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California Coastal Commission
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Via email.

January 19, 2023

RE: Tomales Bay Forest Health and Wildfire Resilience Project

Dear Ms. Hardcastle and Ms. Shafer,

Please find comments on the Public Works Plan (PWP) for the treatment project proposed at Tomales State Park by the conservation and public advocacy groups listed below, signed by local residents at the end.

Western Watersheds, John Muir Project, and individual local residents with extensive standing provide comments on the management of Tomales Bay State Park.

Western Watersheds Project is a non-profit organization with more than 12,000 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives, and legal advocacy.

John Muir Project is dedicated to the ecological management of our federal public forestlands. Our goal is to ensure that these lands are managed to provide optimal ecological conditions to support and restore the full complement of native biodiversity in these forest ecosystems, which have been severely degraded and damaged by decades of commercial logging and suppression of wildland fires.

Tree Spirit Project's mission is to raise awareness of the critical role trees play in our lives, both globally and personally.

The California Chaparral Institute is a 501(c)(3) nonprofit environmental organization founded in 2004 that's dedicated to preserving what remains of California's chaparral - the state's most characteristic, yet most imperiled, native shrubland ecosystem. Through scientific research, Nature education, and activism, we strive to be the voice of the chaparral and all the life it supports.

Forest Unlimited protects, enhances, and restores the forests and watersheds of the North Bay.

Our City is working to actively change the political dynamic in San Francisco.

Californians for Energy Choice is a statewide coalition of organizations and communities using the State's 2002 Community Choice energy law to help our communities get electricity from cleaner, less expensive and locally managed sources rather than the high-priced, fossil fuel energy provided by the corporate monopoly utilities.

In Defense of Animals has become an international animal protection organization with over 250,000 valued supporters and a 39-year history of fighting for animals, people, and the environment. We accomplish our mission through education and campaigns, as well as sanctuaries and hands-on animal rescue facilities in India, Korea, and rural Mississippi. Our main headquarters are established in Marin County, California.

The Defend Them All Foundation is a nonprofit dedicated to securing a better future for animals and their habitats through community advocacy, education, and legal guidance. Given this mission, we are concerned about the impacts of proposed management measures on sensitive habitats in and around Tomales Bay State Park and the species that call it home.

Project Proposal

The Tomales Bay Forest Health and Wildfire Resilience Project is a vegetation treatment project proposed for large areas of Tomales State Park. We are commenting on compliance and permitting documents for the project, including the Public Works Plan, which will be needed for project approval within the coastal zone, and a Project-Specific Analysis to evaluate the project to ensure it meets the requirements of the California Vegetation Treatment Program (CalVTP).

We believe the mitigation measures proposed in the PWP, however, will not allow compliance with the CalVTP.

According to the December 14, 2022, virtual meeting held by California State Parks, 5-10-acre parcels of native vegetation would be treated across 2,200 acres of parkland, including wildlands, relying on adaptive management. Broadcast low-intensity burning would be used, as well as chain sawing trees in order to "open the forest canopy." On steep slopes hand crews would cut vegetation and trees.

Tree debris would be piled and later burned in place.

Yet chainsaws do not mimic the fire ecology of hot, high-intensity canopy fires that open cones to release seeds, as well as create an ashy, nutrient-rich bed for young trees.

No nursery stock would be brought from the outside; no Bishop pine seedlings would be planted.

Targeted herbicide use would be considered. We oppose herbicide use in state parks, and prefer hand-tool methods to remove invasive species.

"Prescribed herbivory" would also potentially be used, indicating livestock grazing used to treat vegetation. The PWP should detail how many miles of livestock fencing would need to be installed for cattle or goats, such as barbed-wire fencing or electric fencing, and how watering facilities would be constructed, in what locations, from what water sources, and what mitigation measures will be in place to prevent the spread of non-native weeds from spreading due to livestock activity..

Figure 1. December 14, 2022, Cal State Parks screenshot of the slide on the proposed vegetation treatments in the park.

The Project Violates the Park General Plan's Purpose

Despite the objectives and directives of the Tomales Bay State Park General Plan (California State Parks 2004) to involve community collaboration, we find a lack of transparency concerning this proposed project.

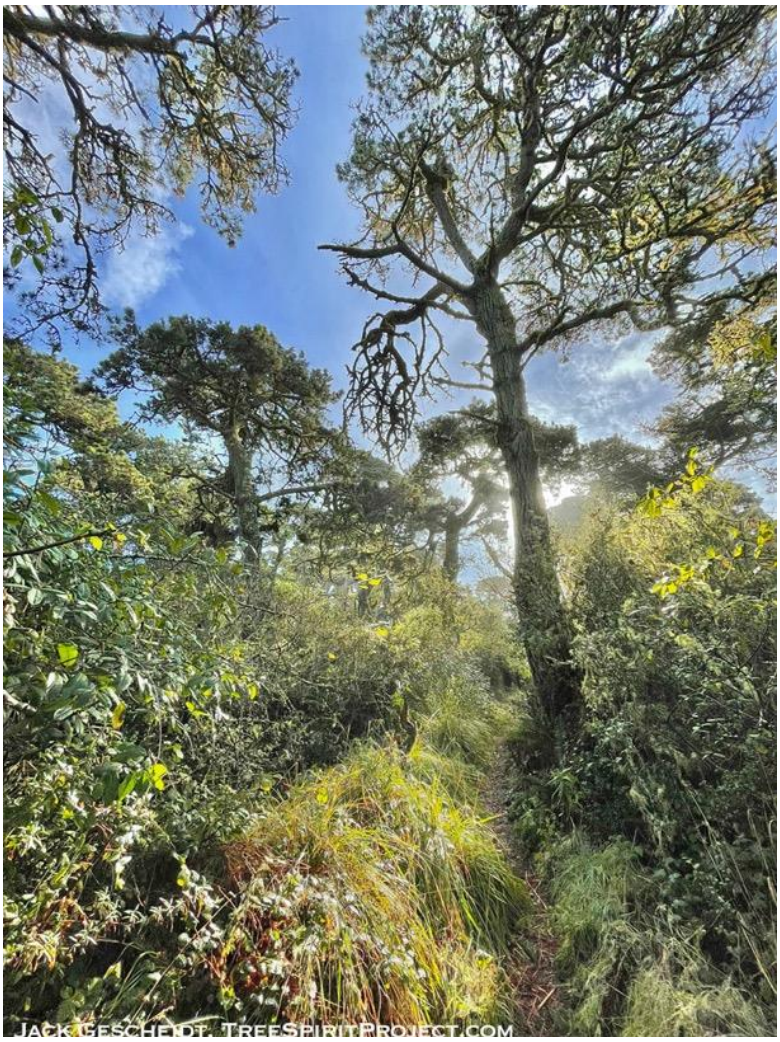


Figure 2. Old growth Bishop pine cloud forest in Tomales Bay State Park. Photo: Jack Gescheidt.

The very purpose of acquiring the land to form Tomales Bay State Park involved preserving a subtle and refined visitor experience of the natural world that does not include prolonged chainsaw noise, clear-cutting of old-growth Bishop pine forests, herbicide spraying, livestock grazing, and violation of coastal cloud forests draped in hanging lichens and rooted with sword ferns, coffeeberry bushes, and hazelnut.

