

**Response to Comment**

SFPUC Prescribed Burn Project  
San Mateo County, California  
State Clearinghouse Number # 2021020321

Prepared by:

The California Department of Forestry and Fire Protection  
P.O Box 944246 Sacramento, CA 94244-2460

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The California Department of Forestry and Fire Protection (CAL FIRE) is serving as Lead Agency for California Environmental Quality Act (CEQA) compliance for the above-listed proposed project. An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared, filed at the State Clearinghouse on February 18, 2021, and distributed or made available for a 30-day public and agency review period in conformance with CEQA Guidelines 14 CCR §15101(b) and §15072(b). The 30-day agency and public review period was originally scheduled to end on March 20, 2021. However, the comment period was extended for an additional 15 days, for a total of 45 days, and ended on April 5, 2021. Response to comments for the original 32 comment letters received can be found on the state clearinghouse website for this project ([ceqanet.opr.ca.gov/2021020321](http://ceqanet.opr.ca.gov/2021020321)). Following review of comments, the Department decided to revise portions of the IS/MND and recirculate it for an additional 30 day public and agency review period. The recirculated Initial Study/Mitigated Negative Declaration (IS/MND) was prepared and filed at the State Clearinghouse on June 30, 2021, and distributed or made available for a 30-day public and agency review period in conformance with CEQA Guidelines 14 CCR §15101(b) and §15072(b). The 30-day agency and public review period extended from July 1, 2021 through July 30, 2021. A total 11 comment letters containing 54 written comments were submitted to the Department. These included 2 letters containing 8 comments from 2 public agencies and 9 letters containing 46 comments from 9 members of the general public. All of these 11 comment letters were given full consideration by the Department. The acronym of the agency (for public agency comments) or the initials of the submitter's first and last name (for public comments) are used to identify each individual comment on the list of comments, and the Department's response to them, which follows.

The 8 written comments from public agencies came from:

- (SFPUC) Tim Ramirez, Division Manager, San Francisco Public Utility Commission, 525 Golden Gate Avenue, 10<sup>th</sup> Floor, San Francisco, CA 94102.
- (CDFW) Stacy Sherman, Acting Regional Manager, California Department of Fish and Wildlife – Bay Delta Region, 2825 Cordeila Road, Suite 100, Fairfield, CA 94534.

The 46 comments from members of the general public came from:

- (SC) Gladwyn d'Souza, Loma Prieta Chapter Sierra Club, 3921 East Bayshore Road, Suite 204, Palo Alto, CA 94303.
- (RH) Raymond Hasey, 1882 Woodleaf Drive, Yuba City, CA 95993
- (FKM) Frank and Kristin Mercer, Belmont, CA.
- (JKL) Jennifer and Ken Lien, 2 Paddington Court, Belmont, CA.
- (MI) Mimi Iverson.
- (PC) Pat Cuvillo, 15 Wakefield Court, Belmont, CA.
- (DB) Deniz Bolbol, Belmont, CA.
- (MS) Michelle Speert, 2528 Hallmark Drive, Belmont, CA.
- (LG) Laurent Gharda, 14 Sommerset Ct, Belmont, CA.

This document contains CAL FIRE's responses to all substantive comments received during the public review period. A complete copy of each comment letter submitted to the Department is also included. A copy of this document will be sent to each individual comment submitter, will be included as part of the Final CEQA Document, and has become part of the CEQA Administrative Record supporting this project.

### **Comments from Public Agencies (8)**

#### Comment #33 (SFPUC):

We are writing to extend our support and thank CAL FIRE for its efforts related to the Prescribed Burn Project on the San Francisco Public Utilities Commission's (SFPUC) Peninsula Watershed. The Peninsula Watershed is part of our Hetch Hetchy Regional Water System and collects and stores high quality drinking water for our 2.7 million customers. We are committed to and invest in the protection of surrounding communities and watershed resources from wildfires.

The Peninsula Watershed is a Hazardous Fire Area and State Responsibility Area (SRA) with CAL FIRE as the legally responsible agency for providing fire protection. The SFPUC supports vegetation management efforts by CAL FIRE to protect resources, enhance areas for fire suppression, and improve evacuation routes for the Peninsula Watershed's wildland urban interfaces.

We appreciate the collaboration with CAL FIRE as it prepared this Initial Study- Mitigated Negative Declaration, which was first made available for public comment on February 18, 2021. In response to the many comments received on this initial document, CAL FIRE decided to incorporate responses into a second version and provide the public with a 30-day comment period, and we support this effort to clarify some of the specific project components. This updated document is the result of almost 20 years of work together with CAL FIRE and will increase our collective ability to conduct fuel load reduction projects to minimize the risk of catastrophic wildfire and protect surrounding communities, critical infrastructure, and drinking water quality. We support the project objectives, and implementation will create another opportunity for SFPUC staff to train alongside CAL FIRE, as we do now when conditions allow for prescribed burns on the San Andreas and Pilarcitos Dams. Given the proximity of the proposed prescribed burns to adjacent communities, we would like to work with CAL FIRE on the notification process used in advance of the project being implemented. This effort would supplement the process we use now to notify SFPUC wholesale customers and local jurisdictions of the prescribed burns on San Andreas and Pilarcitos Dams. We believe this is another opportunity to build interest and awareness of management of the Peninsula Watershed and our partnership to minimize wildfire risk and protect water quality and ecological resources.

Given the public transportation corridors through the watershed, we anticipate that wildfires will continue to be unintentionally started in the watershed, and that this project and other vegetation management actions will reduce the risk of these small fires from becoming larger and catastrophic. This was our experience with the August 2020 lightning strikes on the Peninsula Watershed, and thanks to the quick support from CAL FIRE and local fire departments responding these small fires were all quickly extinguished.

Prescribed fire is a vegetation management tool that requires a predefined set of conditions to achieve ideal fire behavior and meet the project objectives. We will work closely with CAL FIRE to define the specific boundaries and project objectives for each burn unit. CAL FIRE as the lead agency will write the prescription for each burn unit to meet the defined objectives and take responsibility to ensure that fuel moisture, ambient temperature, smoke dispersal, wind speed and direction, and relative humidity are all within the prescription written into the burn plan and that conditions are appropriate for each burn.

The Peninsula Watershed is an important ecological resource for the Bay Area, and we recognize the significance of our role as environmental stewards of its native plants and animals. The SFPUC will complete all pre-burn environmental surveys to ensure that ecological resources are protected and burn plans are adjusted accordingly, post burn vegetation monitoring, and ongoing non-native invasive plant management at project sites. The SFPUC will also provide staff, water support and equipment to assist the day of each burn.

We support CAL FIRE continuing to use prescribed fire as a tool for vegetation management and fuel reduction to enhance wildfire response and provide safe evacuation routes on the Peninsula Watershed. The proposed SFPUC prescribed burn project has been thoroughly reviewed by SFPUC staff and we look forward to working with CAL FIRE on its implementation.

Response to Comment #33: CAL FIRE thanks SFPUC for its continued support of this important project and its commitment to performing all pre-burn environmental surveys to ensure that ecological resources are protected and burn plans are adjusted accordingly, for post burn vegetation monitoring, and for ongoing non-native invasive plant management at project sites.

#### Comment #34-1 (CDFW):

California Department of Fish and Wildlife (CDFW) personnel has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) for the San Francisco Public Utilities Commission (SFPUC) Prescribed Burn Project

(Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

CDFW is submitting comments on the IS/MND to inform the California Department of Forestry and Fire Protection (CAL FIRE), as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the Project.

#### **CDFW ROLE**

CDFW is a Trustee Agency with responsibility under CEQA (Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines Section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA) or Native Plant Protection Act, the Lake and Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

#### **PROJECT DESCRIPTION SUMMARY**

**Project Proponent:** California Department of Forestry and Fire Protection.

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<sup>1</sup> CEQA is codified in the California Public Resources Code in Section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with Section 15000.

**Project Location:** The Project is located entirely on SFPUC property, in San Mateo County, California. The area is managed as watershed water storage and distribution to the City of San Francisco and other water agencies. The Project area consists of six burn units (Units 3 – 8) that cover 775 acres of the approximately 23,000-acre SFPUC property, near communities including Woodside, Emerald Hills, Devonshire, Highlands, San Mateo, San Bruno, Belmont, San Carlos, Hillsborough, and Redwood City.

**Project Description:** The primary goal of the Project is to create and maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity. By creating and maintaining areas of reduced vegetation, the Project intends to protect the SFPUC water supply by limiting the spread of wildfire. The Project would reduce the amount and continuity of woody vegetation within the six burn units (Units 3 – 8) through manual and mechanical site preparation and broadcast burning. Broadcast burning would occur on

approximately 775 acres of grass, shrubs, and some tree understory. Burning would be limited to 200 acres per year, where burning in a single day would likely be no more than 40-50 acres. Burn units are located adjacent to roads, trails, and existing disk lines. Control lines would be established using wet lines, disk lines, mowing, hand crews and bulldozers.

**Timeframe:** The Project would begin during the fall of 2021 and would continue over subsequent years.

## ENVIRONMENTAL SETTING

The SFPUC Watershed property is approximately 23,000 acres of oak woodland, coniferous forest, grassland, chaparral, and coastal scrub. Most of the property is fenced and gated to protect the water supply. Recreational activities on the property include the Crystal Springs Regional Trail, the Crystal Springs Cross Country Course, and the Fifield-Cahill Ridge Trail. The property includes SFPUC-owned residences and buildings, water supply infrastructure, Pacific Gas and Electric Company (PG&E) gas and electric transmission lines, other water agencies' facilities, and various cell phone towers. Three large reservoirs and a lake exist within the SFPUC property, and several small intermittent and ephemeral drainages occur in the Project area.

