criteria" and other uses refer to over issues. What are they?

2.C. Why is SPR BIO-1 thought to be sufficient or workable? To us, SPR BIO-1 is unworkable, as it does not cover sensitive species on the CRPR list (note that the CNPS list has been the California Rare Plants Rank list for many years now), nor does it cover species protected by cities and counties. As written, this SPR fails to cover hundreds of sensitive plants. Moreover, the DEIR misses the fact that List 2 was split to List 2A and List 2B, to parallel Lists 1A and 1B. This SPR must be rewritten to conform to current practice and terminology, as it is obsolete as written. At the very least, the definition should follow CDFW current practice. We also note that counties like San Diego and Ventura have their own lists, which largely, but not entirely, match with those maintained by the state. The VTP should honor local lists and local practice that reflect local expertise and local needs.

2.D. Why does SPR BIO-2 designate the Project Coordinator to conduct a field review of any proposed project? What qualifications demonstrate that the Project Coordinator is competent to perform field identifications? Where is this competency requirement specified in the VTP? How will qualifications be assessed? The problem is that, unless the Project Coordinator is a qualified botanist, (s)he will lack the ability to determine how accurate the CNDDB or any other database is, will not know when or how to survey (the excellent

[20] CEQA guideline § 15125

guidance from CDFW and CNPS is inadequate without real training), will not know how to collect specimens, nor where to send them in problematic cases, nor how to deal with any truly complex issues.

Another problem here is that all databases are insufficient. For example, the CNDDB states, "[W]e cannot and do not portray the CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers."[21] Trained botanists know this. Untrained bureaucrats do not.

It is routine to find new populations of sensitive species or even new species in areas (such as large, old ranches) that were never or rarely surveyed. The author of this letter (Dr. Landis) found what eventually turned out to be a new species of *Eriastrum* in 2007, on a wind farm project in the Tehachapis. The San Diego Plant Atlas, since 2003, has found over 300 new county records, 10 state records, and 2 new taxa.[22] Tejonflora.org documents the ongoing floristic survey of the Tejon Ranch, and the new species that are being described from there. A new species of cholla was described in Riverside and Imperial County in 2014[23], and an undescribed new manzanita species will be published in June. *Carex cyrtostachya*, described in 2013, is found in Butte, Yuba, and El Dorado Counties,[24] and it is a CRPR List 1B species that may not yet be in CNDDB. The same is true for the Sierran *Carex xerophila*, published in 2014,[25] and for *Calystegia vanzuukiae* from El Dorado County, published in 2013.[26] According to an informal, one-week email and Facebook survey of CNPS botanists undertaken in the last week of May 2016, undescribed new species in process of identification were reported to exist in Marin, Tehama, Butte, Shasta, and Santa Barbara counties, and more will certainly be found as large, old ranches and remote areas are surveyed for development, wind, and solar projects, and probably for the VTP. Experienced botanists know how to deal with this issue. Untrained bureaucrats do not.

The VTP provides no guidance as to the qualifications of Project Coordinators, nor does it specify when or how long they should spend in the field in each project, going against the advice of both CDFW and CNPS cited in the DEIR. In any case, CNPS always strongly suggests that surveys be left to qualified botanists with experience in the local area of any proposed project, that surveys should take place when the plants are most likely to be alive and identifiable, and that qualified surveyors be allowed adequate time for their work, and not forced to do a cursory, 15 minute visit where they do not get out of the vehicle. What is to stop Project Coordinators from doing cursory drive-by visits and not even setting foot on project sites? Why should drive-by surveys be considered acceptable under CEQA?

---

[21] http://www.dfg.ca.gov/biogeodata/cnddb/cnddb_info.asp

[22] http://sdnhm.org/science/botany/projects/plant-atlas/, accessed 5/26/2016

[23] Baker, M. A., & Cloud-Hughes, M. A. (2014). *Cylindropuntia chuckwallensis* (Cactaceae), a New Species from Riverside and Imperial Counties, California. *Madroño, 61*(2), 231-243.