The 2004 Tomales Bay General Plan that guides management of this state park elucidates this in detail in its introduction to park management and calls for "sensitive stewardship" of park resources:

SPIRIT OF PLACE

> Each place on the Earth has its own unique combination of geologic and atmospheric forces, lifeforms and ecosystems, and cultural influences. We can sum up these natural and cultural influences upon an individual as that area's "spirit of place." It is implicit in this "spirit of place" concept that each place on the Earth is different, has its own unique

elemental chemistry, ephemeral atmosphere, overarching pattern of stars, and integration of lifeforms.

We are often oblivious to the unique spirit of the places we visit in our hurried modern society because we are so goal-oriented to get something done or to get somewhere else. And our indoor-oriented lives dull our sensitivities to natural rhythms and patterns and to the remnants of previous cultures. Many are not aware of the deep sense of well-being that can be promoted by sustained contact with nature, and how we are literally dependent on the physical world around us. State Parks offer opportunities to reconnect to the natural world, benefiting visitors while at the park and benefiting the community in general after visitors return home with an enhanced sense of connection to the natural systems that sustain us. These opportunities depend on sensitive stewardship by Department employees and others to care for park resources in ways that preserve and optimize the local "spirit of place."

Each of California's state parks has a unique spirit of place—a character or identity that holds a special value or meaning for the visitor. Most visitors sense the unique spirit of a park as they pass through the park entrance. They know they are in a special place set aside in perpetuity to preserve a special public value. The visitor might be only peripherally aware of it or they may be so aware of the park's spirit of place that it calls them back time after time. This spirit of place is really a sense of belonging -- a bond between people and the land. This connection with the earth's landforms, lifeforms, weather, and waters is rare and especially valuable. Tomales Bay State Park is rich in such sensual opportunity to reconnect with our Earth, and the legacy of the Miwok people who lived so close to the spirit of this place that they were one with it.

(General Plan at 21-22, emphasis ours)

Many regular park visitors have voiced extreme concern over this proposed project, which flies in the face of directives in the General Plan recreational, educational, and interpretive objectives. For example, Interpretive Guidelines are detailed in the General Plan that include preserving the natural Bishop pine sensitive communities for the enjoyment of the public:

Int 6 - Interpretive programs should integrate the park's "spirit of place," natural aesthetics, and sustainable design. (General Plan at 148)

Int 11 - Interpret the complexity of the twenty plant communities with emphasis on the two sensitive communities of the Coastal Terrace Prairie and Northern Coastal Marsh and the two dominant communities of Bishop pine on the western side and the grassland on the eastern side. Interpret plant species unique or rare in this area. (General Plan at 149)

Int 12 - Help the public enjoy themselves without harming the complex, dynamic, and sensitive environment of Tomales Bay and the park. (*id*.)

Visitor services provide the means for allowing the public to enjoy and benefit from the resources and recreational opportunities provided at the park. Both state park and

concession-offered visitor services should provide environmentally-appropriate and enjoyable recreation opportunities for the widest possible range of visitors with respect to age, ethnicity, religion, race, income, education, and physical ability. (General Plan at 152)

Lack of Community Collaboration Violates the General Plan

Yet as of January 16, 2023, there is a lack of information on this drastic project on the California State Tomales Bay State Park webpages[1]. An article in a subscription-only newspaper in the Point Reyes Light was the only way many members of the public, including us, learned of the project. Only by January 17 did a notice of the project appear on the Tomales Bay State Park web page[2].

In addition, when searching for any online information about this Project, the California Department of Parks and Recreation web page on Wildfire and Forest Resilience[3] seems to be unfinished and provides no information or links. It is apparently an outline that was never completed and is quite unhelpful to the public.

A screenshot taken January 2, 2023, is presented:

[1] https://www.parks.ca.gov/?page_id=470

[2] https://www.parks.ca.gov/?page_id=470, accessed January 18, 2023.

[3] https://www.parks.ca.gov/?page_id=30905

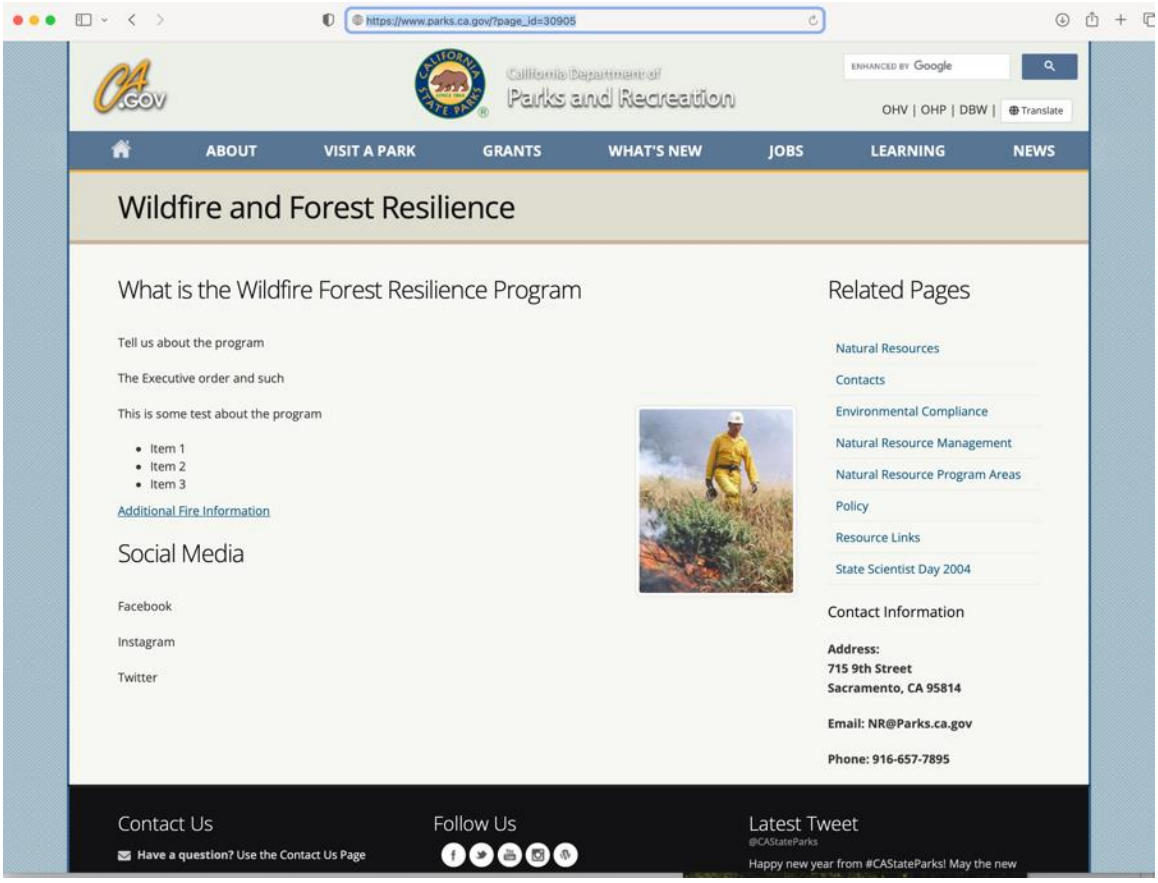


Figure 3. Further inquiry into the proposed project led to the California Wildfire and Forest Resilience Task Force[4]. A search found no information concerning Tomales Bay State Park. Screenshots taken January 2, 2023, are below:

[4] https://wildfiretaskforce.org

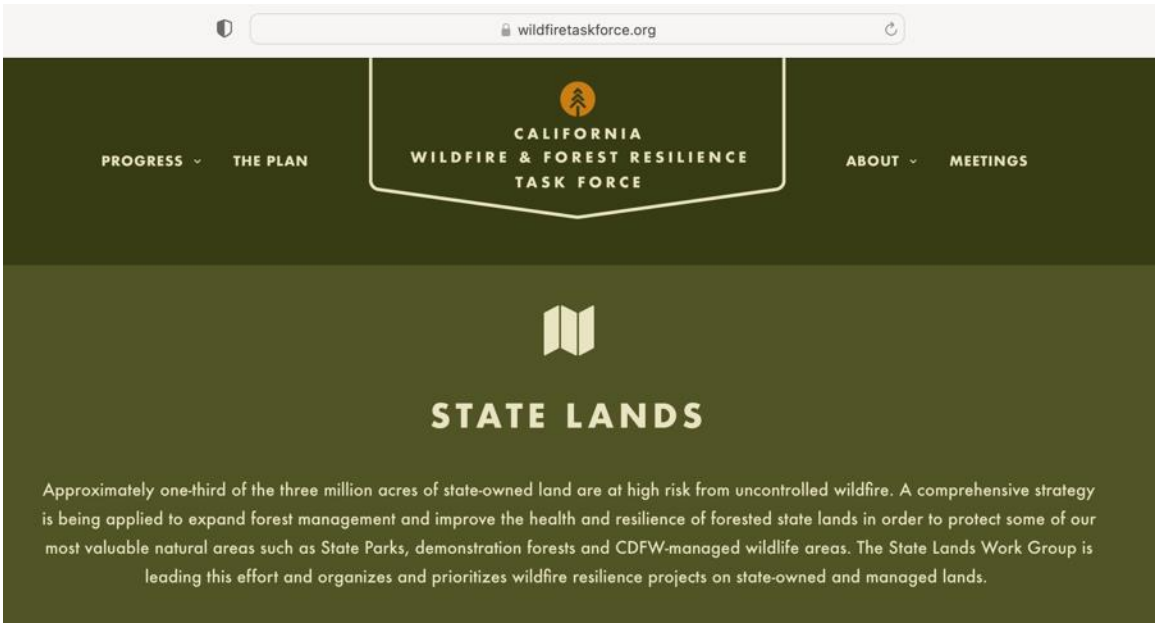


Figure 4.

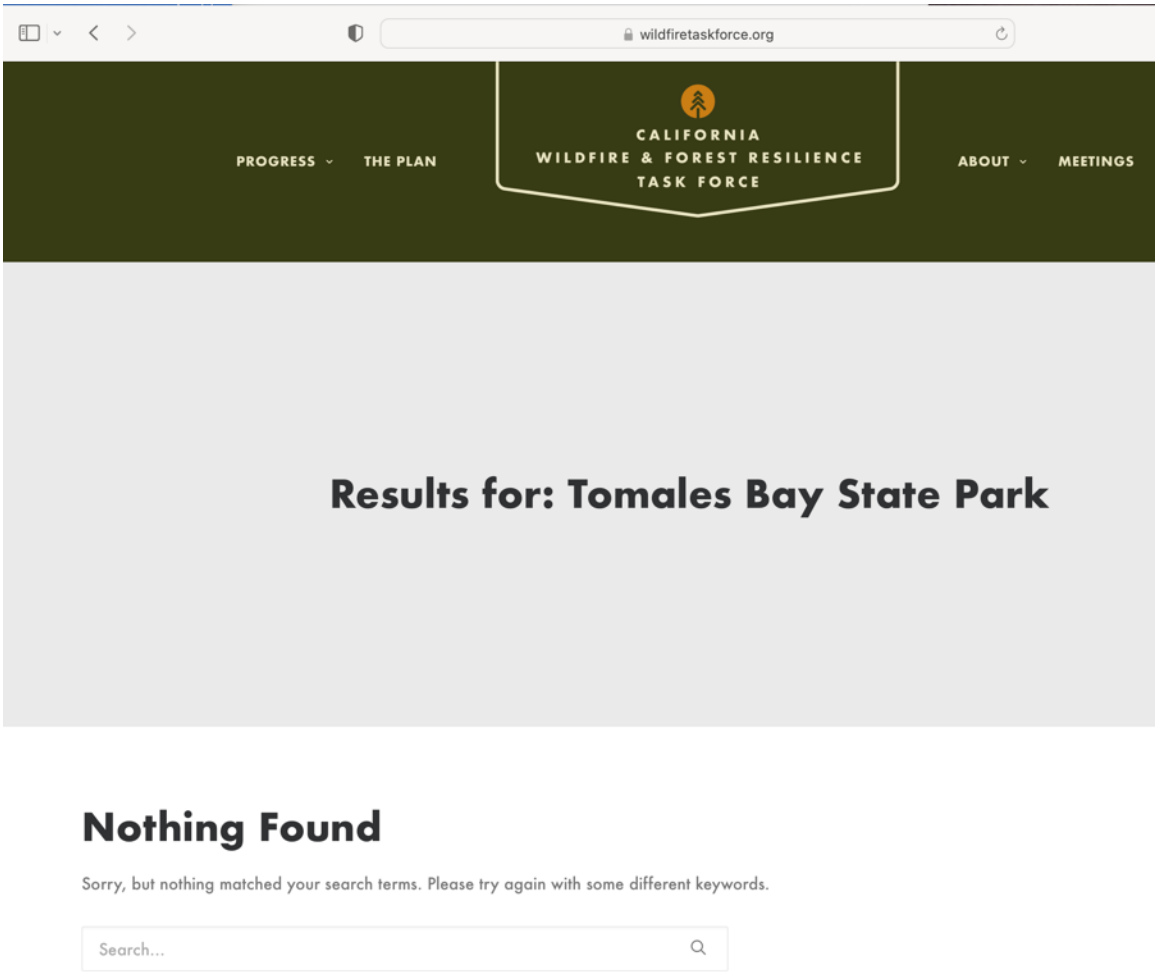


Figure 5.

