



January 11, 2018

VIA U.S. and Electronic Mail

Board of Forestry and Fire Protection
ATTN: Edith Hannigan, Board Analyst
VTP Draft DEIR Comments
PO 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:

The Marin Chapter of the California Native Plant Society (Marin CNPS) appreciates the opportunity to comment on the Draft Programmatic Environmental Impact Report for the Vegetation Treatment Program of the (DEIR or VT program) proposed by the California State Board of Forestry and Fire Protection (CAL FIRE). We also support the comments submitted by the Endangered Habitats League and are submitting these separate comments in order to focus on the particular circumstances of Marin County.

Marin CNPS recognizes the importance of an effective fire prevention strategy for the State of California, the need to remove fire hazards and CAL FIRE's important role in implementing this strategy. Some of the factors that are making California more fire prone such as the invasion of fuel dense exotic plants also threaten California's native plant communities. To the extent possible, fire prevention strategies should seek a win-win result of also helping preserve and conserve California's precious and unique native plants and avoid further damage to them.

Marin CNPS supports efforts to preserve and conserve native plant habitat and federally- or state-listed flora and fauna. Commenting on vegetation management plans for Mount Tamalpais region over a quarter century ago, we supported fire-safe landscape around structures. Recent research shows that the defensible space border between wildland and urban areas remains the critical area for vegetation management.

One of the features that makes Marin County unique is Mount Tamalpais. Its rapid ascent from seashore to a mountaintop of over 2500 feet provides numerous microclimates that support a great diversity of native plants and native plant communities. Mount Tamalpais and adjoining mountains, hills and riparian slopes and valleys are home to many special status native plants and sensitive natural communities. The ability of the Marin County landscape to support rare plants is enhanced by numerous serpentine outcroppings that help to protect these plants from others that could outcompete them.

The known flora of Marin County now exceeds some 1350 species - (about 25% of the flora of the State of California). Mount Tamalpais alone has about 851 taxa; 75 species are found only on Mount Tam. Marin County is a north-south crossroads for many plant species: 97 species reach their southern limit in Marin, and 34 reach their northern limit. 51 (of the 97) species reach their southern limit on Mount Tam and 12 (of 34) reach their northern limit. Some 20 taxa are endemic to Marin, nearly half of which occur only on Mount Tam.

Much of the land on Mount Tamalpais and surrounding areas that contains this highly diverse flora is already protected. Beginning in the Marin Headlands the Golden Gate National Recreation Area (GGNRA) flows northward along the coast until it joins the Point Reyes National Seashore which as federally protected land is not subject to this DEIR. Most of Mount Tamalpais and natural lands to its north are under state or county protection: Mount Tamalpais State Park, Marin Municipal Water District, Marin County Parks and Open Space, Samuel P Taylor State Park, Tomales Bay State Park, and privately-operated Audubon Canyon Ranch. All of these protected lands are included within the United Nations Golden Gate Biosphere Reserve. This United Nations designation reflects the national and worldwide uniqueness and rarity of the Marin County natural environment.

The DEIR has placed most of this state and county protected land in a huge WUI zone designated for extensive vegetation treatment programs. Rather than focusing on the creation of defensible space primarily at the intersection of wild land and urban areas, the DEIR proposes vegetation treatment throughout the whole zone, including most

ridgelines. Thus, the DEIR has chosen the most destructive course for Marin County's unique and precious native plants and natural communities.

1. FROM THE CURRENT DEIR IT IS IMPOSSIBLE TO DETERMINE THE IMPACT OF THE PROPOSED VTP ON THE PROTECTED FLORA OF MARIN COUNTY.

Virtually every ridgeline on Mount Tam and then northward through the core of the county to the Sonoma County line appears designated for a vegetation treatment project. And this DEIR makes every slope of Mount Tam eligible for a vegetation treatment project. DEIR, Appendix_a.2.4_bayareadelta_treatmentareas_arche. The selection of ridgelines was not based upon a fire prevention analysis specific to Marin County, but rather used a mapping program that appears to have identified virtually every ridgeline in the State Responsibility Area (SRA) as a candidate for a fuel break.