[24] Zika, P.F., L.P. Janeway, B. L. Wilson and L. Ahart (2013) *Carex cyrtostachya* (Cyperaceae), a new species of sedge endemic to the Sierra Nevada of California. *Journal of the Botanical Research Institute of Texas* 7:25–35.

[25] , Zika, P.F., L. P. Janeway and B. L. Wilson (2014) *Carex xerophila* (Cyperaceae), a New Sedge from the Chaparral of Northern California. *Madroño* 61(3):299-307.

[26] Brummitt, R. K. and Namoff, Sandra M. (2013) *Calystegia vanzuukiae* (Convolvulaceae), a Remarkable New Species From Central California. *Aliso* 31(1)

2.E. How is SPR BIO-5 actually supposed to protect anything? Critical terms like "type conversion," "median fire return interval," and " old growth" are left undefined, their determination at the mercy of the Project Coordinator whose qualifications are also left undefined. Moreover, these areas are to be protected for " aesthetics, wildlife, and recreation," not for sensitive plants, lichens, or even the reproduction of species that take decades to reproduce. Why should mountain bikers desiring new trails be privileged over the continued existence of last-of-their-kind stands? Additionally, local experts like the California Chaparral Institute, numerous local land management groups, and scientists from both academia and other agencies are left out of the decision loop. Why are they excluded? Finally, this SPR needs to be extended to all old growth vegetation throughout the state, because there is very little left of any of it. As the author (Dr. Landis) is finding, working in an urban stand of old growth chaparral, old growth is often home to other poorly known or even undescribed species. SPR BIO-5 is unworkable as written. It should incorporate the analysis of impacts to old growth stands directly into the DEIR, rather than forcing it onto a single Project Coordinator who only needs to make a single site visit. Why was this not done?

2.F. Why use the outdated WHR, when so much more useful vegetation information is available? California's flora is immensely complex, but the VTP analysis oversimplifies it by shoehorning all species into trees, shrubs, and herbs. No knowledgeable fire fighter would assume that ponderosa pine (*Pinus ponderosa*) and white fir (*Abies concolor*) have the same fire ecology, but they are all lumped together as "tree-dominated" vegetation (e.g. Table 4.2-14) for the purposes of describing the vegetation in the Sierra Nevada.

Considering that CDFW and CNPS have for decades been cooperating to map the vegetation of California and have created two editions of *The Manual of California Vegetation* ("MCV"), it really is sad to see the 1980s Wildlife Habitat Relationships system used by any state agency. The MCV contains a wealth of information on fire ecology. While it is admittedly incomplete, even incomplete it is a far more complete and more useful as a mapping system than is the WHR. We strongly recommend that the BoF use the MCV as its primary vegetation mapping tool and incorporate the fire ecology information therein into the analysis of programs like the VTP.

2.G. How does the VTP avoid becoming a major vector for pests and pathogens? CNPS has found that non-native, pathogenic water molds (genus *Phytophthora*) are spreading through the state and into wildlands through nursery-mediated infection of plants for restoration and landscaping. In 2015 we implemented a policy to try to stem the spread, at least through native plant nurseries.[27] The genus *Phytophthora* may be unfamiliar, but *Phytophthora ramorum* (the cause of Sudden Oak Death) is depressingly familiar, as is the Irish potato blight (*Phytophthora infestans*) that caused so many famines. Southern California is so far free of Sudden Oak Death, but it faces beetle invasions, from gold-spotted oak borer and polyphagous shot-hole borers. Native pine boring beetles have caused major tree die-offs elsewhere in the state. All of these pests and pathogens can be readily transported by carelessly handled wood, litter, untreated or insufficiently composted green waste, uncleaned equipment, carelessly grown nursery stock, and so on. Proper sanitation and quarantine are necessary to keep vegetation treatment activities from spreading pests and pathogens throughout the state.

[27] http://www.cnps.org/cnps/archive/phytophthora_policy_2015.pdf

Unfortunately, this was not addressed in the DEIR. As a result, the VTP can be expected to cause substantial individual and cumulative impacts as workers inadvertently spread pests and pathogens on uncleaned equipment and by removing dead, but still infected, plant material. Even leaving some infected material might be problematic, as the pest or pathogen could simply reinfest the area from whatever is left behind.