The one public information virtual meeting on the Project was held on Zoom by the staff of California State Parks on December 14, 2022, included this screenshot of a slide presentation on Public Noticing and Review:

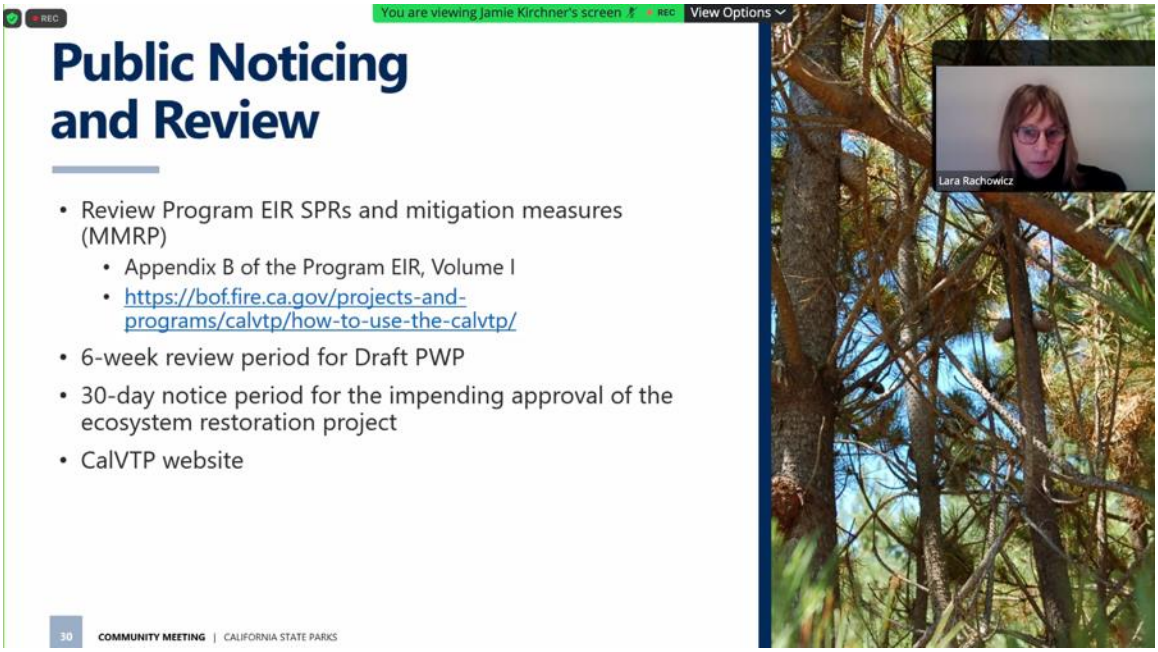


Figure 6.

The only link given for the California Board of Forestry and Fire Protection at https://bof.fire.ca.gov/projects-and-programs/calvtp/how-to-use-the-calvtp/ gives no project-specific information for the proposals at Tomales Bay State Park, as of January 3, 2023, but only general information on the California Vegetation Treatment Program (CalVTP); screenshot below.

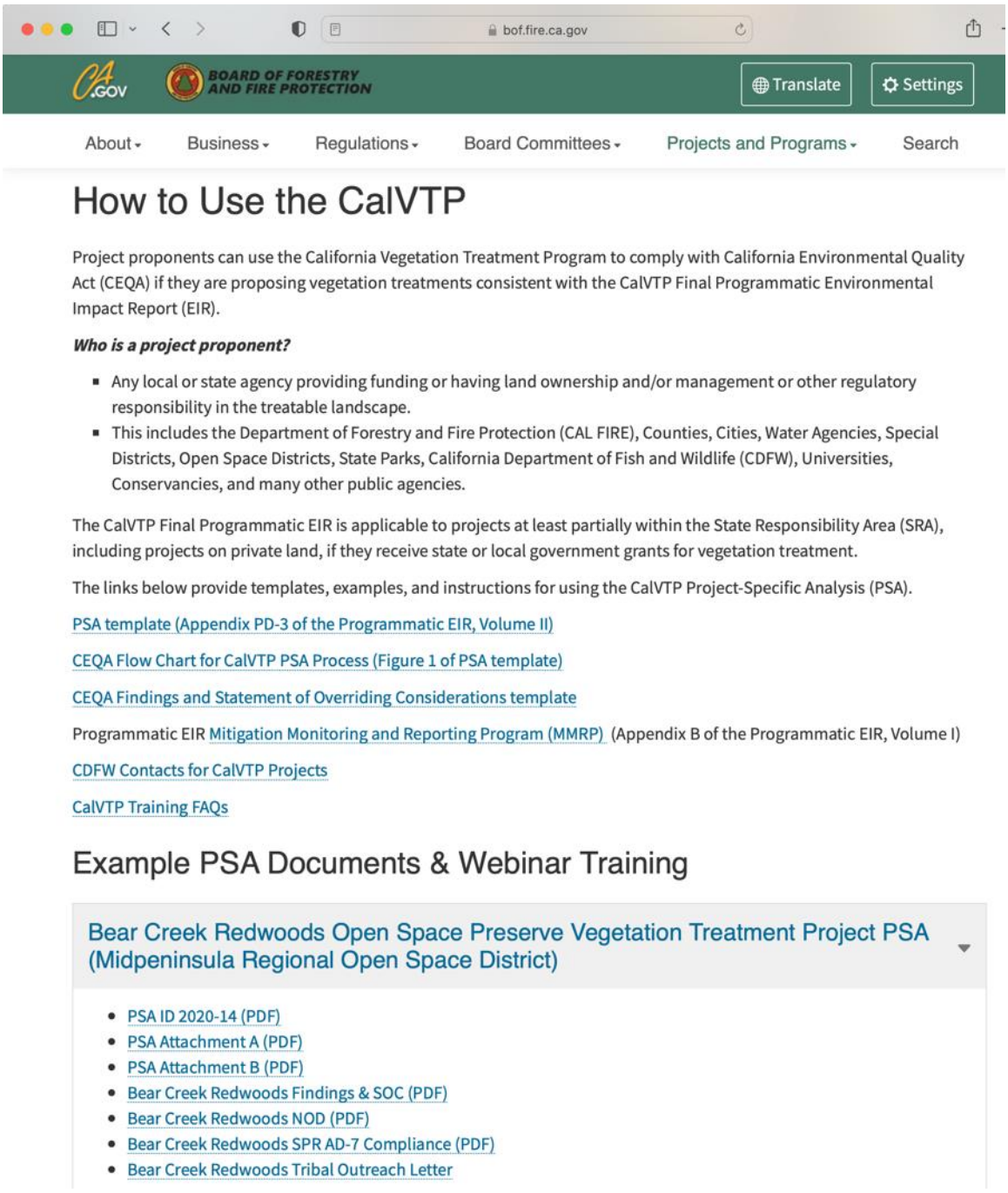


Figure 7.

Despite the streamlining reviewed below, we believe that state agencies have a responsibility to taxpayers to inform them of large-scale projects in popular state parks and adjacent to densely-populated communities.

Proposed Project Regulatory Compliance

California State Parks (CSP) is preparing a combined California Vegetation Treatment Program (CalVTP) Project-Specific Analysis (PSA) and Coastal Vegetation Treatment Standards (Coastal VTS) to provide California Environmental Quality Act (CEQA) and California Coastal Act compliance for proposed vegetation treatment projects. The PSA is a project-specific checklist analysis used for later activities consistent with the CalVTP Program Environmental Impact Report (PEIR), which was certified by the California Board of Forestry and Fire Protection (Board) at the end of 2019. The PSA is prepared in accordance with State CEQA Guidelines Section 15168(c). In a form of streamlining, part of the environmental review for this project for CEQA compliance using the PSA tiers off of the approved 2019 CalVTP PEIR.

