CALIFORNIA
NATIVE PLANT SOCIETY

January 9, 2018

California Board of Forestry and Fire Protection
ATTN: Edith Hannigan, Board Analyst
PO Box 944246
Sacramento, CA 94244-2460

RE: VTP Draft PEIR Comments

Dear Members of the California Board of Forestry and Fire Protection;

The Dorothy King Young (DKY) Chapter of the California Native Plant Society (CNPS) fully supports land management actions that promote the restoration and protection of native vegetation in California. The DKY Chapter focuses on native plant species and natural habitats that occur within coastal Mendocino County, roughly from the Pacific Ocean to the coastal mountains west of Highway 101. We have reviewed the California Board of Forestry and Fire Protection's Revised Draft Program Environmental Impact Report (PEIR) for the Proposed Statewide Vegetation Treatment Program (VTP) and find that, while some proposed actions may benefit native vegetation, others have the potential to cause significant impacts to special status plants and rare vegetation types on the Mendocino Coast. By lacking specificity, and only addressing fire in relation to broad categories of plant communities, the VTP Draft PEIR fails to adequately analyze potential environmental impacts, as is required under CEQA. We share the concerns, including those pertaining to CEQA, that are well articulated in other letters on the VTP Draft PEIR that you are receiving from the Endangered Habitats League, the CNPS Conservation Program Director, and other CNPS Chapters. The proposed VTP Draft PEIR as it is written, should not be certified. Our comments on the VTP Draft PEIR, which are listed below, reiterate some of the general issues that are also raised by others. In addition, our letter focuses on examples of specific ecological concerns regarding our local listed rare vegetation types, all of which must be considered under CEQA, as is true for all rare vegetation throughout California, and for which there is no meaningful discussion in the VTP Draft PEIR.

General comments:

1. The VTP Draft PEIR proposes fuel management activities on an area of more than 23 million acres of extremely diverse vegetation in California, but fails to show scientific evidence that such treatments would actually result in a substantial reduction in the number of catastrophic wildfires. The VTP Draft PEIR lacks the specificity necessary to

substantiate claims that the project will not result in significant impacts to sensitive biological resources, including rare vegetation types and listed plant species. Analysis used in the VTP Draft PEIR is based on broad categories of geographical range (Biological Regions) that contain widely variable and dissimilar habitats, on an outdated vegetation classification system (Wildlife Habitat Relationships (WHR)), and on an oversimplification of plant communities to describe fuel types (tree dominated, grass dominated, and shrub. As a programmatic EIR, the document also fails to provide adequate mitigation measures to ensure that future projects tiering off of the program avoid unmitigated significant impacts. Mitigations proposed in the Draft PEIR for listed species rely on a nine-quad search of CNDDB (California Natural Diversity Database) and a voluntary site visit by a Project Coordinator, but there is no discussion of the scientific qualifications of the coordinator, any acknowledgement that CNDDB is not a complete database, or any discussion of how site surveys are to be conducted, if at all. **Prior to proposing any fuel management treatments in California, there needs to be a basic understanding of the ecology of specific vegetation types. Individual project planning must first include protocol-level, site specific surveys and consultations with the regulatory agencies before treatment designs are considered. Botanical surveys must be conducted in accordance with the California Department of Fish and Wildlife (CDFW) "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline). If fuel management is to be proposed, we recommend that the currently recognized authority on California vegetation, *A Manual of California Vegetation. Second Edition.* (John O. Sawyer, Todd Keeler-Wolf, and Julie M. Evens. 2009. California Native Plant Society, Sacramento, CA) be used as the reference for describing vegetation types and how they may be treated under a VTP.** The Manual of California Vegetation has been adopted as the standard vegetation classification by State and Federal agencies. It describes vegetation types by dominant species and includes sections on fire characteristics and other natural processes that shape the ecology of each type, regional distribution information, and the rarity ranking of imperiled natural vegetation.