There is no way to rationally respond to the identification of virtually every ridgeline located in the SRA in Marin County as a potential vegetation treatment project. The DEIR describes neither the location of the specific projects that will be conducted under the DEIR nor the vegetation treatment methods that will be used in any project: prescribed fire, manual activities (i.e., hand crew work), mechanical activities, prescribed herbivory (targeted beneficial grazing), or targeted ground application of herbicides.

Most of Marin County's special status plant species and sensitive natural communities, not within federally protected lands, are included in the areas proposed for vegetation treatment. Marin Municipal Water District (MMWD) which appears completely within the VTP area is a case in point. MMWD land is an example of the richness and diversity of Marin County's flora. Fifty taxa of special-status plants have been documented as occurring or potentially occurring on MMWD lands. A total of 59 alliances and 88 associations have been identified in the Classification of Vegetation Associations from MMWD's Mount Tamalpais Watershed, Nicasio Reservoir, and Soulajule Reservoir. Of those, 11 associations were assigned globally rare rankings (G1 or G2) under the Natural Heritage Assessment Methodology. Other "important" or "high-quality" habitats on MMWD lands include oak woodlands, maritime and serpentine chaparral, native grasslands, and old-growth redwood forests. Marin Municipal Water District Draft Biodiversity, Fire, and Fuels Integrated Plan (September 15, 2016), pp. 2-15.

The DEIR proposes vegetation treatments, including fuel breaks and other vegetation management, for areas of Marin County that are rich with special status species and sensitive plant communities. The DEIR completely ignores the presence of these plants and these communities except in the most generic terms. And the DEIR contains no

discussion of possible specific impacts to potentially affected specific special status plants and sensitive plant communities of Marin County. Nor does it consider any specific avoidance or mitigation measures applicable to the effects of proposed vegetation treatments.

Essentially, the VTP is not a plan; it is a huge wish list, with all the important planning and environmental impacts left to a future day. Because it is not a specific plan, there is no way to tell what the environmental impacts on special status plant species and sensitive plant communities would be or what avoidance measures or mitigations may be necessary. This does not comply with CEQA.

How is this generalized DEIR relevant for Marin County's complex vegetation and microclimates?

2. THE CURRENT DEIR IS A CATCH-22: IT PROVIDES NO WAY TO DETERMINE ENVIRONMENTAL IMPACTS NOW; AND WHEN ENVIRONMENTAL IMPACTS ARE KNOWN, IT PROVIDES NO PROCEDURE FOR PUBLIC REVIEW AND COMMENT.

We have discussed above the failure of the DEIR to provide sufficient information to conduct an informed environmental review of vegetation treatment programs whose location and method is currently unknown. Given that lack of current information, one would expect that there would be an opportunity to review and comment upon actual vegetation treatment programs proposed for a specific location with a specific treatment method. However, the DEIR is explicit about its intention to avoid any subsequent CEQA review: "This VTP replaces the existing costly, time consuming, and repetitive process of preparing multiple CEQA documents for projects located in forested fuel types." DEIR 2-37. (The comment is applicable to all projects under this DEIR since it contrasts the current process of preparing CEQA documents for specific projects located in forested fuel types with the lack of subsequent CEQA review proposed by this DEIR.)

Rather than provide subsequent CEQA review, the DEIR proposes that when the location, scope and impact of a vegetation project is known, the CEQA coordinator, an agency employee, be given the "final determination" on CEQA issues. DEIR, 2-37, 2-46. In making that "final determination" the CEQA coordinator is supposed to operate within the fiction that this DEIR actually evaluated the treatment activities to be used and actually addressed the effects of those activities on protected botanical resources:

"If it is determined that the proposed VTP subsequent activity includes treatment activities that are substantially different from those evaluated in the DEIR or that

the VTP subsequent activity may result in one or more new significant effects not addressed in the DEIR, the following actions may be taken:" DEIR 2-46

Thus, the CEQA coordinator is to assume that this DEIR actually "evaluated" the treatment activities to be used and actually "addressed" significant effects on special status plants and sensitive natural communities of that project.