Special-status species with the potential to occur in or near the Project area include, but are not limited to:

- California red-legged frog (*Rana draytonii*), federally threatened and California Species of Special Concern
- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), federally endangered, State endangered, California Fully Protected Species
- Mission blue butterfly (*Icaricia icarioides missionensis*), federally endangered
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), California Species of Special Concern
- pallid bat (*Antrozous pallidus*), California Species of Special Concern
- white-tailed kite (*Elanus leucurus*), California Fully Protected Species
- olive-sided flycatcher (*Contopus cooperi*), California Species of Special Concern
- northern harrier (*Circus hudsonius*), California Species of Special Concern
- grasshopper sparrow (*Ammodramus savannarum*), California Species of Special Concern
- Marin western flax (*Hesperolinon congestum*), federally threatened, State threatened, California Rare Plant Rank 1B.1
- Western leatherwood (*Dirca occidentalis*), California Rare Plant Rank 1B.2
- Crystal Springs lessingia (*Lessingia arachnoidea*), California Rare Plant Rank 1B.2
- bent-flowered fiddleneck (*Amsinckia lunaris*), California Rare Plant Rank 1B.2

## REGULATORY REQUIREMENTS

### California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of an ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting plan. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain an ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064, & 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC).

The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with CESA.

### **Lake and Streambed Alteration Agreement**

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use of material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with subsurface flow, and floodplains are subject to notification requirements. In those cases, CDFW will consider the CEQA document for the project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement until it has complied with CEQA as a Responsible Agency.

### **Raptors and Other Nesting Birds**

CDFW has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession or needless destruction of the nests or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

### **Fully Protected Species**

Fully Protected species, such as the San Francisco garter snake and white-tailed kite, may not be taken or possessed at any time (Fish and Game Code, §§ 3511, 4700, 5050, & 5515).

Response to Comment #34-1: This comment serves to summarize CDFW's role, the project description and environmental setting, and specific regulatory requirements overseen by CDFW. No further response is needed.

### Comment #34-2 (CDFW):

### **COMMENTS AND RECOMMENDATIONS**

CDFW provides the comments and recommendations below to assist CAL FIRE in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts to fish, wildlife, and other biological resources.

The IS/MND includes several avoidance and minimization measures for impacts to special-status plant and wildlife species that cannot be avoided (Mitigation Measures #1-12). CDFW has the following recommendations to include in the IS/MND:

### **Special-Status Wildlife**

The IS/MND states that ten special-status wildlife species have the potential to occur in the Project area, including the Mission blue butterfly (*Icaricia icarioides missionensis*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and the California red-legged frog (*Rana draytonii*).

**CDFW Comment #1:** Other than the three identified listed species shown above, the IS/MND does not disclose the remaining seven special-status wildlife species that may occur within the Project area. To evaluate and avoid potential impacts to special-status wildlife species, CDFW recommends the IS/MND include a table identifying all special-status wildlife with potential to occur in the Project area. The table should include the

scientific name, common name, listing status, and identify the potential burn unit(s) that the special-status species may occur in.

Response to Comment #34-2: A table of special-status wildlife species with the potential to occur in the project area is included in *Appendix B, Wildlife Resource Assessment for the Proposed San Francisco Public Utilities Commission (SFPUC) Prescribed Burn Project, San Mateo County, California*. Text has been added to the *Biological Resources* sections of the MND to direct readers to *Appendix B* for the special-status wildlife table.

Comment #34-3 (CDFW):

**CDFW Comment #2:** Due to the abundance of biological diversity within the SFPUC property, the IS/MND Project has the potential to directly impact individual wildlife species from broadcast burn activities. To further reduce impacts to wildlife to less-than-significant, CDFW recommends the following mitigation measure be incorporated into the IS/MND:

**Recommended Mitigation:** If Project employees, crew, or contractors, injure or kill a special-status species, or finds any such animal injured or dead, all activities in the work area shall immediately cease, and CDFW and the U.S. Fish and Wildlife Service (USFWS) should be notified at the time of discovery. A detail of the time, location, and general circumstances under which the dead or injured individual animal was found should be submitted to CDFW and USFWS no later than five (5) business days following the incident. Any injured special-status species should be immediately transported to an approved wildlife rehabilitation facility.

<https://wildlife.ca.gov/Conservation/Laboratories/Wildlife-Health/Rehab/Facilities>

Response to Comment #34-3: Language has been added to Mitigation Measures #7 which stipulates that if any State of Federally Threatened, Endangered, or Candidate species is found injured or killed during project implementation all work will stop immediately until CDFW and/or USFWS are notified. As species of species concern and other non-listed special-status wildlife do not require incidental take coverage from CDFW or USFWS, and the MND allows for some impacts to these species to occur, this mitigation will only extend to formally listed or candidate species under the State or Federal Endangered Species Acts.

Comment #34-4 (CDFW):

**San Francisco Garter Snake**

According to the IS/MND, burn units 3, 5, and 8 are connected to and within dispersal distance of occupied breeding habitat for the San Francisco garter snake. *Mitigation Measure #9: Pre-activity Surveys for San Francisco Garter Snake and California Red-legged frog* attempts to address potential impacts to this species as follows:

*“Any San Francisco garter snake or California red-legged frog found in a location where it may be at risk will be captured and released (if proper permits are obtained from USFWS and CDFW) in a safe area or allowed to leave the area on its own accord.”*

*“Only biologists specifically approved by the USFWS and CDFW shall be allowed to capture, handle, and relocate species individuals. If necessary, during the burn, individual San Francisco garter snakes (but not red-legged frogs) may be held in captivity in a pillowcase for less than 24 hours and may later be released in a vegetated area near the point of capture after the burn has been completed.”*

**CDFW Comment #3:** The San Francisco garter snake is fully protected under Fish and Game Code § 5050 and, as such, may not be taken or possessed at any time. Take<sup>2</sup> of the species cannot be authorized by CDFW except for necessary scientific research, including efforts to recover the species. The Project as proposed does not meet the requirements as stated in Fish and Game Code § 5050 (scientific research or recovery). While *Minimization Measure #9* included in the IS/MND would reduce the likelihood of “take”, CDFW recommends

that the measure be revised to completely avoid take of San Francisco garter snake during prescribed burn activities, including no handling or relocating of San Francisco garter snake. Any San Francisco garter snake encountered in the Project area should not be handled and should be left alone and allowed to leave the area unharmed and on their own volition.

<sup>2</sup> Take is defined in § 86 of the Fish and Game Code, as “to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill.”

**Response to Comment #34-4:** As specified in the mitigation measure, handling of San Francisco garter snake will only occur if the appropriate permits are secured from CDFW and/or USFWS. This would include a scientific research permit necessary for the take of a fully protected species. Currently, there are no plans to secure these permits, and thus no plans to handle San Francisco garter snake. However, given that SFPUC is conducting activities under a scientific research permit related to San Francisco garter snake and prescribed fire at the adobe gulch site, it is not impossible that some of these burn units might be incorporated into research of San Francisco garter snake and prescribed fire under a scientific research permit in the future. Given that this project will occur over many years, CAL FIRE would like to leave the opportunity open to acquire a scientific research permit for handling of San Francisco garter snake if deemed appropriate and necessary by CDFW, USFWS, SFPUC and CAL FIRE.

**Comment #34-5 (CDFW):**

**CDFW Comment #4:** To further reduce impacts to San Francisco garter snake to less-than-significant, CDFW recommends the following mitigation measure be incorporated into the IS/MND:

**Recommended Mitigation:** Any vehicle or heavy equipment parked on-site within burn units 3, 5, and 8 for more than 30 minutes will be inspected by the qualified biologist or biological monitor before it is moved to ensure that San Francisco gartersnake have not moved under the vehicle. Prior to being used, access roads, parking and staging areas must be checked for San Francisco garter snake by the qualified biologist or biological monitor.

**Response to Comment #34-5 (CDFW):** Unless fire-line qualified or accompanied by fire line qualified personal, biologists or biological monitors will not be allowed on the fire line during the prescribed burns for safety reasons. A CAL FIRE fire-line qualified biologist or another fire-line qualified/escorted biologist will be on site during the burn but will be unable to check every vehicle every time they are to be moved. Thus, the following language has been added to Mitigation Measure #8 to allow for operational flexibility while still ensuring protection for San Francisco garter snake and California red-legged frog which may take refuge under a vehicle during the burn. The language stipulates that during WEAP training, crews will be instructed to check for snakes and frogs underneath vehicles prior to moving them, and if any are found notification will be made to a biological monitor to determine which species are present underneath the vehicle. If San Francisco garter snake or California red-legged frog is found underneath a vehicle, the vehicle will not be moved until the animal leaves the area on its own accord. Mitigation Measure #9 has been updated to stipulate that access roads, parking and staging areas within San Francisco garter snake habitat will be checked by San Francisco garter snake by a qualified biologist or biological monitor in the morning prior to crews arriving.

**Comment #34-6 (CDFW):**

**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, §21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form, online field survey form, and contact information for CNDDDB staff can be found

at the following link: <https://wildlife.ca.gov/data/CNDDB/submitting-data>.