2. The VTP rightfully includes statements describing fire as a natural element in California ecosystems and how naturally occurring wildfires and burning by Native Americans have been instrumental in defining the California landscape. The document states that "restoring native, fire-adapted ecosystems can increase ecosystem resiliency to wildfire, drought, and potentially climate change" (Chapter 2, page 2-11). However, the document fails to define "ecosystem resiliency", especially under changing climate regimes, and is not based on an ecological approach to vegetation management, but

instead on one of vegetation structure manipulation, which may or may not result in ecosystem resiliency. In some cases, for example, Bishop pine forest, ecosystem resiliency may mean that trees are allowed to burn under extreme conditions that consume a mature stand and facilitate new seedling establishment (a stand replacement fire). For other coniferous forest types on the north coast, for example coast redwood, the document fails to adequately address how timber management practices have created unnaturally extreme fire conditions by producing younger, often even-aged stands that are more readily consumed by fire. A recent paper by Stephens, et. al. (Stephens, S. L., B. M. Collins, E. Biber, and P. Z. Fulé. 2016. U.S. federal fire and forest policy: emphasizing resilience in dry forests. Ecosphere 7(11):e01584. 10.1002/ecs2.1584) discusses the need for change in US Forest Service policies toward planning and implementation that increases resiliency in forest habitats by restoring natural ecosystem processes and promoting late seral characteristics. The same argument can be applied to State regulated and private forests that are managed for timber under the Forest Practice Rules. **We recommend that the VTP Draft PEIR define "ecosystem resiliency" for each vegetation type, and take more of an ecological approach to determining vegetation treatments in general. Specifically, we also recommend that the VTP Draft PEIR include a section on how the Forest Practice Rules may be changed to provide for long-term ecological recovery of native forests in relation to wildfire effects and timber management.**

3. The VTP Draft PEIR includes ecological restoration as a management component, but does not provide vegetation-specific ecological information, and limits this treatment to areas outside of the wildland urban interface (WUI) and fuel break treatment areas. If an objective is to restore ecosystem resiliency to wildfire, then having a thorough understanding of each particular vegetation type is critical to determining an appropriate treatment regime, whether it be in an area designated as "ecological restoration" or "WUI". **Treatments should be designed for site specific ecological conditions, and in some instances, it may be more appropriate to allow the vegetation to burn without suppression.** Successful ecological restoration for one vegetation type may actually require that a dense understory be allowed to develop, especially in moist coastal areas. In another vegetation type, allowing a mature forest to develop, then allowing it to burn in a stand-replacement fire (Northern bishop pine forest, for example) may be the best ecological restoration strategy, whether it be in or outside the WUI.

4. Mitigations proposed in the VTP Draft PEIR that specify avoidance of individual listed plant species, and/or narrow buffers (minimum of 15 feet) around the species are not adequate to protect the long-term viability of rare plant populations. Often, the ground and vegetation disturbances that occur from manual and mechanical treatments in and around intact rare vegetation types and special status species can cause ecosystem-level changes by disrupting favorable environmental conditions such as shade, moisture regimes, and mycorrhizal associations. Similarly, treatments within rare vegetation types must be based on site-specific ecological conditions, including the fire adaptions of the species occurring within those communities. **Site-specific evaluations by qualified botanists and ecologists are needed prior to determining the type of vegetation treatment that should be applied and where, or whether all treatments should be avoided. The focus should be on restoring and protecting intact functioning ecosystems and the processes necessary to maintain those systems.**

5. Many of the mapped fuel break treatments within Appendix A.2.1 for the Klamath North Coast Bioregion are inappropriately placed and if implemented, the proposed treatments would have significant, unnecessary impacts on rare biological habitats. If fuel break treatments are implemented as mapped on the Mendocino Coast, mature native trees could potentially be removed within the State Parks and within the Coastal Zone (the Mendocino County Local Coastal Plan regulates the removal of mature trees that are not regulated under timber harvest plans). If such obvious errors in mapping are readily visible on the Klamath North Coast Bioregion maps, can we assume that such errors in mapping occur throughout all bioregions? For example: a fuel break (shown as a grey line) is drawn where there are no roads or ridgetops within the Inglenook Fen, a highly rare wetland community that supports numerous rare plants within the Inglenook Fen-Ten Mile Dunes Natural Preserve of MacKerricher State Park. Not only is the fen a wetland that would not likely burn, it is primarily surrounded by open sand and coastal dune habitat. Other examples of inappropriately placed fuel breaks are those that are shown within old growth redwood forests of Hendy Woods State Park, and the Mendocino Coast Pygmy Cypress Forests at Jug Handle State Natural Reserve, Russian Gulch and Van Damme State Parks. As discussed below, ground disturbance and related vegetation clearing within pygmy forests would result in permanent impacts that could never be fully mitigated. **We recommend that, if fuel breaks (and other vegetation treatments) are to be proposed, that more accurate maps be presented, and that site-specific evaluations be used to help determine treatment locations. CEQA requires that accurate project treatment maps be included in environmental documents so that reviewers may determine where potential impacts will occur.**