One of the triggers for subsequent CEQA inquiry by the CEQA coordinator is if the "treatment activities are substantially different from those evaluated in the DEIR." DEIR 2-46. The DEIR does describe possible treatments; what it lacks is any reasonable evaluation of their effects on botanical resources in a specific project area. On its face this standard would permit a CEQA coordinator to look no further if the proposed treatment is one of the ones identified in the DEIR: prescribed fire, manual activities (i.e., hand crew work), mechanical activities, prescribed herbivory (targeted beneficial grazing), or targeted ground application of herbicides. Simply put, if the treatment is one of the ones described in the DEIR, this test is met.

The second trigger for subsequent CEQA inquiry by the CEQA coordinator is if "the VTP subsequent activity may result in one or more new significant effects not addressed in the DEIR." DEIR 2-46. In this case the subsequent activity may be changed to avoid the potential significant effect or additional CEQA review can be ordered. However, there are no standards for making these determinations. Nor is there any public review of the integrity of this decision-making or whether it is fact-based or based on some other considerations. Since this DEIR asserts that it has addressed all significant environmental effects, the likelihood of a CEQA coordinator finding that new effects are present appears slim. It also appears equally slim that a CEQA coordinator would propose additional CEQA review at the project stage since the DEIR is set up to discourage this. And there is no public review of a CEQA coordinator's determination to place her stamp of approval on a project, not conduct additional analysis or not recommend additional CEQA review.

Moreover, the DEIR is designed to discourage agency staff from conducting a thorough review of the effects of specific vegetation treatment projects on botanical resources. The DEIR makes the point of calling for the project coordinator to conduct only a "brief review" concerning special status species and sensitive natural communities with the project contractor. DEIR, ADM-1, 2-49. This sends a message to CEQA coordinators to not slow projects down with botanical surveys, research and reviews that may be needed to identify the presence of special status plants and sensitive natural communities, the

potential adverse effects of the project on them and needed mitigations and avoidance measures.

In addition, issues of impact on sensitive species and communities and avoidance and mitigation that are required by CEQA to be specifically covered in an EIR are relegated by this DEIR to a private discussion between the project coordinator and operating contractor. DEIR 2-49.

Mechanical vegetation treatment activities, such as mastication, are case in point. The effects of mechanical vegetation activities on native plants are positively grisly. As described in the DEIR, “mechanical activities have the potential for significant effects in all lifeforms since there is no comparable natural disturbance to which individual plants or communities have adapted over time, and because of the high level of disturbance to canopy cover and the soil layer.” DEIR 4-195. It is unlikely that any native plant community could survive a major mastication. Nowhere does the DEIR specify where mastication would occur in Marin County (other than potentially everywhere in the WUI). Nor is there any assurance that the public will be notified or that any public CEQA review will occur prior to mastication taking place. Consequently, this most destructive of vegetation treatment programs would likely completely avoid environmental review under the DEIR.

How can appropriate vegetation management, or lack of treatment, be conducted if careful analysis of the resources of each site is not done with local input at time of intended action?

Since the DEIR has virtually no information on which to determine whether a subsequent activity will have a significant effect on protected plant species or sensitive natural communities, on what basis will an evaluation be made as to whether subsequent activity will have a potential significant effect on protected species?

Does not this DEIR need to be revised to require public review of environmental effects of specific vegetation treatment projects and proposed mitigations at the time a specific vegetation treatment program is proposed?

Since the DEIR has no documentation of the potential effects of a particular vegetation treatment plan on the protected plant species and sensitive plant communities specifically affected by that plan, will not an EIR be required in every instance that a subsequent activity has any potential significant impact on a protected plant species or sensitive plant communities?