Response to Comment #34-6: Information developed in the MND will be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. This may be in either the SFPUC special-status species and natural communities database or may be submitted to CNDDB.

Comment #34-7 (CDFW):

#### **FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying Project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

#### **CONCLUSION**

CDFW appreciates the opportunity to comment on the IS/MND to assist CAL FIRE in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Ms. Robynn Swan, Senior Environmental Scientist (Specialist), at [Robynn.Swan@wildlife.ca.gov](mailto:Robynn.Swan@wildlife.ca.gov); or Ms. Julie Coombes, Senior Environmental Scientist (Supervisory), at [Julie.Coombes@wildlife.ca.gov](mailto:Julie.Coombes@wildlife.ca.gov).

Response to Comment #34-7: CAL FIRE would like to thank for CDFW for reviewing the MND. We would specifically like to thank Ms. Robynn Swan for reviewing the document prior to its publication to the State Clearinghouse and providing early commentary and suggestions.

#### **Comments from Members of the General Public (46)**

Comment #35-1 (SC):

The Response to Comments, page 11 says: A unit may be burned more than once, but species may return following the burn that could prevent re-burning (specifically host plants of the Mission Blue Butterfly).

Reply- This statement is conjecture and indefinite. The IS-MND does not propose any before-burn data collection, followed by an after-burn data set, to validate this statement. In this serpentine grassland environment, given the nitrogen fertilizing from the adjacent freeway, we don't know if "prescribed burning for habitat improvements for the species discussed below" will be beneficial to the natives and the environment and the goal of fuel reduction. This is because invasive grasses are just as likely to return and expand into the resulting clearing as happens everywhere, including on the road edge. Invasives will increase fuel load on the landscape; thus, resulting in an annual cycle of fuel reduction burns that would end up destroying the native grassland.

Pre and post data collection should be a minimum outcome of this project. Before-and- after vegetation surveys show that a single fire kills millions of native plants, and millions of weeds grow in their place- more on invasive recolonization below. Like goats, fire is non-discriminate but unlike goats, fire can burn the soil too as California is currently experiencing. And where the natives were replaced by the weeds, the fire-fuel on that spot increases by 2,000 percent thus negating the goals of this project.

The IS-MND says the project is a native species rich grassland which will prescribed burned and then the SFPUC will manage if for invasive species. This is backward. Why would you burn out low fuel natives and then proceed to manage high fuel invasives creating a fire hazard that must be managed? How does introducing invasive for the SFPUC to manage meet the stated goals of fuel reduction and species revival? Wouldn't it make more sense to strategically remove the few invasive and expand natives on their habitat?



Response to Comment #35-1: Please see Response to Comment #37-2.

Comment #35-2 (SC):

Repeated burns as projected on page 31 of the IS-MND will be a major impact on the scenic resources of the landscape. The response states with regard to the scenic easement, “The SFPUC regularly conducts mowing, tree removal, fuel break management, fuel loadreduction, non-native plant removal, and prescribed burn projects on the Peninsula Watershed which are not subject to the federal concurrence language in these easements.” Note that the SFPUC is in violation of its own EIR which says that prescribed burns result in toxic runoff that will contaminate water. And that these burns have not been noticed within the scenic easement by the general public- none of your commenters said that they had seen it already. What this project proposes to do is to infringe on the scenic resources of the general public and should not be permitted until the goal outlined can be shown to be effective. The SFPUC is a malicious partner in the project who cannot be trusted to even follow their own EIR.

Response to Comment #35-2: The commenter claims that this project conflicts with the SFPUC Peninsula Watershed Management Plan EIR<sup>1</sup>. However, the EIR specifically “Allows for the use of prescribed burns for fuel management” (Policy F11). Despite claims made above, the EIR does not conclude that prescribed burns will result in a significant impact such as causing toxic runoff which will contaminate water. Please see Response to Comment #29-1 regarding the scenic easement, and the *Aesthetics* section of the MND regarding potential impacts on scenic resources.

Comment #35-3 (SC):

The SFPUC serpentine grasslands around the Crystal Spring reservoirs has the most concentrated square mile of rare and endangered species in California according to Craig Dremann in Woodside a grassland restoration authority and maybe unique in North America. The response also says on page 12 that “Ten special-status wildlife species are known to occur or could potentially occur in the project area.” We should follow Muir and Leopold’s advice to do the least harm in this area. However, the IS-MND does not look at alternatives so there is no way of evaluating what would cause the least harm to this species rich landscape.

There are examples of grassland restoration in the area such as the highland portion at Edgewood and the Dremann project in Woodside. Neither involves fire. They involve considerable volunteer effort and show what can be feasibly done under CEQA to achieve the goals of this project without fire. The long-term trend in CA grasslands is extinction of the native species many of which are more successful getting on the Endangered Species List characterization than achieving restoration status. This project needs to say how a landscape that experiences fire rarely will be restored under the current goals of fuel reduction, grassland restoration and personal training.

The project could be beneficial- if done rarely or occasionally. That link to the paper from Berkeley doesn’t go to a paper so I was not able to browse and evaluate the boundary conditions of the study. Until Calfire can show how invasive will NOT dominant the charred landscape, requiring repeated burns, there is no data presented in this IS-MND, or pre and post burn sampling called for in this IS-MND, to arrive at another conclusion. Most examples of natural fire on the landscape show expansion of invasive fuel loading. USDA forest service and other outlets report this phenomenon. See for example <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.461.7645&rep=rep1&type=pdf> where species, such as those that occur here on serpentine grasslands, “are adapted to a particular temporal and spatial pattern of burning”, not fire adapted in general as this IS- MND implies.

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<sup>1</sup> San Francisco Planning Department. 2001. Peninsula Watershed Management Plan Final Environmental Impact Report.

Response to Comment #35-3: See Response to Comment #37-2.

Comment #35-4 (SC): The precipitation pattern has changed in California because of climate change. We have heavier downfalls and longer dry periods which compacts the soil and increase runoff. Following recent fires including the Rim Fire we have seen toxic runoff from the recent burn contaminating the water. Murphy's Law states that the landscape would see a massive downpour following a prescribed burn impacting the water quality that this project seeks to protect. Alternatives such as excluding native serpentine grasslands from treatment zones would be beneficial to the stated goal of fuel reduction and native regeneration.

Calfire's stated goal for the project has changed in this reissued IS-MND from preventing wildfires to reducing fuel load so as to protect water quality; and helping grassland restoration of native species. Note that if you cannot prevent wildfires given the scale of fires today in CA there is no way to protect the water.

Response to Comment #35-4: This comment once again references "toxic runoff", without providing explanation or documentation to what exactly the commenter means. Please see the *Hydrology and Water Quality* section of the MND regarding potential effects of the prescribed burn on water quality and why these impacts are considered less than significant given project design. The commenter also falsely claims that the goal of the project was changed from "preventing wildfires" to "reducing fuel load as to protect water quality, and helping grassland restoration of native species". The project objectives were clarified in the recirculated MND, particularly to illustrate the primary objective (fuel reduction) and objectives goals (maintain native grassland and provide training opportunities). However, the objectives themselves did not change.

Comment #35-5 (SC): And fire may be a poor choice for restoration. When Area H in Redwood Shores was restored, 900 goats were utilized, so that the endangered species could move out of the way of the foraging goats at the slow pace of the goat's foraging movement. Fire with its rapid progression in a controlled burn is a poor choice for species preservation.

Cities are using goats to reduce fuel load and control wildfires according to NPR and they work best on steeper terrain. <https://www.npr.org/2020/01/05/792458505/california-cities-turn-to-hired-hooves-to-help-prevent-massive-wildfires> The NPR article doesn't say anything about native restoration just fuel reduction. In Kenya and Sudan, the goats have to be moved or they will strip the bark off adjacent shrubs and trees killing the entire landscape by munching it into a denuded mudscape. They will browse down and eat the roots too if left untended. Indiscriminate browsing is resulting in the loss of semi-arid Savannah to desertified Sahara landscapes a process that is reappearing in California with cow-wrecked landscapes. Herders with spears protect the goats at night from foraging lions and leopards within popup acacia thorn enclosures. In Half Moon Bay at Beechwood goats are penned in steel enclosures that have foregone electrification. The response stating that goats do not consume woody stems is not correct- it only holds if the goats are allowed to move to new pasture. The goats are as indiscriminate as fire but with their slower pace can be managed over the landscape including sweeping up their droppings, similar to wood pellets, for cooking fires, to prevent reseeding of invasives.

Goats are also lighter on the landscape than the heavy "trucks and mechanized" diesel equipment that Calfire will be using where possible on the "small patches of leafy bushes" that occur here. They are also able to access hilly locations that the equipment cannot, and they provide an alternative to herbicides that Calfire is considering.

Response to Comment #35-5: The commenter once again recommends goats as a method for reducing coyote brush (the primary shrub species) on the project site. One of CAL FIRE's project partners, TomKat Ranch, recently attempted to utilize a herd of 600 goats to help control coyote brush and found the method to be

ineffective<sup>2</sup>. However, prescribed fire has been shown to be effective at coyote brush control while at the same time maintaining native grass species<sup>3</sup>.