6. The VTP Draft PEIR does not include discussions of rare vegetation types. The California Department of Fish and Wildlife (CDFW) website provides the official list of natural vegetation communities (https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/List). CDFW considers vegetation community alliances described under the Manual of California Vegetation, Second Edition (MCV) with State ranks of S1-S3 (limited occurrences and distribution and under threat), and all associations within them to be highly imperiled. **These rare vegetation types that were omitted from the VTP must be included for analysis under CEQA for potential impacts, impact avoidance measures, and mitigations.**

Specific comments for rare vegetation types found on the Mendocino Coast:

Within coastal Mendocino County, there are approximately 30 natural vegetation types that are ranked at S1-S3. The list below is a subset of those 30, and are presented as examples of CDFW recognized rare vegetation types that would likely be impacted by the proposed VTP (note that those types not listed should not automatically be considered unaffected). Global and State rarity rankings are given beside the vegetation names below, and both the MCV and old Holland Classification (HC) names are used when applicable. [1] Information regarding fire characteristics that is provided in the discussion under the vegetation types was mostly obtained from MCV.

1. ***Hesperocyparis pygmaea* (Mendocino pygmy cypress woodland) Alliance G2 S2 in MCV**
   Mendocino Pygmy Cypress Forest G2 S2.1 in HC
   This is a highly unique and rare vegetation type that supports numerous special status plant species, and is very limited in distribution, with only about 2,500 acres remaining.

[1] The process of vegetation mapping and refinement for some of the vegetation types described in the Manual of California Vegetation, especially for the north coast, is still in progress, and no recent surveys have been made of old CNDDB natural community occurrences. CDFW states: *"We think it imprudent to remove these elements from the CNDDB before assessing them and reclassifying them in terms of the currently accepted state and national standards for vegetation classification. In the meantime, we continue to include those "non-standard" CNDDB NC elements in the current Natural Communities List."* https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Background

It occurs solely on three distinct flat terraces at approximately 300, 425, and 650 feet in elevation; soils are nutrient-poor and extremely acid (pH 2.8 to 3.9), poorly drained, and often underlain by an iron-cemented hardpan that inhibits root penetration. Soils are between saturation and field capacity moisture in summer and saturated in winter when ponding commonly occurs (Sholars, T. and Clare Golec 2006. Mendocino Pygmy Cypress Forest. unpublished paper). The pygmy forest is fire adapted with many species either reseeding readily from serotinous cones or resprouting after burning. Much of the Mendocino Pygmy Cypress Forest is contained within the area designated for WUI treatments under the proposed VTP Draft PEIR, and fuel break lines are shown on the maps. Such treatments would decimate this vegetation type, as any ground disturbance resulting from fire lines or fire breaks would impact the thin soil horizon, negatively affecting drainage and potentially puncturing the hardpan. **Wildfires that may occur in the Mendocino Coast Pygmy Cypress Forest should be allowed to burn; suppression activities should only occur well outside of the forest. Given the moist environment, any wildfire that occurs will likely be low in intensity and result in a mosaic of burned and unburned areas. Any management actions considered for the Mendocino Pygmy Cypress Forest should first be discussed with a local scientific authority on pygmy forest ecology.**