In summary, what CEQA requires to be public, transparent and scientifically based, this DEIR makes private, secret and potentially subjective.

3. THE STANDARDS PROPOSED IN THE DEIR ARE INADEQUATE TO PROTECT SPECIAL STATUS PLANT SPECIES AND SENSITIVE NATURAL COMMUNITIES.

The DEIR points out that under CEQA Guidelines and mandatory findings of significance and other applicable wildlife protection laws, a project

“would have a significant impact on wildlife, aquatic species, and vegetation and in relation to invasive species if it would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.” DEIR 4-182?

CEQA recognizes that plants do not grow in isolation, but rather in plant communities. It also recognizes “habitat modifications” can have a significant effect on special status plants, even when an individual plant is not affected. Thus, CEQA review must focus not simply on individual special status plants but also on sensitive plant communities. The DEIR standards for review of these effects are woefully inadequate.

The only specific standard providing for avoidance of adverse effects on special status plants and sensitive natural communities is a 15-foot minimum clearance rule for special status plants. Mitigation Measure BIO-4. DEIR 4-212. There does not appear to be a scientific basis for this minimum clearance rule, and none is discussed in the DEIR. This one-size-fits-all 15-foot clearance rule ignores potential VTP impacts on habit modification and sensitive natural communities and encourages a focus on individual plants rather than the broader ecosystem. The DEIR needs to include valid standards for protecting sensitive natural communities and against the adverse effects of habit modification on candidate, sensitive or special status plants.

What is the scientific basis for the proposed 15-foot minimum clearance rule for special status plants?

What is the basis for having a single 15-foot minimum clearance rule for all special status plants?

What specific standards are needed in the DEIR to protect sensitive natural communities?

What specific standards are needed in the DEIR to protect against the adverse effects of habit modification on candidate, sensitive for special status plants?

Under Mitigation Measure BIO-1, a project coordinator is supposed to do desk research on the possible presence of special status species using the California Natural Diversity Database (CNDDDB). DEIR 4-211. This presumptive reliance on the CNDDDB to determine the presence of special status species ignores the known limitations of that database. According to the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities:

“Pre-project surveys restricted to known CNDDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.”(Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities, California Natural Resources Agency, Department of Fish and Game (November 24, 2009)

(<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959>) (Field Survey Protocols)

Since DFW protocols for the use of the CNDDDB warn that the CNDDDB does not provide a sufficient level of information to determine potential impacts on special status plants and communities, how can this DEIR reasonably rely on the CNDDDB to identify potential impacts?

Mitigation Measure BIO-1 also requires the project coordinator to conduct a “field review to identify the presence or absence of any special status species, or appropriate habitat for special status species, within the subsequent activity area.” DEIR 4-211. The DEIR fails to define what must be included in a field review; however, since the standard term “field survey” is not used by the DEIR, it appears that field surveys are not required to identify special status plants and sensitive natural communities before vegetation treatment projects are commenced. Nor does there appear to be any requirement that project coordinators be competent to carry out field surveys or even field reviews, whatever those include. However, in the absence of competently conducted field surveys, there can be no assurance that a specific vegetation treatment project will have no significant effect on special status plants, their habitats, or on sensitive natural communities. Indeed, for field surveys to be valid they typically must be conducted when special status species are both evident and identifiable, usually during flowering or fruiting, and this often requires multiple visits to the site. See Field Survey Protocols, p. 4. The absence of a requirement for valid field surveys that are conducted by persons competent to carry out those surveys, and for surveys to be conducted in a valid manner means that this DEIR fails to ensure that special status plants, their habitats and sensitive

natural communities will be identified in project areas and that the impact of projects on them will be avoided or mitigated.

What is the minimum a project coordinator must do to conduct a “field review”?

Should not the DEIR include standards for conducting a “field review”?

What training or specific competence, if any, must a project coordinator have to conduct a “field review”?