What is the VTP going to do about proper sanitation and quarantine? What are the impacts of doing these, or conversely, of not doing them? How are these impacts to be mitigated, individually and cumulatively?

3. There are serious climate change issues as well. As mentioned in the previous section, CNPS is a champion of California's native plants and of vegetation dominated by native plants. Because we were successful co-plaintiffs in the recent case *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife and Newhall Land and Farming Company* ("Newhall Ranch ruling"), and because we are increasingly having to deal with climate change issues to protect native plants, we now also advocate on climate change issues. In our opinion the treatment of plants and the analysis of climate change impacts in the DEIR have substantial issues. We have a number of issues with the climate change impacts discussion (section 4.14, pp.4-408 to 4-434).

3.A. Why was the analysis of climate change impacts performed as it was? As we understand it, the relevant details of the climate change impacts analysis are as follows:

- The time frame of analysis is one year. Page 4-424: "Because the generally accepted time frame for evaluating project emissions is the year of project implementation with emissions generally reported as MT/year, this is also the time frame chosen for this analysis. This will conservatively estimate the VTPs impacts because the benefits of future vegetative growth as the site recovers and the reduction of wildfire risk to the treatment area and surrounding landscape is not taken into account."
- The DEIR assumes that, of the 60,000 acres proposed to be treated every year, 30,000 acres will be burned, 20% mechanical treatments (p.4-427), 10% manual treatments (p.4-428), and grazing non-native herbivores and spraying herbicides are only accounted for as trip miles, with herbivore methane emissions based on a sheep herd of 450 animals as the only model (p.4-428). Thus, only 50% of it burns.
- Conclusion: there are less than significant impacts to greenhouse gas emissions (p. 4-429): "The VTP would create approximately 298,745 MT/year of CO2e, less than the 510,030 MT/year CO2e emissions created by a similar size wildfire burning."

The conclusion does not follow from the analysis. It is only relevant if the 60,000 acres treated would have burned in the same year it was treated. This is intrinsically unlikely. 60,000 acres treated/22,000,000 acres in the VTP is 0. 272%. According to Figure 1.1-1, (" annual area burned in California 1950-2010", p. 1-3), during the worst wildfire year, 2007, only 1,400,000 acres burned. This is approximately 6.3% of the 22,000,000 acre VTP area. Even during the worst year in recent history, over 93% of the state went unburned.

What are the chances that the area treated by the VTP will burn in the same year, even during a historically bad fire year? If the treatment and the fire are independent events, the chance is much less than one percent. Still, one might argue that the BoF is very good at predicting where fires will occur and putting their treatments there, so the chance is much higher. Unfortunately

for this argument, the model used to predict fire hazards in the DEIR has been tested as a predictor for home loss during fires, and it contributed <5% to the model that predicted which homes would burn.[28] According to this test the model used in the DEIR is very bad at predicting where fires will occur in a particular year, as are most models. Fire occurrence has a large random component. Other research in southern California showed that, over 28 years (not one year), 23% of fuel treatments intersected fires in the study area, which means that 77% of fuel treatments went unburned over 28 years, in an area notorious for large wildfires.[29] Even in Southern California, a fire treatment area will most likely never be touched by a fire in a generation.

The upshot is that one cannot analyze the greenhouse gas impacts from a vegetation treatment as if the treatment displaces a similarly sized wildfire on the same spot in the same year. Absent truly improbable events, the treatment will not intersect any fire during the year of analysis. Therefore, greenhouse gas emissions from the treatment will not replace or reduce emissions from a fire that would have burned the same area. Instead, they will be emitted in addition to whatever wildfires occur that year.

Clearly, the analysis of climate change impacts is incorrect, and the VTP will cause substantial, unmitigated greenhouse gas emissions. This section needs to be redone, the individual and cumulative impact of greenhouse gas emissions from the VTP need to be analyzed, and real mitigation measures need to be proposed.