Comment #35-6:

This project's goals are to reduce fuels to prevent the spread of wildfire and to help natives on the landscape. Only one method exists for the grasslands to achieve these two purposes simultaneously: in this part of California--"Craig Carlton Dremann's Monthly Hand-mowing Method at 8 inches high, with Echo 225 2-cycle String Trimmers, fueled with 100 octane gas, and stung with Ace hardware professional string". Dremann says it's "very easy to do (i.e., restore a CA grassland), if you have the dormant native seeds still in the soil. Just cut the weeds monthly so they never produce any more viable seeds- -always cut them green, never brown. Then, whenever necessary, add the nutrients that were removed during the Spanish Rancho Grant days, and "Oui-la!" you have unearthed a native grassland, as if you were unearthing an ancient civilization--having the exact plants grow on the exact spots where they last grew, maybe one or two centuries ago." Repeated burning would result in the loss of the dominant seeds in the soil, forever denuding the landscape. This may be why Mid-Peninsula Open Space District denied Calfire a permit to continue burning on the southern portion of Russian Ridge and that decision process should be included in this IS\_MND.

Response to Comment #35-6: This comment recommends the use of string trimmers rather than prescribed fire. String trimming would not reduce the woody fuel loading on the project site, which is the main objective of the project. The commenter further claims that burning would result in the loss of dominant seeds, forever denuding the landscape. The comment provides no evidence for this claim, and the prescribed fire regime proposed by CAL FIRE has not been shown to result in the effects the commenter claims will occur<sup>3</sup>. The commenter further claims that Midpeninsula Regional Open Space District (MROSD) denied CAL FIRE a permit to perform prescribed burns on their property. The last prescribed burn on MROSD property occurred in 2009, and MROSD and CAL FIRE are currently working together on further prescribed fire projects on MROSD land<sup>4</sup>.

Comment #35-7 (SC):

The project should look at an alternative to MOVE the project to a grassland where NO rare and endangered species exist in order to preserve the scenic resources, conserve natives on the landscape, and reduce fuel loading with natives. The remaining 90% of California's grasslands do not have this concentration of rare and endangered species, adapted to a particular temporal and spatial pattern of burning, so why weren't other locations that contain zero rare and endangered species, looked at in this document as alternatives? This is where an EIR is necessary since it requires alternatives. A no burn alternative that preserves the scenic easement and reduces fuel loads, by say mowing, before invasive set their seeds, is a proven method for reducing fuel load and reestablishing natives on the land. Managed goat herding is another alternative that should be looked at in view of the stated goals. Moving the project to a site without natives is a third relevant alternative to the stated goals. An alternative to exclude nativeserpentine grasslands from treatment zones would be beneficial to the stated goal of water quality protection. These are all feasible alternatives under CEQA. The result of this minimal range of alternatives is that the impacts associated with them can be evaluated simultaneously giving policy makers the information to make an informed decision under CEQA.

Response to Comment #35-7: CAL FIRE has considered alternatives during the planning process. In the context of CEQA, a formal alternatives analysis is not required to analyze potential environmental impacts. Please see Response to Comment #23-26.

Comment #36 (RH): I request that this MND be amended to meet the primary objectives with grazing of grasslands. A discussion of this alternative is required by CEQA. It is also requested that the grazing of

<sup>2</sup> <https://tomkatranch.org/2018/03/07/coyote-brush-control-goats/>

<sup>3</sup> Hopkinson, P., Hammond, M., Bartolome, J., Macaulay, L. (2020). Using consecutive prescribed fires to reduce shrub encroachment in grassland by increasing shrub mortality.

<sup>4</sup> <https://www.openspace.org/our-work/projects/wfrp>

grasslands alternative native adequately discuss the secondary objective to beneficially impact fire sensitive resources as well as the air quality impacts, for all alternatives in adequate detail.

Response to Comment #36: Please see Response to Comment #23-26.

Comment #37-1 (KM):

Thank you for revising the MND to disclose relevant site data and to redefine the project objective. However, there remain fundamental concerns about the objective of the project as well as the details of the project plan. These concerns, which were raised in our March 2021 comments, were cited in your response but not addressed in any substantive way.

### **BURNING NATIVE GRASSLAND DOES NOT ACHIEVE STATED OBJECTIVE**

The stated Project Objective is:

*“The primary goal of the project is to create or maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful, thereby increasing the safety of neighborhoods near the SFPUC Watershed.”*

Burning @200 acres of grassland in units 3, 5 and 6 does not serve this objective. Grassland is not woody and does not impede firefighting tactics in these units. Unit 6 has existing 50-foot break lines and several miles of 10-foot-wide drivable trails, providing ample access for firefighting tactics. The document provides no evidence that burning grasslands will address the stated objective.

To the contrary, the MND acknowledges that burned grasses will quickly regrow, thus negating any fire suppression benefit:

*p.51: “Vegetation will begin to recover shortly following the burn, and vegetation should recover to pre-existing or better condition within one year of broadcast burning.”*

*p.56: “Following the first wetting rains, seed germination and reestablishment of vegetative cover from the seed bank will occur, stabilizing the soil surface from further erosion.”*

Response to Comment #37-1: The grasslands present in units 3, 5, and 6 are not pure grassland. They are generally composed as a mosaic of grassland and coyote brush scrub, with some areas with complete shrub cover. The proposed project will reduce the woody brush component of these intermixed grassland/shrub matrices, providing a reduction in woody fuel loading and helping to prevent further encroachment of woody species into current grass dominated areas. The current disk line and narrow trails may not provide adequate areas for fire suppression during areas of heightened fire danger in summer and fall, as was discussed extensively in the response to comment document for the original draft of the MND.

Comment #37-2 (FKM):

### **BURNING NATIVE SERPENTINE GRASSLANDS INCREASES INVASIVES AND FUEL LOADS**

An auxiliary goal of the project is “*maintaining existing native grasslands*”. Much of the grassland of burn units 3 and 6 are high-quality native grasslands, as acknowledged in the MND:

*p.11: “... many of these areas have a component of, or are dominated by, native bunchgrass vegetation (primarily needlegrass, Stipa sp. and Danthonia californica), and would be considered native grassland*

*based on currently accepted definitions (>10% cover native grass species). Some of the native grasslands have been identified as serpentine grasslands (EDAW 2002)."*

*P.50: Unit 3 is predominately composed of high-quality serpentine grassland, which supports a plethora of native plant species and numerous special-status plants, including Marin dwarf flax, Crystal Springs lessingia and bent flowered fiddleneck.*

The State of California considers non-serpentine native wildflower fields and native bunchgrass habitats among the rarest and most endangered plant communities in California. The attached photos document some of the listed natives found in Unit 6 this past March-April.

CalFire has acknowledged they have no proof that burning increases native grasses. In fact, vegetation counts before and after the 2007-2009 CalFire burns of MidPen's Russian Ridge prove a net loss of native grasses. Multiple studies confirm that burning increases invasive grasses:

*"Nonnative invasive grasses can promote fire, creating new fire regimes that are unsuitable for native species and lead to lower diversity and localized extinctions (1, 2). The altered fire regimes also create favorable conditions for the invasive grasses, which recover and spread quickly postfire, resulting in a "grassfire cycle.""* **Invasive grasses increase fire occurrence and frequency across US ecoregions**, Emily J. Fusco, John T. Finn, Jennifer K. Balch, R. Chelsea Nagy, and Bethany A. Bradley. *Proceedings of the National Academy of Sciences*, 2019; 201908253 DOI: [10.1073/pnas.1908253116](https://doi.org/10.1073/pnas.1908253116)

*"Since few invasive weeds are effectively managed by a single year of prescribed burning, it is often necessary to incorporate other control options into a long-term management strategy (Kyser and DiTomaso 2002)."* <https://www.cal-ipc.org/product/use-of-fire-as-a-tool-for-controlling-invasive-plants/>

Burning high-quality grasslands contradicts CalFire's auxiliary project objective of maintaining native grassland. Further, invasive grasses have higher flammability and fuel load, thus worsening the overall fire intensity.

#### Response to Comment #37-2:

The primary mechanism by which the project may maintain existing native grasslands is through reduction of shrub encroachment into native grassland. Barring some disturbance regime such as prescribed burning, these areas of native grassland will eventually convert to dense shrub cover (primarily coyote brush)<sup>5 6 7</sup>. CAL FIRE has not conducted studies to determine the effects of prescribed burning on native grasses, however literature is available which discusses the effects of prescribed fire on California grasslands. The commenter claims that prescribed burning at Russian Ridge in San Mateo county resulted in a net loss of native species, however no literature citation is provided to substantiate this claim. Of the literature the commenter does cite, Bradley et al<sup>8</sup> investigates systems almost entirely outside of California (or in systems which are not analogous to those found in the project area, such as those infested with *Arundo donax*), and their results cannot be extrapolated to the grasslands and habitats specific to this project and in California more broadly. Additionally, the project description includes invasive plant treatments, and does not depend solely on prescribed fire for invasive plant species control.

<sup>5</sup>Gurevitch, J., Scheiner, S., Fox, G. (2020). The Ecology of Plants.

<sup>6</sup> Sugihara, N., Van Wagetendonk, J., Shaffer, K., Fites-Kaufman, J., Thode, A. (2018). Fire in California's Ecosystems.

<sup>7</sup> Barbour, M., Keeler-Wolf, T. (2007). Terrestrial Vegetation of California.