2. ***Pinus muricata*** **(Bishop pine forest) Alliance G3 S3 in MCV**
Northern Bishop Pine Forest G2 S2.2 in HC
Much of the *Pinus muricata* vegetation type on the Mendocino Coast is composed of older, even-aged stands that are diseased and dying. It is considered a stand replacement forest, as bishop pines are relatively short lived, readily produce seed from cones that are opened with heat, and periodic crown fires are critical in regenerating stands. Bishop pines do not survive well after understory burns since the roots are relatively shallow and grow within the thick duff layers that accumulate beneath the canopies. The management of this vegetation type is problematic on the Mendocino Coast, as private development is often interspersed within the forest. This is another vegetation type that is mostly designated for WUI and fuel break treatments in the VTP Draft PEIR. However, much of the forest is also contained within the California State Parks along the coast; management for forest restoration and long-term resilience is currently being planned and will be implemented under a large grant that was recently awarded to parks' environmental division. **We encourage the Board of Forestry to work cooperatively with the California Department of Parks and Recreation natural resource management staff (Brendan O'Neil, Senior Environmental Scientist, Sonoma Mendocino Coast District) in developing any treatments that may be proposed for Bishop pine forest.**

3. ***Abies grandis*** **(Grand fir forest) Alliance G4 S2 in MCV**
   Grand Fir Forest G1 S1.1 in HC
   Abies grandis is another forest species that is not well adapted to burning, as young trees have thin bark and older trees often succumb to decaying fungi after burn damage. The forest occurs in relatively mesic environments and the natural fire interval is considered to be quite long. Seedlings do establish in openings following fires and continue to grow into closed canopies because the trees are shade tolerant. Grand fir forest occurs in the fuel break, WUI, and ecological restoration areas of the proposed VTP. Understory treatments that would remove vegetation, open up and reduce moisture levels in the forest may unnaturally shorten fire intervals and negatively affect this rare forest type. **Maintaining an intact, moist understory of native species that includes an intermittent shrub and herbaceous layer is the preferred management strategy for Grand fir forest. Non-native species should be removed.**

4. ***Picea sitchensis*** **(Sitka spruce forest) Alliance G5 S2 in MCV**
   Sitka Spruce Forest G1 S1.1 in HC
   Sitka Spruce Grand Fir Forest G4 S1.1 in HC
   Picea sitchensis occurs in a limited area of moist forests in a narrow band along the Mendocino Coast, which is also the southernmost distribution of Sitka spruce forest. It occurs within the areas mapped for fuel breaks and WUI in the VTP Draft PEIR. The species is very susceptible to mortality from fire due to its thin bark and shallow roots. Fire intervals are very long (150 to 350+ years). Natural fire events in Sitka spruce forests are typically stand replacing, and recolonization of seedlings is typically from windblown seed originating from unburned adjacent stands. **This is another rare vegetation type in which a moist understory of native species should be maintained to prevent unnatural drying that may lead to more frequent catastrophic fires; vegetation treatments involving thinning or removal of native understory species may be inappropriate and counterproductive.**

5. ***Pinus contorta*** **var.** ***contorta*** **(Beach pine forest) Alliance G5 S3 in MCV**
   Beach Pine Forest G4 S2.1 in HC
   Beach pine forest occurs near the immediate coast in Mendocino County in coastal dunes, bluffs and rocky exposed headlands. It also occurs within the area mapped for fuel breaks and as WUI in the VTP Draft PEIR. Understory species on the Mendocino Coast include many natives such as California blackberry (*Rubus ursinus*) and California hairgrass (*Deschampsia cespitosa* ssp. *holciformis*), and invasive noxious weeds, including velvet grass (*Holcus lanatus*) and the highly flammable gorse (*Ulex europaeus*).

Pinus contorta var. *contorta* does not tolerate burning, as trees are readily killed and the foliage is moderately flammable. A pre-settlement vegetation analysis of pollen phytoliths was conducted on the coastal headlands within California State Parks on the Mendocino and Sonoma headlands in the late 1980's by Dr. Susan Bicknell, Forest Ecologist, Humboldt State University. Dr. Bicknell's research determined that the native vegetation community was a pine savannah of likely *Pinus contorta* var. *contorta* and *Pinus muricata* interspersed with native bunchgrass, including California hairgrass. The open understory and relatively low density of pines was attributed to burning by Native Americans, as the natural fire frequency is otherwise considered to be 150 to 350 years. **Management actions for the potential reduction of catastrophic wildfires in the Beach pine forest should focus on the removal of nonnative plants, especially the highly flammable gorse.**