Moreover, the argument used in this section looks similar to the argument that the California Supreme Court ruled was invalid in the Newhall Ranch ruling. We therefore strongly suggest that BoF read that ruling, and incorporate it into designing a better analysis of greenhouse gas impacts and mitigations.

3.B. Why is the basic fire science wrong? In section 4.14.1.2.3.1 "Wildfire versus Prescribed Fire Emissions," the EIR makes the incorrect assumption that carbon dioxide emissions from a wildfire are equivalent to emissions of pollutants caused by inefficient burning. This is incorrect. The basic combustion reaction is that hydrocarbons + oxygen → carbon dioxide + water. The more efficiently this reaction runs, the more carbon dioxide is produces. Inefficient combustion produces soot, particulates, and other air pollutants. Decreasing combustion efficiency increases particulate and other pollution. Increasing combustion efficiency increases carbon dioxide production. There is no way to escape producing some pollutant by manipulating an fire.

As presented in the analysis, highly efficient controlled burns should produce more carbon dioxide emissions, not less. Carbon dioxide emissions thus cannot be controlled by the same processes that control air pollution from fires. They have to be managed separately, either through not burning or through carbon sequestration. Section 4.14 of the EIR needs to be rewritten to reflect this basic reality, as does SPR CC-1, CC-3, and CC-4.

3.C. Why are BIO-5 and BIO-6 mentioned in SPR CC-2 (p.4-434)? These two SPRs have nothing to do with carbon sequestration. The DEIR does need SPRs to deal with carbon sequestration, but it is not CC-2. This SPR needs to be totally rewritten to be useful.

---

[28] Syphard, A. D., Keeley, J. E., Massada, A. B., Brennan, T. J., and V. C. Radeloff, V. C. (2012). Housing arrangement and location determine the likelihood of housing loss due to wildfire. PLoS One, 7(3), e33954.

[29] Syphard, A. D., Keeley, J. E., and T. J. Brennan, (2011). Comparing the role of fuel breaks across southern California national forests. Forest Ecology and Management, 261(11), 2038-2048.

3.D. What is the relationship between the VTP and CALFIRE's responsibility for sequestering carbon? Since CALFIRE has responsibility both for administering the VTP, which appears to be only about removing plants, and for carbon sequestration through planting plants, there needs to be an analysis of the impacts of these two programs on each other. After all, they are in fundamental conflict: fire protection seeks to remove plant matter from the landscape, while sequestration seeks to add it to the landscape. One might expect close coordination between these two programs and how they impact each other, yet there is no mention of it in the DEIR. Specifically, the DEIR needs to analyze:

- How will the VTP sequester the CO2e it produces (see 3.C. above)?
- How will mistakes and accidents increase CO2e emissions from the VTP?
- What is the rate or probability of CALFIRE controlled burns escaping control and becoming wildfires?
- How are escaped fires controlled, and how much do they burn relative to the proposed size of controlled burns?
- How are impacts from escaped burns assessed individually and collectively across the VTP?
- What happens if an escaped wildfire impacts a carbon sequestration site?
- Can CALFIRE's carbon sequestration programs be used as mitigation for the greenhouse gas impacts generated by the VTP?

3.E. Why did the DEIR ignore the method suggested in the California Chaparral Institute's response to the Notice of Preparation from October 24, 2015? That method would have avoided at least some of the issues raised in 3.A. and 3.D.

4. Why is the DEIR contain so many misstatements based on scientific papers, reliance on anecdotal evidence, and avoidance of scientific advice? We fully support the California Chaparral Institute's comments in their letter of May 24, 2016 ("CCI letter"). Some points we find problematic:

- **Why does the DEIR misquote the science?** The CCI letter contains ample documentation of this, including one scientist denying that his paper said what was implied in the DEIR. We strongly agree with the assessment, and ask the same.
- **Why does the DEIR rely on anecdotal evidence?** This is particularly apparent in the definition of the WUI, which is defined in the DEIR solely in reference to how far embers can fly. As noted in Appendix A of the CCI letter, there is no good science to support 1.5 miles as anything other than a polite political fiction, chosen from overheard conversations at a conference, based on what others might find acceptable. There is no reality behind this anecdote According to the CCI letter and the references therein, the 2009 Bunyip Ridge fire in Australia projected embers 20 km (about 12 miles), while the ongoing Ft. McMurray fire is reported to have projected embers 10 km (about 6 miles). 1.5 miles is insufficient to stop all embers during catastrophic wildfires.