<sup>8</sup> Emily J. Fusco, John T. Finn, Jennifer K. Balch, R. Chelsea Nagy, and Bethany A. Bradley. 2019. Proceedings of the National Academy of Sciences, 2019; 201908253 DOI: [10.1073/pnas.1908253116](https://doi.org/10.1073/pnas.1908253116)

A meta-analysis of the available literature on the effects on prescribed fire in California grasslands was conducted by Antonio et al.<sup>9</sup> at UC Berkeley. They found that prescribed burning did not have a negative overall effect on needlegrass (*Stipa pulchra*) abundance, which is the primary native grass found in the project area. They also found that while non-native species increase in abundance, a proportional increase of native species also occurs. More analogous to the conditions found at this project site, another study which examined the use of prescribed fire to reduce coyote brush encroachment into native needlegrass grassland in the bay area found prescribed fire could be used to successfully reduce woody species encroachment while not having a negative effect on needlegrass abundance nor increasing invasive species abundance<sup>10</sup>.

Given this, in conjunction with invasive species treatments conducted by SFPUC, there is strong evidence that the project will result in an improvement in conditions of the native grassland present in the project area through a reduction in encroaching woody vegetation, an increase in native species abundance, and a reduction in non-native species abundance through non-native plant species treatments. The commenter has not provided substantial evidence that prescribed fire would have a negative effect on native grassland given the specific ecological conditions present at this site.

Comment #37-3 (FKM):

In light of these facts, please consider the following edits to the MND document.

**CLARIFICATIONS REQUESTED - PROJECT DESCRIPTION**

**1. Project Overview - NO repeat burns of grasslands:** As discussed above, burned grassland will regrow by the following fire season, negating any fuel load reduction. Do CalFire and SFPUD intend to burn these units ANNUALLY as is done on the dam faces? CalFire's Responses to Comments pg. 12 claims: "*CAL FIRE only plans to burn these areas once. This project will increase and improve the remnant of Coastal Prairie that is left.*" Please include this statement in the MND Project Overview as public assurance that grasslands shall only be burned once under the scope and authorization of this MND, and that CalFire and SFPUD will stand behind the claim of grassland benefit.

Response to Comment #37-3: Please see the updated project description, which stipulates the time frame under which re-burns may occur. Re-burns will not occur annually, they may occur two years in a row but then require a minimum 5 years before the same site is burned again.

Comment #37-4 (FKM):

**2. Pretreatment:** Page 8 states "*Brush pretreatment involves **killing** some **or all** shrub species in a unit.*" This can be interpreted as giving the agency authority to permanently kill 100% of brush over an entire unit, which would constitute habitat conversion, which CalFire asserts is not the intent. Please replace the word "**killing**" with "**clearing**", and delete the words "**or all**".

Response to Comment #37-4: It is not accurate to describe the pretreatment as clearing rather than killing. The woody material will be crushed and left on-site, the material will not be removed from the project area. Following prescribed burning, the nutrients contained within the woody material will cycle into the soil. This would not constitute habitat conversion, as the below ground tissue of the plants will remain intact and resprouting will occur.

<sup>9</sup> Antonio, C., Bainbridge, S., Kennedy, C., Bartolome, J., Reynolds, S. n.d. Ecology and Restoration of California Grasslands with special emphasis on the influence of fire and grazing on native grassland species.

<sup>10</sup> Hopkinson, P., Hammond, M., Bartolome, J., Macaulay, L. (2020). Using consecutive prescribed fires to reduce shrub encroachment in grassland by increasing shrub mortality.

Comment #37-5 (FKM):

**3. Prescribed Burning:** Pg. 9 states “A helicopter may also be present in order to ignite fuels in the interior of larger burn units, or in areas which are impractical to reach on foot.” The report provides no evidence that any unit is too large or impractical to reach on foot. Please eliminate helicopter use for ignition. If CalFire asserts this method is necessary, please specify which unit/area is too large or impractical to reach on foot and, if the area is inaccessible by foot, describe how the “burn will be terminated ... if fire behavior is no longer acceptable” (as claimed on p. 9).

Response to Comment #37-5: It is unlikely that helicopter ignitions will be used, however they may be necessary on steep and dense brush covered terrain where crews are unable to make access and conduct ignitions. Aerial ignitions may also be accomplished through use of an Unmanned Aircraft System (UAS). Helicopter ignitions may be used in any unit as deemed necessary by the incident commander. If necessary, the burn will be terminated through cessation of ignitions, use of check and control lines, direct attack by crews and fire engines, and water bucket drops from the helicopter.

Comment #37-6 (FKM):**ADDITIONAL MITIGATION REQUESTED:**Document Mitigation for SFPUC Weed Abatement in Native Grasslands.

Promised outcomes are meaningless if there is no means of verification and no means of restitution in the event the results are not realized. In its Response to Comments pg.12, CalFire asserts “*This project will increase and improve the remnant of Coastal Prairie that is left.*” The MND claims an auxiliary benefit of “*maintaining existing native grassland*”.

MND pg. 9 and the Response to Comments both assign the responsibility for monitoring for invasive species to SFPUC:

*“The SFPUC shall be responsible for post-fire vegetation monitoring and any necessary weed control in order to support the ecological integrity of the project area per the standard operating procedures for the Peninsula Watershed.”*

This promise of post fire weed control is significant, and must be formally listed as a required mitigation if CalFire is to rely upon this to legally assert mitigated negative impacts.

California Code 15097 states: “*In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.*”

15097 (f) “*Where a trustee agency proposes mitigation measures or project revisions for incorporation into a project, that agency, at the same time, shall prepare and submit to the lead or responsible agency a draft monitoring or reporting program for those measures or revisions. The lead or responsible agency may use this information in preparing its monitoring or reporting program.”*

Since this MND declaration is predicated in part on this promise of weed abatement, please:

1. List the SFPUC Weed Abatement plan as a required Mitigation Measure (p.25), **and**
2. Attach the full contents of said plan, or provide the full name and location of/access to this document for public verification, **and**
3. Include declaration in the MND document that, as per California law, CalFire remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

Response to Comment #37-6: The non-native plant treatments are included as part of the project design and non-native plant treatments are already conducted in areas throughout the watershed by SFPUC, as such is it not appropriate to include them as a mitigation. The analysis of potential environmental impacts prior to mitigations includes all aspects of the project description/design, this includes the non-native plant treatments already conducted by SFPUC under their existing their integrated pest management program with its own CEQA compliance. As the treatments will occur under the existing work performed by SFPUC, no specific plan is included in this document. As stated in the project description, SFPUC will be responsible for non-native plant treatments. As this work is conducted under a pre-existing program with its own CEQA compliance, and not included as a mitigation for this project, CAL FIRE will not be responsible for implementation.

Comment #37-7 (FKM):

Mitigation Measure #1: Pre-treatment survey for Special Status Plant Species.

The MND Response to Comments document on pages 7 and 26 claims “the MND contains requirements for full floristic surveys,” but the MND document does NOT contain this.

Please clarify in writing that **floristic surveys** shall evaluate every plant taxon for ALL units, including **Sensitive Natural Communities**, per CDFW protocol.

Floristic Survey is minimum standard. CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities

<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline> require floristic survey for entire communities, not just listed special status plants:

*“Conduct botanical field surveys in a manner which maximizes the likelihood of locating special status plants and sensitive natural communities that may be present. Botanical field surveys should be floristic in nature, meaning that **every plant taxon that occurs in the project area is identified to the taxonomic level necessary to determine rarity and listing status.** “Focused surveys” that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.*

*“Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts.”*

Response to Comment #37-7: Mitigation Measure #1 specifically states that special-status plant surveys will be conducted in accordance with the CDFW guidelines<sup>11</sup> linked in the above comment. Surveys for sensitive

<sup>11</sup> [CDFW] California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.



natural communities have already been conducted and mitigations for these communities are included in Mitigation Measures #13 - #16.

Comment #37-8 (FKM):

Mitigation Measure #3: Avoidance of CRPR List 1 and 2 Plant Species

The MND states *“If direct impacts cannot be avoided, no more than 10% of an occurrence/population (by number of individuals or areal extent) will be impacted.”*

Mitigations must be verifiable. Please provide a means of quantifiable verification for this mitigation, particularly with regard to native grassland communities as noted in Mitigation Measure #1.

CDFW Protocol <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline> describes the information required to assess impacts to special status plants and sensitive natural communities, and the documentation required by law. Permanent transects with before and after native/invasive counts would serve as quantifiable verification.

Response to Comment #37-8: The metric listed in Mitigation Measure #3 states that no more than 10% of a population may be impacted. This is a quantitative metric. Additionally, this Mitigation Measure is specially for CRPR list 1 and 2 plant species and does not include sensitive natural communities. Mitigation Measures #13 - #16 are relevant to sensitive natural communities. Permanent transects are not required under CEQA. Is it also important to note that the CDFW protocol are guidelines, and are not required by law.

Comment #37-9 (FLM):

Mitigation Measure #14: Limit Control Line Construction to Handline in Native or Serpentine Grassland

As discussed above, the report provides no justification for burning native or serpentine grassland at all. Please revise this mitigation to require exclusion of surveyed native and serpentine grasslands from the burn area by establishing a suitable perimeter and avoiding disturbance of such areas entirely.

Mitigation Measure #15: Limit Out-of-Season Burning in Native or Serpentine Grassland

As discussed above, the report provides no justification for burning native or serpentine grassland at all. Please revise this mitigation to require exclusion of surveyed native and serpentine grasslands from the burn area by establishing a suitable perimeter and avoiding disturbance of such areas entirely.