Should not this DEIR require the use of standard field surveys conducted by persons competent to conduct such surveys to identify the presence of special status plants, their habitats and sensitive natural communities?

Information collected on a specific VTP by the project coordinator is supposed to be submitted and reviewed by a CAL FIRE Environmental Coordinator. Mitigation Measure BIO-1, DEIR 4-211. Then, the environmental coordinator is required to “offer to schedule a day to visit the subsequent activity area with the Project Coordinator.” *Id.*

It appears that there is no requirement that the environmental coordinator actually visit the project site. For example, if a date has been set for a project, and the environmental coordinator and project coordinator are not able to schedule a meeting at the site before that time, it appears that the project could proceed without any on-site review by the environmental coordinator.

The DEIR contains a similar environmental review avoidance strategy in its submission of environmental information to, and requests for information from, state and federal Fish and Wildlife Services. If agency staff do not receive a response from these Fish and Wildlife Services within 30 days, the project can proceed as proposed without their review. Mitigation Measure BIO-1, DEIR 4-211.

Thus, it appears that the mitigation measures proposed by the DEIR are fashioned to expedite vegetation treatment projects more than to ensure adequate review of the presence of special status plant species and sensitive natural communities, the potential effects of the project on them and needed avoidance and mitigations.

Should not the DEIR require that the environmental coordinator actually visit the project site?

Should not the DEIR specify the activities the environmental coordinator should perform at the project site to determine the presence of special status plant species and sensitive

natural communities, the potential effects of the project on them and needed avoidance and mitigations?

How will CAL FIRE know whether there are California or Federal listed endangered species, especially on private, unsurveyed lands? Has CAL FIRE investigated what particular vegetation alliances are found in areas of concern, including in Marin, using the Manual of California Vegetation (2d Ed), and taken into account the rarity of each alliance? And if not, why not?

4. THE DEIR SEEKS TO IMPLEMENT OUTMODED FIRE SUPPRESSION STRATEGIES THAT CONFLICT WITH THOSE ADOPTED BY MARIN COUNTY PUBLIC LAND AGENCIES

The major fire suppression strategies proposed by the DEIR are the use of ridgeline fuel breaks and the clearing of vast acreages of interior forests, woodlands, grasslands and chaparral. In contrast, the primary focus of Marin County land agencies is on creating defensible space at or near the boundary of the wildland urban interface (WUI). The adoption of this defensible space strategy is based on effectiveness, environmental concerns and cost.

Marin Municipal Water District recently conducted a survey of land management agencies concerning recommended fire suppression strategies. That survey found that land managers expressed an overwhelming preference for the establishment of defensible space zones along the wildland urban interface “as the most effective approach to reducing fire risk, protecting structures and adjacent communities and reducing impacts to natural resources.” Reported in *Vegetation and Biodiversity Management, Marin County Parks and Open Space, April 2015 Draft*, p. 2-28. It found that “ridgetop fuel breaks typically have limited effectiveness for stopping the spread of fire during large fire events.” *Id.* at 2-34. Land managers surveyed expressed concerns that constructing and maintaining fuel breaks could be cost prohibitive. They also expressed concern about the adverse effect of fuel breaks on watershed biodiversity and noted that fuel breaks promoted the spread of invasive plants. *Id.* at 2-34, 2-35, 2-35, 3-38.

A huge problem with respect to the creation of fuel breaks is the introduction and spread of invasive plant species. Fuel breaks appear to have a predictable effect of vegetation type conversion from native vegetation to noxious weeds. Indeed, the DEIR notes that if noxious weed seeds are in the soil, mechanical vegetation treatments will spread those seeds making the situation worse. DEIR 4-59. A Marin County Parks and Open Space report found that the aggressive invasion of French, Scotch and Spanish broom into

treated areas is one of the largest impediments to fuel break maintenance, which greatly adds to their cost, and can dramatically reduce their effectiveness. Vegetation and Biodiversity Management, Marin County Parks and Open Space, April 2015 Draft, p. 3-18. Indeed, inadequately maintained fuel breaks are likely to add to fire danger by substituting fuel-dense invasive plants for native vegetation.