  Worse, 1.5 miles is a silly number. If VTP projects are supposed to clear 260 acres on average, that is 11,325,600 square feet, and a 1.5 mile wide WUI clearance would be 7,920 feet wide. If one does the math, a 260 acre VTP clearance would create a 1.5 mile wide fire break that is 1,430 feet long, and such a firebreak only works if it is pointed directly at the oncoming fire, and somehow the fire doesn't burn down the uncleared sides of the fire break.

Conversely, there is increasing evidence for the utility of 300 feet of fire clearance around structures, and a 260 acre VTP project could be used to create 7.15 linear miles of fire break 300 feet wide. Choosing 1.5 miles at worst leads to silly projects. Why use it at all? Why not try approaches that appear more useful based on repeatable tests of evidence?

5. Why are there so many contradictions within the DEIR? It is riddled with them, and they are non-trivial.

- One example, from page E-3: "California's tremendous diversity in vegetation translates into a similar diversity in fuel types, with a resultant variation in fire behavior throughout the state. Considering statewide variations in fire behavior and the need to characterize it at a workable scale for a statewide environmental analysis, the vegetation of California is condensed into three main groups based on the distinct fire behavior each group exhibits. These groups can be classified as tree dominated, grass dominated, and shrub dominated vegetation formations." Really? Would any firefighter consider white fir and ponderosa pine to have the same fire ecology? How about other pairs of trees and shrubs that have highly divergent fire ecology: sequoia and redwood, lodgepole pine and whitebark pine, chamise and scrub oak? Clearly, the DEIR failed to usefully simplify the complexity, so we are left concluding that the original statement about diversity in fuel types was correct, and that the analysis failed to account for it at all.
- **The contradictions become more problematic when dealing with biological cumulative impacts.** The DEIR states (p 5-24) that "[o]verall, it is impossible to precisely specify at the scale of the state or region both the biophysical and economic ramifications of interaction between disturbance and biological resources."

  Later it says (p-5-24) that "[c]umulative effects occurring at the scale of the state or the region may not inform project level cumulative effects analysis...Cumulative effects, either negative or positive, can potentially impact individual species of concern, the distribution and sustainability of special habitat elements, wildlife, vegetation structures, and other biological resources. Cumulative effects attributable to these kinds of impact mechanisms are generally most reliably assessed at the scale of the individual project and lands immediately adjacent."

  At this point, the DEIR is going against CEQA's intent with PEIRs, as noted in section 1 above. Unfortunately, it goes on to say that (p. 5-25) "[t]he VTP Program EIR cumulative impact analysis, conducted at the scale of the watershed or bioregion, identifies and assesses impact mechanisms that may influence landscape scale biological resource issues such as wildlife movement or habitat capability across broad regions, likelihood of genetic interchange, change in plant community composition as a result of non-native species establishment, or change in species distribution." Really? Where is this analysis? What were its conclusions? This part of the DEIR should be thousands of pages long.

  Finally (p. 5-27) the DEIR states, "[b]ecause of the amount of acreage eligible but not receiving treatment under the VTP, **the proposed Program would likely result in a less than significant cumulative effect on biological resources at the bioregional scale** [emphasis added]. Wildfires would continue to occur in California, having both negative and positive effects on biological resources and wildlife habitat condition; the magnitude of effect being dependent on a wide suite of physical, biological, and climatic variables."

  This is an absurd, contradictory conclusion. It appears to say that, because only 60,000 acres is treated each year out of 22,000,000, there is no cumulative impact at all. Really? An

area half the size of Oakland is deliberately burned every year, but that is not significant, because it doesn't burn one-tenth of the state? And an equivalent area is herbicided, grazed, and masticated, but that's not significant, because the project doesn't herbicide, graze, and masticate one tenth of the state? Why does the BoF think this makes any sense at all?