Thank you for considering these edits to improve transparency and demonstrate the CalFire commitment to environmental integrity.

Response to Comment #37-9: CAL FIRE has mitigated impacts to native and serpentine grasslands to a less than significant level. CEQA does not require that no impacts occur to sensitive habitat. There has been no substantial evidence presented here that impacts to native or serpentine grasslands would be significant given the mitigations proposed by CAL FIRE.

Comment #37-10 (FKM):

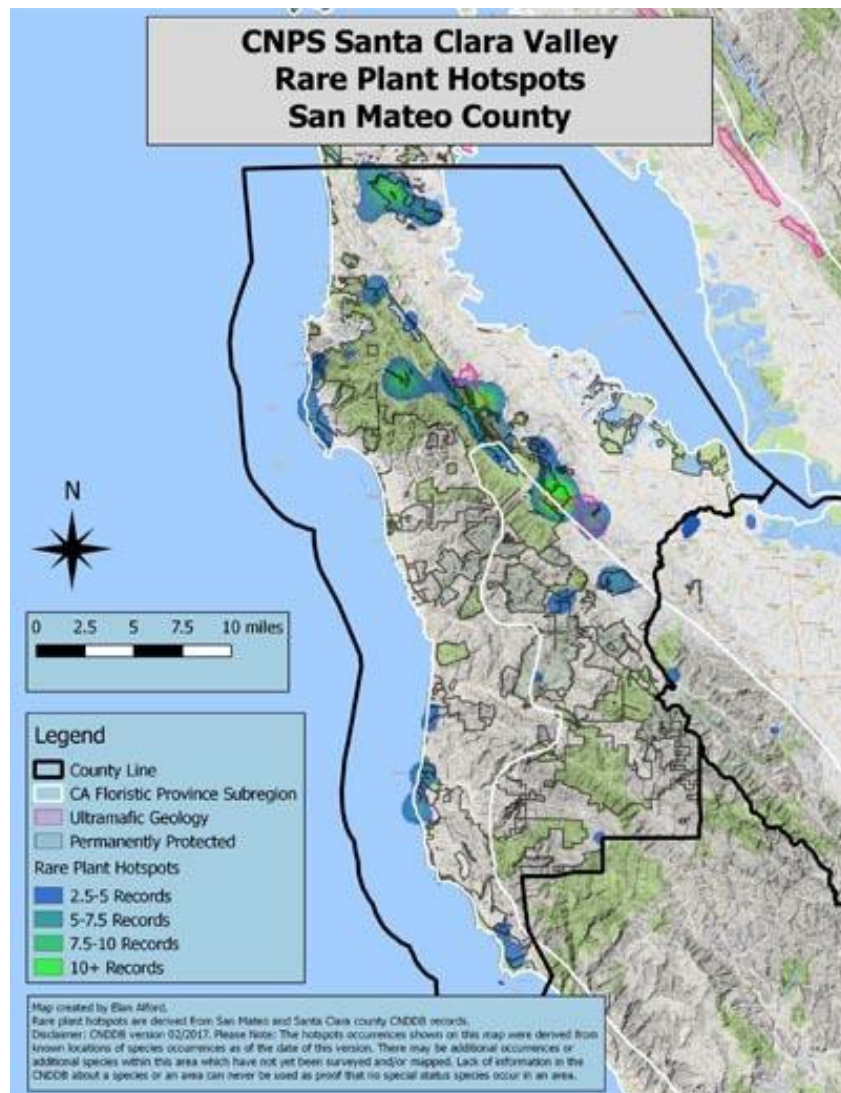
Rare Plant Hotspots in San Mateo and Santa Clara Counties Elan Alfred, CNPS, 2017

<https://www.cnps-scv.org/conservation/rare-plants/322-rare-plant-hotspots>

“The Peninsula Watershed Golden Gate Recreational Area and San Bruno Mountain are mountainous hotspots in the Central Coast subregion. Edgewood Natural Preserve and Crystal Springs County Park are associated with an ultramafic corridor in the San Andreas rift zone in San Mateo County.”

The map below is a summary figure based on 762 database records and shows where records are clustered in

the two counties. The map shows the areas with the highest data point density. Notice that the lands surrounding the Crystal Springs watershed are the highest density rare plant hotspots in the area.



*Response to Comment – SFPUC Prescribed Burn Project – SCH #2021020321 – October 13, 2021***Fire and Invasive Plants on California Landscapes, Keely, Franklin and D'Antonio, 2011**

[https://link.springer.com/chapter/10.1007%2F978-94-007-0301-8\\_8](https://link.springer.com/chapter/10.1007%2F978-94-007-0301-8_8)

“The initially “open” (grassland or forbland) habitats created by indigenous burning likely were maintained by intensive livestock grazing during the mission era (Minnich 2008). During the last 100 years, fire was apparently used to **convert shrublands to annual grasslands** as the expansion of agriculture in the late 1800s reduced available open lands for grazing (Tyler et al. 2007). “

“The trend of increased presence of woody vegetation on landscapes previously supporting extensive grassland is particularly apparent in the San Francisco Bay area. Contrary to conventional wisdom, this trend is not related to disruption of the natural fire regime by fire suppression, but rather due to a reduction in anthropogenic ignitions and cessation of intensive livestock grazing (Keeley 2005). Thus, this so-called shrubland invasion is perhaps better viewed as a recolonization following the cessation of anthropogenic disturbance, at least for the dominant native shrub, coyote bush (*Baccharis pilularis*).”

“However, as fire intensity decreases, alien invasion increases due to a variety of correlated factors. Lower fire intensity occurs in more open stands with a mixture of grasses and shrubs; thus, they are likely to have more alien propagules in the soil at the time of fire. **Reduced native recovery has been reported for out-of-season prescribed burns (Keeley 2006b) and this vacuum is always filled with alien species.** The mechanism by which out-of-season burning decreases native plant recovery is unknown, but it is commonly attributed to prescribed burns during winter or spring that cause heating of seed banks with moist heat, which is often lethal (Parker 1987). Perhaps more important though is that winter burning greatly decreases the length of the first growing season. For most seedlings having the growing season reduced from a typical 6 months (following summer or fall burns) to perhaps as little as 1 month (following a winter burn) could limit survival during the ensuing dry summer.”

“In a meta-analysis of the outcome of fire management treatments across California grasslands, Bainbridge and D'Antonio (in prep.; reanalysis of Corbin et al. 2004) found that fire can depress the abundance of European annual grasses, but **only for the immediate season after fire.**”

**Invasive grasses increase fire occurrence and frequency across US ecoregions**

Emily J. Fusco, John T. Finn, Jennifer K. Balch, R. Chelsea Nagy, and Bethany A. Bradley

*Proceedings of the National Academy of Sciences*, 2019; 201908253 DOI: [10.1073/pnas.1908253116](https://doi.org/10.1073/pnas.1908253116) “Nonnative invasive grasses can promote fire, creating new fire regimes that are unsuitable for nativespecies and lead to lower diversity and localized extinctions (1, 2). The altered fire regimes also createfavorable conditions for the invasive grasses, which recover and spread quickly postfire, resulting in a “grass fire cycle.””

“Consistent and repeated collection of invasive species abundance information is rare but critical for understanding impacts (50) and could improve our models. Therefore, given the nature of these data, our results likely provide a conservative estimate of invasive grass impacts on fire.”

“In the regions highlighted by this analysis, we suggest that fire and invasive species managers worktogether to create integrated management plans that account for invasive grass-fire interactions.”

**Introduced annual grass increases regional fire activity across the arid western USA (1980–2009)**

JENNIFER K. BALCH\*†, BETHANY A. BRADLEY‡, CARLA M. D'ANTONIO and JOSE' GO' MEZ-DANS

*Response to Comment – SFPUC Prescribed Burn Project – SCH #2021020321 – October 13, 2021*

<http://people.umass.edu/bethanyb/Balch%20et%20al.%2C%202013%20GCB.pdf>

“MODIS records show that 13% of these cheatgrass-dominated lands burned, resulting in a fire return interval of 78 years for any given location within cheatgrass. This proportion was more than double the amount burned across all other vegetation types (range: 0.5–6% burned). Furthermore, multi-date fires that burned across multiple vegetation types were significantly more likely to have started in cheat- grass. Finally, cheatgrass fires showed a strong interannual response to wet years, a trend only weakly observed in native vegetation types. These results demonstrate that cheatgrass invasion has substantially altered the regional fire regime. Although this result has been suspected by managers for decades, this study is the first to document recent cheatgrass-driven fire regimes at a regional scale.”

**Fremontonia Journal of the California Native Plant Society, April – July 2010** [https://www.cnps.org/wp-content/uploads/2018/03/Fremontia\\_Vol38-No2-3.pdf](https://www.cnps.org/wp-content/uploads/2018/03/Fremontia_Vol38-No2-3.pdf) **Fire on California Landscapes; Jon E. Keeley**

“The majority of our landscape is not forested and humans have not reduced fire frequency, but rather have radically increased burning (Halsey 2004). In many places this has had the unfortunate impact of **type converting native shrublands to nonnative grass and forb lands** as outlined by Lambert, D’Antonio, and Dudley in this issue. As a member of the California Native Plant Society, this type conversion concerns me because of the loss of both native flora and fauna. As an *ecologist* this concerns me because of the change in functional types from deep-rooted shrubs that can hold soils on steep slopes, to shallow rooted herbs. As a *fire scientist* this concerns me because of the change in fire season from about 6 months in shrublands to 12 months in annual grasslands, and lastly as a *scientist* this is of concern due to the loss in the capacity for carbon storage and potential impacts on climate.”