Another major problem with fuel breaks is the cost of maintenance: fuel breaks require regular and never-ending maintenance. If a fuel break “is not regularly maintained, the level of effort and cost required to reestablish the desired conditions approaches that of new construction.” Vegetation and Biodiversity Management, Marin County Parks and Open Space, April 2015 Draft, p. 3-18, 3-35, 3-38.

What assurance is there that fuel breaks created under the DEIR will be adequately maintained to prevent noxious invasive weeds from become established and spreading and increasing fire danger?

Since a fire suppression strategy based largely on ridgeline fuel breaks has problems of effectiveness, high cost and serious damage to biological resources in comparison to other fire suppression strategies such as those focused on defensible space near the borders of the wildland urban interface, the DEIR needs to discuss the merits of other fire suppression strategies, including those focused on defensible space. The defensible space strategy should also be considered an alternative that needs to be analyzed by the DEIR, particularly as a result of its apparent significant advantage for preserving special status species and sensitive natural communities in places like Marin County where these abound.

A huge omission from the DEIR is any discussion of the fire suppression strategies of other public land management agencies within the SRA. Surely a VTP that purported to outline an effective fire suppression strategy for Marin County would include a discussion of coordination with the specific fire suppression strategies and programs of other public land management agencies in the county. Even if CAL Fire’s major focus in Marin County is on private land, publicly managed land is sprinkled throughout the county and Marin County land management agencies have already taken the lead in vegetation treatment programs aimed at fire suppression.

Why wasn’t the DEIR written with major emphasis on land use planning and making defensible space? There is so much that can be done, such as plans that discourage further incursion into wildlands, and requiring use of fire resistant building materials and landscape. Would it not be a good idea to incorporate education on how to build fire-

resistant structures in architectural and building curricula – and educate landscapers on fire-resistant plantings?

Does the DEIR intend that vegetation treatment programs authorized under it will be implemented in isolation from fire suppression strategies and programs operated by county land management agencies?

What are the merits of other fire suppression strategies, including those focused on defensible space, in comparison to the fire suppression strategies discussed in the current DEIR?

If coordination is intended, how will vegetation treatment programs authorized under the DEIR be coordinated and integrated with fire suppression strategies and programs operated by county land management agencies?

5. THE DEIR IGNORES THE POTENTIAL IMPACT OF VEGETATION TREATMENT PROGRAMS ON MARIN COUNTY'S HIGHLY SENSITIVE NATURAL AREAS

Serpentine areas, which are home to a disproportionate number of protected plant species and communities, are a good example of a highly sensitive natural area in Marin County. Many of the ridgelines designated by the DEIR for fuel breaks are serpentine soil and rock formations. Disturbance or destruction of serpentine soils or outcrops could wreak havoc on those plants and communities. Although serpentine areas are some of the most environmentally sensitive in Marin County, the DEIR ignores the potential impact of the VTP on them. The potential impact of the DEIR on serpentine soils and rock formations and other sensitive natural areas in the county and their associated special status plants and sensitive plant communities needs to be analyzed.

What impact will the VTP have on Marin County's sensitive natural areas such as serpentine soils and rock formations and the protected plant species and communities that grow there?

6. THE DEIR SHOULD CONSIDER ECOLOGICAL RESTORATION FOR HIGHLY SENSITIVE PLANT COMMUNITIES, WHEREVER THEY EXIST

The DEIR limits the ecological restoration vegetation treatment to areas outside of the WUI. DEIR 4-50. Yet, in Marin County a number of areas within the WUI appear to be good candidates for ecological restoration.