The California Coastal Act was streamlined in order to more quickly approve massive vegetation treatments in the Coastal Zone. On July 8, 2021, the California Coastal Commission unanimously approved Forest Health and Fire Prevention Public Works Plans for San Mateo County and Santa Cruz County as well as the Camp Butano Vegetation Treatment Project, which is the first CalVTP PSA prepared using a PWP for Coastal Act compliance. These 10-year PWPs will serve as programmatic Coastal Act authorizations for treatment projects undertaken pursuant to the CalVTP Program EIR in the Coastal Zone. PWPs are an alternative to project-by-project review for vegetation treatment, which would otherwise require obtaining a coastal development permit for each qualifying project. Any public agency with jurisdiction within the Coastal Zone could prepare a PWP for vegetation treatment.[5]

A Public Works Plan (PWP) containing the Coastal VTS will be submitted for certification by the California Coastal Commission prior to approval of the PSA/Coastal VTS for the projects. The Draft PWP will be circulated for a 6-week public review period, prior to a Commission public hearing to certify the plan as complying with the California Coastal Act. The PWP needs to be certified before consideration of the ecosystem restoration project by the Commission, which may occur at the same Commission public hearing or a follow up hearing.

A PSA/Coastal VTS will be prepared by CSP in early/mid 2023. After CSP Bay Area District approves ecosystem restoration projects using the PSA/Coastal VTS, CSP will submit it to the Coastal Commission for review, pursuant to the requirements of the PWP. The PSA process does not include a public review and comment period (because this CEQA step occurred during the PEIR process); however, the Final PSA/Coastal VTS will be available to the public during the 30-day notice of impending approval of the ecosystem restoration project, which is expected approximately September 2023. Following completion of the notice period, the Commission will consider the consistency of the ecosystem restoration project with the certified PWP.

Significant Impacts Will Not Be Mitigated To Less Than Significant

If the project proposal is found to be within the scope of the CalVTP, then no further CEQA review will be undertaken. But is the project within the scope of the CalVTP?

[5] https://bof.fire.ca.gov/projects-and-programs/calvtp/how-to-use-the-calvtp/

Mitigation measures from the programmatic CalVTP EIR will be relied upon, but that statewide analysis did not carefully look at the sensitive habitats of Tomales State Park, which includes the uncommon coastal Bishop pine forests. Sensitive habitats need to be avoided and Bishop pine forests are classified as sensitive natural commuinities. Therefore, chain sawing these habitats down would not be within the scope of the CalVTP.

According to the California State Water Resources Control Board, Order WQ 2021-0026-DWQ, General Waste Discharge Requirements for Vegetation Treatment Activities Conducted in Conformance with the California Vegetation Treatment Program (CalVTP) [6]:

> **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**
>
> 31.The BOF [Board of Forestry and Forest Protection] approved the CalVTP and certified the FPEIR on December 30, 2019. The BOF prepared the CalVTP FPEIR according to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). The BOF found, and the State Water Board agrees, that implementation of the CalVTP could result in significant and unavoidable, as well as potentially significant and unavoidable, environmental impacts, as summarized in Appendix 2 of this General Order. The FPEIR [California Vegetation Treatment Program Final Program Environmental Impact Report] incorporates standard project requirements and mitigation measures into the CalVTP for reducing environmental impacts.
>
> 32.The State Water Board reviewed and considered the FPEIR certified by the BOF as required by CEQA Guidelines sections 15050 and 15096. Mitigation measures have either (1) been incorporated into this General Order if related to water quality or (2) are within the responsibility of another responsible agency (CEQA Guidelines sections 15096(h) and 15091).

This admits that both the Board of Forestry and Forest Protection and California State Water Board agree that the CalVTP could have significant environmental impacts. Under CEQA, these significant effects can only be allowed if mitigated properly with adequate measures that reduce these effects to less than significant.

We argue that proposed mitigation measures in the Project are not adequate to avoid significant effects to numerous resources, including vegetation, sensitive habitats, threatened and endangered wildlife, water resources, cultural resources, and other resources.

Biological Resources

Bishop Pine Forest

[6] https://www.waterboards.ca.gov/water_issues/programs/nps/docs/vegetation_treatment/wqo2021_0026_dwq.pdf

Figure 8. Johnstone Trail, Tomales Bay State Park mature, healthy Bishop pine forest. Photo: Jack Gescheidt.

Figure 9. Jepson Trail, Tomales Bay State Park, showing the nature of the cloud forest ecology of the Bishop pine forest, with lichens draping small woody debris. This forest depends on summer for moisture from coastal ocean fog.

Bishop pine forest is a sensitive habitat. Sawyer et al. (2009) describe the ecology of Bishop pine forests. Bishop pine (*Pinus muricata*) is a closed-cone pine found in a disjunct range in local stands from Baja California to Humboldt County, California, in the coastal fog belt. Bishop pine groves are often surrounded by chaparral, and also mix with coast redwood, Doug fir, other pines, and oaks. Stands are naturally even-aged, originating after periodic crown fires. Historic fire return interval in Point Reyes National Seashore is 40 years, but trees live to 200 years at least [so fire return intervals may also be longer]. Fire kills the trees, and seeds in the closed cones are released after a fire or on hot days, and germinate in newly opened ashy soils. Thousands of seedlings result after a hot severe wildfire, such as a lightning fire. Ectomycorrhizal fungi are symbiotically associated with Bishop pine roots. Bishop pine plant community Rarity ranking G3 S3 (Global/State): only 100 viable occurrences worldwide, 2,590-12,950 hectares.

"Conservation requires examples throughout the full range of environmental settings...." Chainsaws are not mentioned as conservation measures.

The state parks are using the natural fire ecology of Bishop pine forest as an excuse to artificially slash old growth forests. Bishop pine forests periodically undergo high intensity

crown fires that replace the stand, caused by rare lightning strikes-caused fires on the order of a century or more similar to the Great Basin pinyon-juniper communities. We humans may not even see every cycle because we are not as long-lived as trees. Yet the state park said they cannot do prescribed burns because of fire danger, so instead they are going to cut down the Bishop pines with chainsaws, and pile-burn the debris, to try to mimic this ecology. But fire is very different from chainsaws. Bishop pines cones explode with heat, releasing the seeds. The ashes create a nutrient-rich bed for pine seedlings to grow. This is not at all mimicked with chainsaws and slash piles.

We note that there is no clear range yet for an accurate fire return interval for Bishop pine forests—more research is needed in tree ring studies coupled with fire scar analysis. The fire return interval given in Sawyer et al. (2009) is based on only one citation, and more data is needed before the age of these forests can be pinpointed.

Cal State Parks staff in the virtual December 14, 2022, meeting admitted they do not fully understand Bishop pine ecology, and will study plots in Point Reyes National Seashore, while using "adaptive management," a vague term. At the very least the project should be halted until we better understand the ecology of this coastal forest type.