6. ***Sequoia sempervirens* (Redwood forest) Alliance G3 S3.2 in MCV**
   Upland Redwood Forest G3 S2.3
   North Coast Alluvial Redwood Forest G2 S2.2 in HC
   The Redwood forest vegetation community occurs in moist coastal areas and along inland coastal river valleys that receive heavy summer fog. *Sequoia sempervirens* is an extremely long-lived species; old growth individuals can be over 2,000 years old, 8 feet in diameter, and over 300 feet tall. Cut trees readily resprout and eventually form dense circles of "second-growth" stands; cut again, "third- and fourth- growth" stands may be evident. Few actual "old growth" groves of redwoods remain on the Mendocino Coast. The only notable stands are found within the State Parks. According to the MCV, "*Fire is the principal disturbance agent in both young-growth and old-growth stands.*" The thick bark of older trees often prevents fire from causing mortality and nearly all old stands show some degree of fire scars. Basal hollows created by repeated burning of older trees provides important wildlife habitat, including for sensitive species such as the Townsend's big-eared bat. Young redwoods, with their thinner bark, are sometimes killed by fires, but can resprout. Young redwood stands also have more dry litter accumulation on the ground and their microclimate is drier than that of mature redwood forests. During the 2008 lightening fires that consumed over 50,000 acres in Mendocino County, young redwoods were killed in timber harvested areas, while nearly all of the redwoods at Montgomery Woods State Natural Reserve survived, despite the fact that no suppression activities were used in the reserve during the fires. The old growth groves of Montgomery Woods simply had a much wetter microclimate due to the dense canopy of enormous trees and thick understory of ferns. The VTP Draft PEIR includes fuel breaks, WUI and ecological restoration zones where Redwood forests grow along the Mendocino Coast, including old growth groves within the State Parks and

Reserves. **Since much of the Redwood forest on the Mendocino Coast is under timber management, and integrates with other timber producing vegetation communities, such as that dominated by Douglas fir, we recommend that the Board of Forestry reevaluate how these forests are currently managed and work toward developing policies that are ecosystem-based to produce long-term sustainability and resilience in the forests (as discussed above under #2 in the General comments). For the Redwood forests that occur within parkland or other reserves, we recommend that the Board work collaboratively with California State Park natural resource managers to implement management policies that allow fire events to occur as natural processes within these ecosystems.**

7. ***Lithocarpus densiflorus*** **(Tanoak forest) Alliance G4 S3 in MCV**
   Tanoak is a component of most coniferous forests on the Mendocino Coast, but the Tanoak forest Alliance is one in which tanoak stands dominate the landscape. Tanoaks are highly valued by Native Americans, both for acorn harvest and use of the wood and bark. Mature trees provide an important food crop and nesting and roosting habitat for numerous wildlife species. Tanoaks are hosts to a variety of fungi, many mycorrhizal associations form mutually beneficial relationships, and play critical ecological roles in maintaining forest health. Tannin produced from the bark was once used on an industrial scale for tanning leather. However, as tanoaks lost their value for commercial use, they became viewed as an obstacle to growing the more lucrative conifer species. Landscape level losses to tanoak forests have occurred as a result of widespread tree removals and herbicide use, and more recently from infestations of *Phytophthora ramorum*, the introduced pathogen that causes Sudden Oak Death. Fires kill young tanoaks, but individuals readily resprout after burning. Older trees survive light understory burning, which may be beneficial in reducing the number of young conifers that encroach upon tanoak stands. Researchers have suggested that controlled burning may also have some application in treating Sudden Oak Death, but more studies are needed (Bowcutt, Frederica 2015. The Tanoak Tree, An Environmental History of a Pacific Coast Hardwood. University of Washington Press). Tanoak forests on the Mendocino Coast occur in both the WUI and ecological restoration designated areas described in the VTP Draft PDEIR. **We recommend that, in general, treatments within Tanoak forests mimic a natural fire regime and be conducted to retain large individual trees, and in some cases, reduce competition from encroaching conifers. We also encourage more research on the use of controlled burns to treat forest pathogens.**