“Rather it is common for homes to burn from embers entering vents or igniting piles of dead leaves on roofs or gutters. Since embers can travel a mile or more, clearance zones are not likely to be highly effective in altering housing losses in many instances.”

**Invasive Species and Fire in California Ecosystems; Adam M. Lambert, Carla M. D’Antonio, and Tom L. Dudley**

Most evidence indicates that the strongest impacts of invasive plants on fire regimes in California occur in coastal sage scrub, deserts, and riparian areas. Contrary to common perception, foliar tissue does not easily ignite except under super-heated conditions or when leaf tissue moisture is low. However, several weedy forbs and grasses tend to thrive at the disturbed edges of these shrublands along roads, power lines, and fuel breaks where shrubs are removed. The invasive, annual grasses that often colonize these areas dry out much earlier in the spring than the native shrubs, and with their high surface area to volume ratio, are more prone to ignition than the native vegetation. Mediterranean grasses such as *Bromus* species and slender oats (*Avena barbata*) are particularly implicated since they act as wicks, spreading fast-moving fire into the canopies of larger shrub vegetation.

Early human inhabitants used fire to reduce woody plant cover and maintain grassland habitats for hunting, and to promote growth of particular species. After Euro-American colonization, grasslands were maintained by intensive livestock grazing, and fire was used to convert shrublands to grasslands. Prescribed fire has been used

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as a tool in some invaded grasslands to try to manage against nonnativegrasses, but results have been mixed as demonstrated in a metaanalysis conducted by D’Antonio and Bainbridge (Corbin et al. 2004).

While it appears that a single fire can reduce non-native grasses, this **effect is short-lived**, and only recurrent fire or fire combined with grazing can keep down non-native grasses. At the same time, some nonnative forbs such as species in the genus *Erodium* and black mustard (*Brassica nigra*) are promoted by fire. Thus, the use of fire in grasslands to enhance native species must be carefully done, and consideration of what non-native species are in the local seedbank is a key element. But **overall, fire is not considered a key factor in the maintenance of invasive plant dominance, nor an appropriate management tool for eliminating non-native species in most California grasslands.**

Riparian areas are often considered to be functional barriers to the spread of wildfire (Pettit and Naiman 2007). However, several invasive plants in California riparian systems are changing these dynamics. For example, giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.) are well known to be highly flammable, yet both species recover rapidly from fire by regrowth from below-ground plant parts. By contrast, **cottonwoods, willows, and other native woody plants are much less tolerant of direct exposure to fire.** Recent studies suggest that the invasive plants mentioned above are making riparian systems fire-prone.

<https://wildlife.ca.gov/Conservation/Survey-Protocols>  
**Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities** <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>  
 State of California Natural Resources Agency Dept of Fish and Wildlife, March 20, 2018

**“Special status plants**, for the purposes of this document, **include all plants that meet one or more of the following criteria:**

Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish & G. Code, § 2050 et seq.) “Threatened species” means a native species or subspecies of plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). “Candidate species” means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).

**Sensitive natural communities** are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat. CDFW’s *List of California Terrestrial Natural Communities*<sup>7</sup> is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort.”

“Impacts to **CRPR 3** plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Impacts to **CRPR 4** plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity.

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“Focused surveys” that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are **not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.**”

“Conduct botanical field surveys by traversing the entire project area to ensure thorough coverage, documenting all plant taxa observed. **Parallel survey transects may be necessary** to ensure thorough survey coverage in some habitats.”

“Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area.”

Response to Comment #37-10: This comment serves as reference material for the comment letter. This is the same reference material that this commenter has presented before in Comment #24. No further response is required.

Comment #38-1 (JKL):

Thank you for your amended MND Cal Fire prescribed burn document and comments. I live on Paddington Court in Area 6 of your prescribed burn, directly across the street from Hallmark Park on Hallmark Drive in Belmont. I bring up several **NEW** concerns that have come up after nearby wildfire impacts and studies that link wildfire smoke exposure to increased Covid cases. Specifically:

1. Although Cal Fire burn plan includes a fire behavior model, does it actually measure the Particulate Matter on the day of the Burn and what is the **actual PM emissions number** anticipated for the Burn on that day?

Recent news articles indicate that Wildfire smoke exposure of 2.5 PM is linked to **Covid-19 case increases** in Reno, Nevada so it is important that the actual PM number is monitored and kept well below that figure and reported to the Public each time a prescribed burn is executed.

Response to Comment #38-1: The fire behavior model does provide very rough estimates of PM2.5 emissions. The estimate of PM2.5 emissions will vary based on the type of vegetation in the unit (e.g., grass vs brush) and the size of the burn unit. As the size and vegetation types of each burn will vary, it is not possible for CAL FIRE to provide a metric for a given day of burning in this document, as the exact size and composition of each burn day is not currently known. Is it important to note the considerations taken during a prescribed burn to limit the effects of smoke of nearby areas. As discussed previously, the burn will not be conducted when the wind direction will blow smoke directly into the residential areas which abut some of the units. Additionally, the burn prescriptions require a sufficient venting elevation to allow smoke to travel upwards before dispersing. This will limit the amount of PM2.5 that nearby residents are subjected to. It is also important to note that these burns will be small (~50 acres per burn) and are in no way comparable to the emissions of large wildfires which burn hotter with greater consumption of organic material (and thus more PM2.5 emissions), and can burn 10's of thousands of acres in a single day. A comparison between smoke impacts of the 2020 fire year, the worst fire year in modern California history, and a very small, low intensity prescribed burn is not appropriate as they are not remotely equivalent in total emissions or duration of impacts.



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Comment #38-2 (JKL):

2. Air quality affected by wildfire smoke in California (Dixie) and Oregon (Bootleg) has affected residents **as far as the East Coast due to wind direction** and extremely strong winds due to climate change so it is imperative that your prescribed burn doesn't exacerbate the air pollution by adding to the smoke pollution from real wildfires burning all around us, even though they may be miles away. Will you be monitoring all the nearby wildfires and their wind direction and speed and possible dry lightening strikes before executing our prescribed burn in order to guarantee the safety of our residents?

Response to Comment #38-2: CAL FIRE is constantly monitoring fire activity though out the state including potentially dangerous weather events such as dry lightning, hot temperatures, or strong winds (e.g., red flag warnings). The prescribed burn will not be conducted during a local red flag warning. Additionally, the prescribed burn will not be conducted during periods of high fire activity in the state, or at time when smoke from wildfires is already impacting local communities. CAL FIRE's first priority is to ensure that the prescribed burns are conducted in a safe manner, during the appropriate conditions with appropriate resources on scene.

Comment #38-3 (JKL):

3. Our specific location in Area 6 is quite different from other areas; we are windy and breezy almost everyday. Residents that live nearby, especially those that live on Hallmark and side streets such as myself need to be notified of the dates in advance so that we can close all our windows and take in any outdoor furniture that could be impacted due to lingering odors. A one page sheet tacked to the trailhead is **NOT sufficient notice** to those of us living right across the street. Please have flyers distributed under our doormats to those of us that live on Hallmark Drive and the side streets such as Paddington court, Wakefield Court, Leigh Way and Soho Circle; within 1000 feet from the entrance of Hallmark Park at the minimum so we can take precautionary measures.

Response to Comment #38-3: Please see Response to Comment #43.

Comment #38-4 (JKL):

4. Since you plan to do 50 acres per day and 200 acres per year, that implies you will be doing a prescribed burn 4 times a year. How long do you anticipate each prescribed burn to take from start to finish?

Response to Comment #38-4: While 200 acres is the maximum allowed in a given year, it is very unlikely we will have the appropriate conditions, staffing, and burn unit preparation finished in order to follow that schedule. Most burns will be completed in one day. It is possible, though unlikely, if conditions and staffing allow, CAL FIRE may burn 2 or 3 days in a row.

Comment #39:

Dear Cal Fire,

I am so sorry to see that you are insisting on going ahead with the Crystal Springs burn which will kill endangered species, risk burning up the adjoining school and houses on this property and by your own admission, is totally unnecessary. Oh yes and let's not forget that you will need to come back every year and do the same thing.

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However, if you let the native species take over (by mowing the taller invasive species which come in sooner and are taller than the native growth) you would not need to come back, and would help sustain the endangered wildlife which are dependent on these native grasses.

Apparently you don't care about the environment or our safety, only the opportunity to burn up something.

Sincerely and sadly,

Belmont resident, Mimi Iversen

Response to Comment #39: As discussed in the MND, the primary purpose of the project is to protect adjacent communities and increase safety. Impacts to special status plants and animals have been mitigated, and no mortality of endangered species under the state or federal Endangered Species Act will occur. Please see the project description for information related to how frequently reburning may occur, and note that this is the maximum allowable, and units will likely be burned less frequently. Prescribed burning of the same areas yearly will not occur.

Comment #40-1 (PC):

I am opposed to the prescribed burns proposed by Cal Fire for the following reasons.