As noted above, it is easy for a single, 260-acre vegetation treatment to wipe out the last stand of old growth chaparral, or to remove critical habitat that causes a sensitive species to spiral towards extinction, or to poison a watershed by accidental release of herbicides into a stream, or to transport a pest or pathogen where it never before existed, or to spark a wildfire that burns thousands of acres, because the crew was impatient and started the fire under inappropriate conditions (as in the 2013 San Felipe Fire). All of these are predictable and analyzable. If such predictable consequences are so hard for the BoF to analyze, why attempt theVTP at all?

If the DEIR is supposed to be a trustworthy document, to meet its Objective 5, to "[p]rovide a consistent, accountable, and transparent process for vegetation treatment monitoring that is responsive to the objectives, priorities, and concerns of landowners, local, state, federal governments and other stakeholders," then **all internal and external contradictions need to be resolved and removed.** How can the VTP be trusted otherwise?

Alternatives to the current VTP and DEIR

When reading the DEIR, one comes away with the overwhelming impression that this is a document written by people who want stuff done without thinking about the consequences. While we understand that impulse, we do not sympathize with it. The problem is that the VTP, if implemented as written, would be the single biggest igniter of wildland fires in California, igniting over 100 every year. While all of these are supposed to be controlled burns, the sheer number of ignitions means that some, eventually, will go out of control and cause damage through simple bad luck. Moreover, the VTP will be the single biggest vegetation-clearer. If the biological SPRs are implemented as written, VTP employees and contractors will become the single biggest danger to sensitive plants in the state. If scientists turn out to be right about fire behavior, most VTP activities will have little or no effect on saving lives or property from wildfires, while spending hundreds of millions of dollars.

This is why we care about consequences. The proposed VTP is far too hulking a program to run it impulsively and not analyze its predictable consequences.

We also care because the VTP simply doesn't add up as written. If 22,000,000 acres are " appropriate for treatment" and 60,000 acres are treated every year, it would take almost 367 years for each appropriate acre to get treated once. That's simply pointless. Old growth chaparral can re-establish itself in well under 367 years. The State of California is less than half that age. If the VTP's goal is truly treat WUI areas, that takes repeated visits every few years. In any case, the VTP can only include a small fraction of those 22,000,000 acres. There's no utility in making the program area unworkably large, and there's especially no point in using the scale of acres appropriate for treatment as a way to evaluate alternatives. Most of the land is untreatable anyway.

Then there is the time scale of preparation. The VTP in its current incarnation has been around since 2013, and its roots go back to the 1990s. That's a long time, and a lot of analysis and project design could have been accomplished in that interval. Unfortunately, the DEIR is

still focused on trying to avoid that analysis through a combination of pushing it forward (contrary to CEQA) to individual projects, hiding motivations, padded, repetitive, vague, contradictory and obfuscatory writing, ignoring reality, and simple sloppiness. As a result, the process has wasted years, and is no closer to satisfying CEQA or satisfying people, like us, who will have to deal with the VTP's consequences.

Fortunately, there are workable alternatives:

- **Base the VTP's objectives and strategies on science.** We understand that many firefighters distrust science, so we propose that the term "science" be accepted by the VTP preparers as the stuff that turns out to be true whether anyone believes in it or not. The science that underlies the VTP has to be the things that keep firefighters and others from being burned, properties as safe as possible, and keeps the VTP from being an engine for extinction, type conversion of native lands to weed-fields, and a major vector for pests and pathogens. This is the type of science CNPS tries hard to promote.
- **Create a program that implements those objectives and strategies, again using science.** This is common sense, although some may not see it that way. For example, the DEIR notes that "cost and time to meet environmental review requirements, surveying for and mitigating treatment effects to threatened and endangered species" are major impediments to treating 120,000 acres per year under the existing Vegetation Management Program ("VMP", p. 1-15). Oddly enough, agencies like the National Park Service somehow manage to get programs done within the constraint of environmental review requirements. Is the problem in the requirements, or within BoF's system for meeting them? This is an awkward, but critical question. If the problem isn't with the environmental review requirements, then the VTP is based on a fundamentally wrong assumption, and BoF needs to look at other options for accomplishing its objectives.
- **Front-load the analysis into the PEIR, rather than pushing it down to projects.** This is what CEQA requires. CNPS agrees with the BoF that we need to treat at least some vegetation within 300 feet of homes. We also agree that, in some parts of the state (like some pine forests in the Sierra Nevada), we need more controlled burns. Were the VTP limited to projects that have broad-based support, it would be in place right now. Unfortunately, none of this analysis or consensus seeking went into the VTP or its DEIR. If it had, many of the problems we identify would not exist.
- **Set hard boundaries early.** The math for the VTP simply does not work, and to be blunt, we suspect that a PEIR that realistically tried to analyze the impacts to 22,000,000 acres of any project would be unworkably huge. We are also quite sure that any real VTP will be a small fraction of that size. We are also quite sure that there are projects that everyone wants done. It should not be as hard as the project proponents think to figure out where projects need to be done and are likely to be done, and to focus the VTP down so that it only works on those areas. Indeed, once the VTP has done that, it might be easier to expand it from a small area using supplemental EIRs, rather than trying to deal with an unworkably huge initial project.
- **Follow CEQA exactly, and get the environmental analysts involved at the design stage, not at the end.** The point is to identify critical problems and avoid them through design changes, rather than solidifying the design and being left with a mess to mitigate. Environmental analysts earn their pay because they are, on an per-hour basis, substantially cheaper than lawyers, and sometimes even cheaper than firefighters. Their best role is helping people spot and avoid predictable problems, rather than in covering up issues. Many

southern California developers have learned this advice, and their projects get built without drama. We suggest that state agencies might find it useful as well.

- **Use a multi-year, overlapping planning process for each proposed project.** Since we can expect the climate to get more extreme in coming years (bigger storms, bigger droughts, and so forth), planning for things like burn days for controlled burns is going to be an exercise in patience. Rather than trying to go from plan to treatment in a single year, we suggest using a multi-year process, like the existing VMP, so that areas can be surveyed by professional biologists, local information and buy-in can be sought, and plans can be made ready for when the weather cooperates. Moreover, overlap projects, so that some are being researched while some are being implemented and others are being evaluated afterwards. Rushing will not just make waste, it may make wildfires, injure firefighters, and send species into extinction. Is convenience really worth this price?
- **Consider taking five years to create the next iteration of the VTP.** This is not for our convenience, but because so many things are changing right now:
    - Fire behavior may be changing with climate change, and new types of wildfires may be emerging.
    - California is still developing its climate change response by both limiting emissions and increasing sequestration, and it is fairly clear to us that few people in California government understand its ramifications yet.
    - Pests and pathogens are spreading rapidly, and new ones are showing up.

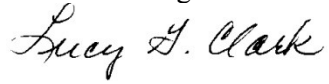
How much damage can the BoF do by rushing to implement a vague, opaque program at this time? Our strong sense in reading multiple versions of the DEIR is that the people who wrote it really did not understand most of the issues they wrote about, nor did they get help from some really good in-house researchers, such as the fire researchers in CALFIRE. We believe that the BoF needs to take a couple of years to understand and embrace what the 21st Century has in store for it, rather than rushing to implement a bigger version of the 1980s-era VMP. We only wish that this process had started a decade ago, rather than now.

Unfortunately, none of these suggestions change our basic opinion, which is that this DEIR needs to be thoroughly rewritten and recirculated, and that the VTP as written is unworkable. Please take the time to do it right.

Please keep us informed of all future developments with this and related projects. Thank you for consideration of our comments and questions.

Sincerely,

Frank Landis, PhD
Conservation Chair
CNPS San Diego



Lucy G. Clark
Conservation Co-Chair
Kern CNPS

Fred Chynoweth
Conservation Co-Chair
Kern CNPS