8. ***Baccharis pilularis*** **(Coyote brush scrub) Alliance G5 S5 (some associations are of high priority for inventory) in MCV**
   Northern Coyote Bush Scrub G4 S4 in HC
   Northern Coastal Bluff Scrub G2 S2.2 in HC
   Northern Salal Scrub G4 S3.2 in HC
   Northern Silk Tassel Scrub G3 S2.3 in HC
   Corylus cornuta var. californica **(Hazelnut scrub) Alliance G3 S2? In MCV**
   Rubus (parviflorus, spectabilis, ursinus) **(Coastal brambles) Alliance G4 S3 in MCV**
   Scrub and bramble vegetation types on the Mendocino Coast generally occur on the coastal headlands or as understory components in moist forests, and are shown as occurring primarily within the WUI designated areas and within areas mapped for fuel breaks. Naturally occurring fire is infrequent in these relatively mesic environments. Most of the species, including *Baccharis pilularis*, readily resprout after burning or cutting. The scrub vegetation types provide important habitat for nesting birds and other wildlife. Hazelnut scrub is an important food source for Native Americans and many native hazelnut patches are highly prized and considered to be sacred sites. **We recommend that site-specific evaluations be conducted prior to determining whether treatment is even necessary in these coastal scrub vegetation communities, or if so, the type of treatment that may be most appropriate. Removal of invasive weeds and retaining stands of scrub that are important to local tribes should be high priorities.**

9. **Native Grassland G3 S3.1 in HC**
   Elymus glaucus **(Blue wild rye meadows) Alliance G3? S3? In MCV**
   Coastal Terrace Prairie G2 S2.1 in HC
   Calamagrostis nutkaensis **(Pacific reed grass meadows) Alliance G4 S2 in MCV**
   Danthonia californica **(California oat grass prairie) Provisional Alliance G4 S3 in MCV**
   Festuca rubra **(Red fescue grassland) Alliance G4 S3 in MCV**
   Coastal grasslands that support native perennial grasses occur primarily along the coastal bluffs and occasionally within forest openings or as an understory component beneath Northern bishop pines and Shore pines. These natural communities on the Mendocino Coast occur in much of the area designated as WUI in the VTP Draft PEIR. Fuel breaks are also mapped for areas of native grassland. The native grasses also intermix with noxious non-native perennial grasses, primarily velvet grass (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*). Many of the native grass species readily resprout following fire, however so do the non-native perennial grasses. Although the Native Americans regularly burned coastal headland grassland areas, burning prior to European occupation occurred when there were no non-native grasses to compete with the native plants. Today, when burning occurs in the same vegetation

communities, colonization or reemergence of velvet grass and sweet vernal grass poses a real threat to maintaining the integrity of the native vegetation ecosystems. Ground disturbance within these intact coastal grasslands also favors invasion by noxious weedy annual and perennial grasses. **We recommend that ground disturbance be avoided in any intact native grass vegetation community. If vegetation treatments are considered, including mowing or grazing, site-specific evaluations should first be conducted by knowledgeable botanical ecologists to determine the most appropriate strategies.**

In summary, the Dorothy King Young Chapter of the California Native Plant Society finds that the VTP Draft PEIR lacks the site-specific botanical and ecological information necessary to make conclusive determinations regarding potentially significant impacts resulting from proposed fuel management activities. The VTP Draft PEIR also fails to provide meaningful mitigation and reporting measures that could allow appropriate site-specific evaluations for future tiered projects. As discussed under the General and Specific concerns listed above, nearly all of the rare vegetation types that occur on the Mendocino Coast would potentially be impacted if the vegetation treatments were carried out as described in the VTP Draft PEIR. We urge the Board of Forestry to NOT certify the VTP Draft PEIR, and if recirculated, to completely revise the document to be based on currently recognized ecological principles and environmental assessment protocols. We request that the Manual of California Vegetation, Second Edition be used as a primary reference for identifying vegetation types and the treatments that may or may not be appropriate. Overall, we emphasize the importance of recognizing that understanding the functions and characteristics of native California ecosystems, in the context of changing climate regimes, is critical to achieving the goal of facilitating long-term resilience of native vegetation in response to wildfire.

Respectfully,

Renee Pasquinelli

Renée Pasquinelli, Conservation Co-Chair (North)
Dorothy King Young Chapter, California Native Plant Society

cc: Greg Suba, Conservation Program Director, California Native Plant Society