The Tomales Bay State Park General Plan claims certain Bishop pine forests are not regenerating well, including the groves at Heart's Desire, yet the Plan also says:

> One of the finest remaining virgin groves of Bishop pine in California is in the park's Jepson Memorial Grove, reached by way of a one-mile trail. (General Plan at 23)

More study is needed in these Bishop pine groves for evidence of regeneration. We maintain that there is no such thing as "decadent" or "degraded" Bishop pine forests. Old growth closed-cone forests are a treasure of biodiversity and carbon sequestration. Drought and insect outbreaks are natural and will run their course. Wildfires help tamp down insect outbreaks. We believe that fire suppression attempts have not accomplished the goal of preventing wildfire regionally, as witnessed by the dry lightning ignition causing the nearby Woodward Fire. Home hardening measures should be the focus.

The General Plan calls for the development of a Vegetation Management Plan for Tomales Bay State Park, which to our knowledge has not yet been completed. Guidance suggestions include studying treatment cost and effectiveness in areas dominated by Bishop pine by burning small test sites. (General Plan at 140-141)

Numerous references collated by John Muir Project (2022) indicate that thinning mature closed canopy forests can cause a 5 degree C difference in ambient air temperature between a closed-canopy mature forest and a forest with partial cutting, like a commercial thinning unit, and noted that such differences are even greater than the increases in temperature predicted due to anthropogenic climate change.

California bay, California wax myrtle, and coast live oak, as well as several chaparral species are also intermixed with Bishop pine groves (General Plan at 59). The ecology of these

plant communities should be detailed in the PWP. These plant communities do not need mechanical treatments to thrive.

Marin Manzanita

Marin manzanita (*Arctostaphylos virgata*) is a narrow endemic shrub found in closed-cone pine forests, mixed evergreen forests and chaparral. It has a California Rare Plant Rank: 1B.2 (rare, threatened, or endangered in CA and elsewhere) (Calflora 2023).

U.S.Fish and Wildlife Service considers Marin manzanita a potential candidate species for listing under the Endangered Species Act (ESA)[7].

Tomales Bay State Park is a stronghold of the species.

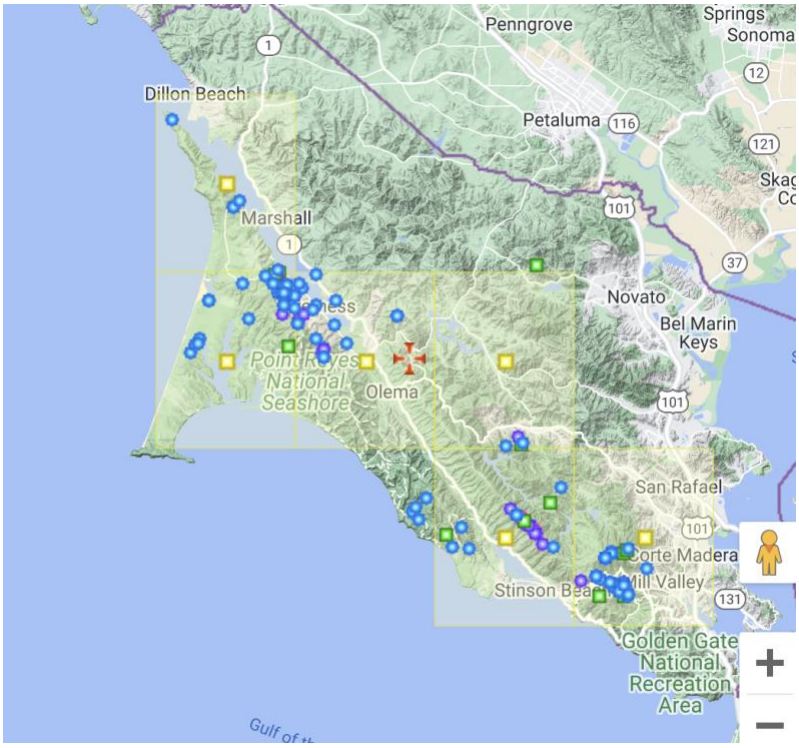


Figure 10. Map of the global distribution of Marin Manzanita. Calflora (https://www.calflora.org/entry/observ.html?track=m#srch=t&lpcli=t&taxon=Arctostaphylos+virgata&chk=t&cch=t&cnabh=t&inat=r&cc=MRN)

Chain sawing down closed cone forests and chaparral which harbor this rare species could significantly impact this manzanita, and lead conservation groups to petition to list the species under the ESA. This is further evidence that a PWP is not enough to adequately analyze impacts to species in the State park, and that a full EIR needs to be undertaken.

California Freshwater Shrimp

[7] https://ecos.fws.gov/ecp/species/5532

The California Freshwater Shrimp (Syncaris pacifica) is a rare crustacean found in perennial pools and low-gradient streams among exposed live tree roots in undercut banks, and beneath overhanging vegetation (Serpa 2009). Freshwater shrimp play a key role in aquatic ecosystems by consuming leaf-litter, algae, and detrital materials (ibid.). Endemic to California, the species is only known to occur in watersheds within Sonoma, Marin, and Napa counties including several tributaries outside Tomales Bay State Park (General Plan at 67). Potential habitat may also exist within Park boundaries (ibid.).

International Union for the Conservation of Nature (IUCN) has categorized the California Freshwater Shrimp as Endangered on the basis of its restricted area of distribution characterized by severe fragmentation and occurrence at very few locations (De Grave & Rogers 2013). A significant decline in the species' area of occupancy, extent of occurrence, and quality of habitat have been observed and are expected to continue (ibid.). Removal of vegetation and chemical pollution are primary factors driving the species' decline (ibid.). Recognizing the importance of the species and its significant risk of extinction, the California Freshwater Shrimp was listed as endangered at both state and federal levels (USFWS 1988; CNDDB 2023).

How will the vegetation treatment remove live trees and potentially cause death of roots, erosion, sedimentation of pools and wetlands downslope from logging, and other impacts to habitat for this endangered species? Water quality impacts of logging mature forests should be analyzed, with winter storms potentially causing erosion from newly-treated vegetation cover.

Coho Salmon and Steelhead Trout

Lagunitas Creek is critically important to the largest spawning runs of federally endangered Central California Coast coho salmon Evolutionarily Significant Unit (ESU). (*Oncorhynchus kisutch*). The stream enters the southeastern portion of Tomales Bay. Sedimentation is a listed impairment of both Lagunitas Creek and Tomales Bay according to the California Coastal Commission in 2019.[8]

Figure 11. Map detail from NOAA of the Central California Coast ESU of coho salmon Critical Habitat around Tomales Bay (https://media.fisheries.noaa.gov/2022-05/ch_2021mapseries_SalmonCoho_CentralCaliforniaCoastESU.jpg).

Central California Coast Distinct Population Segment (DPS) of steelhead trout (*O. mykiss*), a federally threatened species, also enter Lagunitas Creek through Tomales Bay.