For example, the Ring Mountain Open Space Preserve is home to some of the rarest plants on the planet including the Tiburon Mariposa Lily (*Calochortus tiburonensis*)

which exist nowhere else. Because this area is within the WUI, it is excluded from ecological restoration by the DEIR; consequently, the DEIR proposes fire breaks and other highly intrusive and destructive projects for Ring Mountain.

Another example is the manzanitas on Mount Tamalpais. Decades of wildfire suppression on Mount Tam have resulted in Manzanitas being shaded out by encroaching Douglas fir, leaving dead undergrowth as fuel for future wildfire. One of Marin's special status endemic manzanita, the Mount Tamalpais Manzanita (*Arctostaphylos montana*), grows primarily on Mount Tamalpais in chaparral serpentine (for example, above Boot Jack Camp, the Carson area, and Giacomini Open Space). In addition to manzanita, other special status plants and sensitive plant communities in Marin County are also associated with serpentine. For example, the Sargent Cypress (*Cupressus sargentii*) is a California endemic that grows on the serpentine formations on Mount Tam. Mt. Tamalpais Jewelflower (*Streptanthus glandulosus* ssp. *pulchellus*) is a listed species that grows on the serpentine barrens of Mount Tam.

The DEIR identifies ecological restoration as the preferred treatment for the western slope of Mount Tamalpais but bars the use of this treatment on other slopes of the mountain that are in the WUI. The prohibition on the use of ecological restoration in the WUI appears arbitrary. This is particularly true in the case of serpentine formations that are often sparsely populated with plants and much less susceptible to intense fires. The DEIR should consider and discuss the use of ecological restoration in the WUI where a vegetation treatment program could adversely affect special status plants and sensitive plant communities or where fire safety would be improved by enhancing the viability of special status plants and sensitive natural communities.

Should not ecological restoration be considered an appropriate vegetation treatment in the WUI on a case-by-case basis?

Chaparral needs 40 to 100 years to recover from fire – to build up its seed bank, root system and canopy which resists ignition. More frequent burning can set succession back to more fire prone, invasive susceptible vegetation. How will the lifecycle of chaparral be protected?

What will be done to protect speciation? For example, Jim Roof, former director of the Tilden Park Botanic Garden and a specialist of the genus, *Arctostaphylos* (manzanita), described the Mount Tamalpais area as one where manzanita is undergoing a considerable amount of speciation, a hotbed of evolutionary activity. What actions will be

taken under the DEIR so that its programs that will not interfere with this evolutionary process?

Frank Almeda, when he was Chairman of Botany Department at California Academy of Sciences, wrote of Mount Tamalpais with its rich assemblage of plant and animal species, as one of the unique and well-known natural treasures of Northern California, noting that scientists used it regularly as an outdoor laboratory. He wrote of the importance of its “species composition, zonation, and juxtaposition of tracts in various stages of secondary succession to climax woodland” – and thus a less fire prone state. How will the DEIR mitigate for loss of desirable succession?

7. CONCLUSION

Marin County is a hotbed of biodiversity. The vegetation treatment projects proposed under this DEIR could have a dramatic adverse impact on the special status plants and sensitive natural communities of Marin County. From this DEIR it is impossible to determine the impacts of the proposed vegetation treatment projects on the protected flora of the county. This DEIR would then effectively deny any meaningful public review and comment on CEQA environmental issues at the time environmental impacts are actually known. Furthermore, standards proposed in the DEIR for review of environmental issues are inadequate to protect special status plant species and sensitive natural communities. The DEIR also seeks to implement outmoded fire suppression strategies that conflict with those adopted by Marin County public land agencies. Examples of potential specific harms to Marin Flora from this DEIR include its ignoring the potential impact of vegetation treatments on Marin County’s sensitive natural areas such as serpentine and the failure to consider ecological restoration for highly sensitive plant communities wherever they exist. We respectfully request that the final EIR respond to each of the points and questions contained in this letter.

Thank you for your consideration,

A handwritten signature in black ink, appearing to read "David C. Long". The signature is fluid and cursive, written in a professional style.

David C. Long, on behalf of the
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