[8] https://documents.coastal.ca.gov/assets/water-quality/ccc-factsheets/SF-COAST/CCA%2024%20Lagunitas%20Creek%20Factsheet%2012-17-19.pdf

Figure 12. Designated Critical Habitat for Central California Coast DPS of steelhead trout, from NOAA map, detail around Tomales Bay (https://media.fisheries.noaa.gov/2022-05/ch_2021mapseries_Steelhead_CentralCaliforniaCoastDPS.jpg).

Olema Creek, also entering southern Tomales Bay, is Critical Habitat for both coho salmon and steelhead trout. Tomales Bay is a significant habitat for these rare salmonids.

Increased watershed erosion and sediment deposition into salmonid spawning habitat and migration habitat is a significant threat to coho salmon. Again, we are concerned that disturbance of old growth Bishop pine and oak-bay woodlands will lead to increased sedimentation of salmon habitat.

In addition, Lagunitas Creek through Tomales Bay flows into a federal Marine Managed Area (Gulf of the Farallones National Marine Sanctuary, expanded and renamed in 2015 to Greater Farallones National Marine Sanctuary). How will the proposed project impact this marine sanctuary?

California Red-legged Frog

The California Red-legged Frog (Rana aurora draytonii) is a rare amphibian that can be found in and around streams, ponds, and other freshwater riparian habitats primarily occurring in coastal watersheds from Marin County, California, to Northern Baja California, Mexico (IUCN, 2022).

The species was once common across central California from the Pacific coast to the Sierra Nevada foothills but has been extirpated from 70 percent of its range (USFWS ECOS, California Red-legged Frog). Habitat loss, fragmentation, and degradation through urbanization, agricultural activities, water diversion, timber harvest, and pesticide use have perpetuated a significant decline in the species' population (suspected to be between 10–30% over the last 10 years) (IUCN, 2022). Climate change, disease, and the introduction of non-native predators and competitors are further factors compounding these ongoing threats. Recognizing an imminent risk of extinction, the species was federally listed as threatened in 1996 and is a California Species of Special Concern (USFWS 1996; CNDDB 2023).

In addition to quiet aquatic and riparian habitats necessary for breeding and resting, the California Red-legged Frog utilizes upland areas in damp thickets and forests where they are

known to disperse and estivate in spaces under leaf litter, debris, downed trees or logs, and small mammal burrows (Recovery Plan, pg. 14). These behaviors render this species sensitive to not only sedimentation and changes in water quality and quantity, but also direct harm or injury to individuals that may be dispersing or sheltering (ibid. at 22).

The well-being of this species is of particular concern considering the essential role amphibians play in the ecosystem, their susceptibility to chemicals and disease, vegetation removal, and the depleted status of the species (Bralower and Brice, n.d.). Amphibians play a central role in the food chain serving as both predators that balance insect populations, and as prey for many animals including snakes, birds, mammals, and other amphibians. Consequently, amphibian populations influence other species within their ecosystem and its processes (U.S. Fish & Wildlife Services, 2015). Amphibians also provide a host of important ecological services including nutrient cycling, bioturbation, pollination, seed dispersal, and energy flow through ecosystems (Cortés-Gomez, et al. 2015).

The California Red-legged Frog has been reported in Heart's Desire, and is likely present in wetlands, streams, and/or upland habitats in other areas of the Tomales Bay State Park (General Plan at 68; see also Fellers & Guscio 2009 at 14). Additionally, Critical Habitat was designated for this species in Marin County, which encompasses Tomales Bay State Park.

How will logging old growth forests impact this rare species? We are concerned increased erosion from vegetation removal and soil destabilization could cause significant impacts to streams and wetland habitats, and upland habitats required for important lifecycle stages—especially when Atmospheric River storms could be increasing due to climate change. How will proposed activities affect habitat for insects and small mammals that serve as an important food source for this species?

Northern Spotted Owl

The Tomales Bay State Park General Plan states that the northern spotted owl (*Strix occidentalis caurina*) (Federally Threatened) is a resident of forested habitats in the Inverness and Heart's Desire areas of the park, where they occupy large areas of mature forest (at 77). The park includes Bishop pine forests, which support nesting spotted owls and ospreys (at 134).

Sensitive Wildlife Guideline WIL-6 states:

> Maintain and enhance northern spotted owl and osprey populations and habitat within the park by activities such as monitoring the local population, participating with other agencies in implementing recovery strategies, careful location of recreational facilities, and avoiding tree removal or trail work in spotted owl habitat or around known osprey nesting sites during their breeding season. (at 142)

The General Plan says the Northern spotted owl is sensitive to noise—chainsaw work over hundreds of acres of park habitat could constitute a large disturbance, harassment and a stress-inducement to the birds. Is Cal State Parks consulting with U.S. Fish and Wildlife Service for a take permit?

> Sensitive raptors such as the northern spotted owl, listed as federally threatened, have been seen on the eastern shores of the bay. The northern spotted owl is also known to occur in the forested areas of the Inverness and Heart's Desire Areas and is sensitive to noise disturbance. (at 203, emphasis ours)

The General Plan at 67 described the importance of habitat linkages in the park that connect to Point Reyes National Seashore:

> Habitat linkages are lands that link two or more larger habitat areas. These "biocorridors" provide for the protected movement of wildlife between areas. Two examples of habitat linkages in Tomales Bay State Park and linkages to habitats on neighboring lands include:
>
> • Connection of Bishop Pine forests on State Park lands with nearby forests on National Park Service land via a variety of natural habitat types allowing for the unrestricted movement of the northern spotted owl.

How will chain sawing down old growth Bishop pine forests maintain habitat linkages? Northern spotted owls need large, contiguous habitat patches that are not disturbed or fragmented, and the vegetation treatment project proposes to do just that.

Figure 13. Northern spotted owl in the Tamalpais Mountain area, Marin County. Photos: Jocelyn Knight.

Fire 14 and 15. Northern spotted owls in the Tamalpais Mountain area, Marin County. Photos: Jocelyn Knight.

Sensitive Bird Species

Cooper's hawk (*Accipiter cooperi*) and sharp-shinned hawk (*Accipiter striatus*) are both California Species of Special Concern and are present in the park. How will logging old growth Bishop pine and oak-bay woodlands impacts these birds and their habitat?

Point Reyes Mountain Beaver

The Point Reyes mountain beaver or Aplodontia (*Aplodontia rufa phaea)* (Federal Species of Concern, California Species of Special Concern) is an unusual rodent species the size of a muskrat, that inhabits undergound habitats and digs burrow systems in dense lush thickets of North coastal scrub, coyote brush, sword fern, cow parsnip, and Bishop pine forest openings. A rich herbaceous ground layer is required habitat under the shrub thickets for forage. The subspecies is endemic to west Marin County, and almost entirely found only within Point Reyes National Seashore and surrounding areas.[9]

The Aplodontia may be present in the Inverness and Heart's Desire areas of the park, in densely vegetated riparian areas according to the park General Plan (at 78). One burrow location has been reported in the park and it is likely that others exist, however no surveys have been conducted.

[9] https://www.nps.gov/pore/learn/nature/mountain_beaver.htm

Fellers and Osbourn (2009) surveyed Aplodontia recovery ten years after the 1995 Vision Fire in Point Reyes National Seashore, and found that Aplodontia numbers were severely reduced by the fire, and gradually recovered as successional changes in vegetation led to denser thicket structure. Recovery lagged and was slower than coyote bush thicket recovery. Cal State Parks needs to undertake surveys for this rare species and analyze impacts of clearing dense thicket vegetation which is crucial to the survival of this endemic taxon.

Broadcast burning in coyote brush habitats is proposed at Tomales Bay State Park. A better understanding of mountain beaver populations is needed before this type of management is undertaken.

Point Reyes Jumping Mouse

The Point Reyes jumping mouse *(Zapus trinotatus orarius)* (Federal Species of Concern, California Species of Special Concern) has a patchy distribution within the area. Suitable habitat includes grassy wet meadows adjacent to coniferous forest, low-growing chaparral, marshes, and riparian alder communities. Surveys for Point Reyes jumping mouse are needed in the park according to the park General Plan (at 78). How will logging coniferous forest and cutting chaparral impact this species? Surveys need to be carried out before large-scale vegetation treatments are carried out.

Climate Change and Carbon Sequestration

Any project analysis needs to include how trampling over and chain-sawing down old-growth pine, oak, and hazelnut forest will impact carbon release. These old-growth coastal rainforests are dense with hanging lichens that absorb summer fog and winter rain aerial moisture. But the soils here are rich in mycelial networks of fungal fibers in the soil—these send up fruiting bodies which we call mushrooms. We have documented numerous fungal species in the rich soils which thrive in the moist, shaded old growth canopy cover of the native woodlands here.

How will chain-sawing down these canopies benefit the biological soil crust, and how will trampling the soil surface impact these rich living soil communities, with bracken fern and sword fern?

Figure 16. Rich hazelnut stands cloaked in “Spanish moss” lichens. These plant communities are adapted to moist coastal conditions, and not to chainsaws. Photo: Jack Gescheidt.

Figure 17. Moist coastal cloud forest of coast live oak, bay, sword fern, and winter-dormant brown bracken fern. The Carbon sequestration of this type of habitat is very high, and CO2 could be released by heavy disturbance and chain-sawing. Photo: Jack Gescheidt.

Figure 18. Mushrooms among sword ferns and bracken ferns in old growth forest of Tomales Bay State Park. Photo: Jack Gescheidt.

Figure 19. Carbon-sequestering moist coastal cloud forest with mushrooms in a rich soil that does not benefit from chain-sawing disturbance. Photo: Jack Gescheidt.

Figure 20. Detail of fruiting bodies of mushrooms in pine needle bed, indicating a rich soil mycelial community. Photo: Jack Gescheidt.

Figure 21. Fungus growing on old woody and soil material under the canopy of the Tomales Bay State Park forest, with sword ferns. How will chain-sawing the canopy f-down impact and dry out these forest floor mushroom communities? Photo: Jack Gescheidt

Cumulative Impacts

The Woodward Fire was a wildfire ignited by dry lightning in Point Reyes National Seashore in August of 2020. The National Park Service considered the fire beneficial:

> Ecologists consider the Woodward Fire to be ecologically beneficial because it had a mix of burn severity. That means it burned with high intensity in some places, and other places it burned lightly. This type of burn is in contrast with some of our larger, hotter fires that consume everything in its path.[10]

Bishop pine forests were burned, and no homes were harmed. This natural fire event close to Tomales Bay State Park should be considered when labeling Bishop pine forests wrongly as "degraded." Natural fire events have occurred and will occur in the future. Instead of chain sawing down old growth Bishop pine forests, the agencies should be funding and working to help local communities to harden homes and reduce fuel in the Wildland Urban Interface.

Alternatives

A Bishop pine fire ecological alternative could test-burn small plots instead of using chainsaws. Vegetation management guidelines in the park's General Plan advise studying

[10] https://www.nps.gov/pore/learn/management/firemanagement_woodwardfire.htm

treatment cost and effectiveness in areas dominated by Bishop pine by burning small test sites. (General Plan at 140-141)

Local Community Alternatives Need to be Considered

We recommend an Alternative that leaves the Bishop pine forest uncut, managed as an old growth forest community, and instead focus on home "hardening" and making adjacent buildings "ignition-resistant." In Marin County, these already exist as **recommendations by FireSafe Marin:** https://firesafemarin.org/harden-your-home

Retrofitting houses or requiring that new houses be built with such measures as ember-resistant attic vents, nonflammable roofing and exterior sprinklers would be a much more effective Alternative to prevent home ignitions than clearcutting forests inside the park.

Local governments need to impose strict fire codes in new communities throughout California, require older communities to retrofit their properties, and enforce proper defensible space regulations. That means 100 feet of thinned vegetation, not bare ground. Communities including Idyllwild and Big Bear have taken advantage of FEMA pre-disaster grants to replace flammable roofing and install ember-resistant vents. Fuel reduction in the Wildland Urban Interface (WUI) should be analyzed in park edges near towns and houses. There are recent advances in local wildfire response teams around California that can serve as examples of how to protect infrastructures near the state park. Fuel treatments are not needed inside the park.

Cal State Parks should coordinate with local agencies on wildfire safety in the WUI, as was hinted at in the park General Plan at 158-159. A Wildfire Management Plan was apparently deferred until a later date—this should be developed and completed before any vegetation treatments are undertaken.

Conclusion

Forest and shrubland resilience does not include heavy-handed mechanical treatments in native plant communities that are not adapted to frequent disturbance. Bishop pine forests are adapted to rare stand-replacing high intensity fires caused by lightning ignitions, not chainsaws.

With the rich diversity of rare, sensitive, and imperiled species and plant communities and old growth forests in the state park, we are certain that the project will not fall within the scope of the CalVTP, and that programmatic mitigation measures will not reduce significant impacts to less than significant.

We recommend a No Project Alternative be chosen, and instead local and state agencies concentrate on home hardening and Wildland Urban Interface measures. A Vegetation Management Plan and Wildfire Management Plan, as recommended by the park General Plan, should be developed before any treatments are undertaken.

The project proposal in our view does not comply with CalVTP mitigation measures, which are too broad, vague, and general. Tomales Bay State Park has unique coastal natural

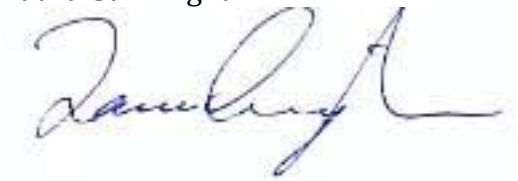
resources, and Threatened and Endangered species, that are not adequately addressed in the CalVTP programmatic EIR concerning significant impacts.

This proposed project is causing a popular outcry against this chainsaw-ing project in old growth forest and shrubland habitats. Tomales Bay State Park is a popular and well-loved state park, and this project proposal is ill-suited to CalVTP goals. Please consider ceasing this project proposal altogether, and instead work with local towns and communities to enact fire safety measure in a cooperative and transparent manner in the WUI.

Please keep Western Watersheds Project and conservation and public advocacy groups informed of all further substantive stages in this and related NEPA processes and documents by contacting me at lcunningham@westernwatersheds.org.

Thank you,

Laura Cunningham



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