In its Mitigated Negative Declaration (hereinafter “MND”) Cal Fire states its primary project objective for the proposed prescribed burn is to increase the safety of neighborhoods near the SFPUC Watershed. MND, p. 6. However, Cal Fire’s method of reaching its primary objective is counter to all the evidence we have regarding protecting homes from wildfire threat. It is well known the main cause of home ignition from wildfires is flying embers and firebrands, which can fly over a mile.<sup>1</sup> Every fire agency, including Cal Fire, knows the primary means of protecting homes from wildfire threat is to harden the homes, not burn nearby habitat.<sup>2</sup> When homes are hardened, even if by chance nearby habitat does ignite, the homes are protected from wildfire threat.

Photos of past California wildfires show unhardened homes are often even more combustible than the vegetation around the home.



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<sup>1</sup> <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire>.

<sup>2</sup> *Id.*

Yet, despite this knowledge Cal Fire’s response to my comment on the initial MND was “homehardening is outside the scope of this project and is the responsibility of the homeowner.”<sup>3</sup> By stating the primary means of protecting homes from wildfire is the responsibility of the homeowner then Cal Fire is admitting the prescribed burn is really not intended to, and cannot under any scenario, fulfill its primary objective – protecting neighboring homes from the threat of nearby wildfire.



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If hardening homes is the best means of protecting homes from wildfire threat and is outside the scope of Cal Fire's project - the objective of which is to protect nearby neighborhood homes from wildfire threat - then Cal Fire needs to change the scope of the project to hardening homes. At least this way when Cal Fire spends California's limited taxpayer money and resources on protecting homes from wildfire it will be using a method proven to actually protect homes from wildfire threat. We shouldn't be, and can't afford to, compartmentalize solutions. If an agency proposes a project with the primary objective being to reduce wildfire threat to homes then that agency should use its money and resources to reduce wildfire threats to homes using the best method available; which at this point is hardening homes. If changing the scope of the project is not doable then Cal Fire needs to abandon this misguided project altogether.

I live in a neighborhood nearby one of the proposed prescribed burns and there are still homes with highly flammable wood shingle roofs, and many homes that still have highly flammable vegetation right next to the home. Additionally, there are many homes that do not have fire proof vents or gutters or double-pane windows. Many homeowners can't afford the modifications necessary to harden their homes, and so the risk of house-to-house-to-house ignition is great. It is not cost effective to spend taxpayer money on prescribed burns, under the guise of protecting highly flammable homes, instead of spending these dollars directly to protect the homes, by hardening them.

There are thousands of acres of open space habitat surrounding the watershed area, the neighboring homes and the hundreds of acres Cal Fire wants to prescribe burn. Burning hundreds of acres - for which there is zero guarantee they would ever even ignite - will do nothing to mitigate the wildfire threat to the nearby homes from the surrounding thousands of acres.

Because each home is wildfire fuel, all it takes is for one unhardened home to ignite which would result in the emission of flying embers and firebrands endangering every other unhardened home within its neighborhood. This allows the fire to continue to spread beyond to other neighborhoods. Accordingly, only hardening homes will achieve Cal Fire's primary objective; to protect neighboring homes from wildfire threat.

Response to Comment #40-1: Please see Response to Comment #41-3 regarding home hardening and prescribed burning as they relate to the State's wildfire resiliency plan.

Comment #40-2 (PC):

Cal Fire states its auxiliary project objectives include (1) return fire to the landscape to maintain existing native grasslands by slowing shrub encroachment and (2) train Cal Fire personnel in firing and control techniques.

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<sup>3</sup> **Response to Comment-** SFPUC Prescribed Burn Project San Mateo County, California- State Clearinghouse Number # 2021020321 - Prepared by: The California Department of Forestry and Fire Protection P.O Box 944246 Sacramento, CA 94244-2460 June 18, 2021, p. 46.

Regarding auxiliary objective number one, why would Cal Fire want to maintain existing grassland that is mostly non-native over native shrub? As well using the term "encroachment" to describe the migration of native shrub in its own habitat is not only meant to demonize the native shrubs but is scientifically inaccurate. Native plants can't "encroach" in their own habitat. Non-native grasses can, and have in the proposed burn areas, and most of California. Cal Fire's objective to transform native shrub land into non-native grassland belies an understanding of the importance of native plants over non-native and the role native plants play in maintaining biodiversity and healthy ecosystems. It is also morally and scientifically weak to refer to an openspace's complex diversity of plants and animals as fuel, essentially reducing habitat biodiversity to being viewed as a can of gasoline.

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Response to Comment #40-2: Please see Response to Comment #41-9 regarding the successional relationship between shrublands and grasslands and how they relate to the proposed project.

Comment #40-3 (PC): Additionally, the MND, notes that shrubland is capable of significantly more carbon sequestering than grass lands; Purple tussock grass- California oatgrass grassland Fuel Model equals 3.56 total fuel load tons/acre, carbon content is 1.55 tons C/acre versus North Coastal Scrub which equals 5.8 total fuel load tons/acre, carbon content is 2.7 tons C/acre. MND, p. 59. Global Warming is caused by greenhouse gases (GHG) and one of its effects in California is a longer and hotter dry season, which is resulting in a longer fire season with more intense and hotter wildfires. So why would a state agency that fights wildfires seek to transform a shrub environment into a grassland which would be less efficient at sequestering greenhouse gases (GHG) and mitigating Global Warming? This belies common sense and logic.

Moreover, the proposed prescribed burn will not only destroy carbon gatherers – the plants that will be burned - it will be releasing into our atmosphere the carbon these gatherers have stored, thereby, increasing GHGs and accelerating Global Warming. Cal Fire’s response to this concern from my previous comment is; “vegetation will regrow and continue to sequester carbon.”<sup>4</sup> This is, of course, contingent on new plants growing, which is contingent on rainfall. California’s only Wildfire research center - San José State University's Fire Weather Research Laboratory - this year discovered that due to the severe drought there wasn’t any new growth on the shrubs.<sup>5</sup> With the effects of Global Warming causing severe drought in California we can no longer rely on our seasonal rainfall to promote new growth. However, if we do get good rainfall Cal Fire is right - the new vegetation will most definitely sequester carbon, just as the current vegetation is sequestering carbon. The big difference is by burning the current vegetation Cal Fire will be releasing years of stored carbon in one day, which means before the new vegetation will be helping to offset our carbon output, and mitigate Global Warming, it will first have to get us back to square one by sequestering the amount of carbon released during the prescribed burn. How many years will this process take?

Response to Comment #40-3: This comment mischaracterizes the objectives of the project as converting shrubs to grassland. Please see Response to Comment #41-9 regarding why this project will not result in type conversion and will allow shrubs to resprout and re-sequester carbon. This commenter further discusses an online article refencing fuel moisture sampling conducted by San Jose State University and the lack of new shrub growth seen in April. CAL FIRE fuel moisture sampling also observed little new growth on the species in question (Chamise) during April sampling. However new growth was observed in May and June. The commenter makes unsubstantiated claims that global warming will result in us no longer be able to “rely on our seasonal rainfall to promote new growth.” While precipitation patterns effect growth rates of shrub species, there is no substantial evidence presented here to support the claim that growth of vegetation will cease as a result of climate change and that carbon sequestration discussed in the *Greenhouse Gas Emissions* section of the MND will not occur.

Comment #40-4 (PC):

Cal Fire also claims this prescribed burn “is to help prevent a large scale, high intensity fire, which will result in significantly more greenhouse gas emissions than a low intensity prescribed burn.”<sup>6</sup> There are two problems with this reasoning. First there is zero evidence, and therefore no guarantee, the areas where the prescribed burns are proposed are in anymore imminent danger of ignition in the near or distant future than any of California’s other millions of acres of open space. Trying to figure out which open space areas will ignite is a mere guessing game Cal Fire is trying to disguise as well thought out science. Second if we accept this type of reasoning then we would have to suppose every acre of California’s millions of acres of healthy habitat are in imminent danger of ignition in the near or distant future. Under such a supposition we would have to accept

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that burning millions of acres of open space within so many miles of homes is necessary (1) to protect homes from burning and (2) to prevent larger amounts of GHGs being released on the off chance at some point these millions of acres will ignite into a high intensity fire. Trying to beat wildfires to the punch by burning millions of acres of open space would not only result in tons of GHGs being released it would be a biodiversity ecological disaster.

Response to Comment #40-4: On the contrary, the burn unit's location near major interstates and highways (I-280 and Highway 35) and recreation/open space use within and adjacent to the units pose significant ignition risks and threats due to their proximity to densely populated communities. This is not true for all of "California's other millions of acres of open space". Additionally, the commenter misconstrues the environmental impact of a fast moving, intense wildfire burning at the peak of fire season versus a slow moving, controlled prescribed firing burning under ideal conditions. Prescribed fire has been shown to produce less CO<sub>2</sub> per acre than wildfire<sup>12</sup>. The commenter further describes prescribed fire as an ecological disaster, when in fact it is widely accepted that fire has an important ecological role which has been systemically excluded from California for well over 100 years<sup>13</sup><sup>14</sup>. The removal of fire as an ecological process in California ecosystems is the true ecological disaster.

Comment #40-5 (PC):

Based on the evidence, Cal Fire's second auxiliary objective – to train Cal Fire personnel in firing and control techniques – really appears to be its main objective. MND, p. 6. It's the only objective that makes any sense. Cal Fire wants to burn hundreds of acres of healthy habitat just to practice "firing and control techniques." This is unacceptable. Our open spaces are more vulnerable than ever due to Global Warming, which is threatening the biodiversity of our open spaces with droughts and diseases, such as Sudden Oak Death (SOD). Our open spaces are not only aesthetically pleasing they are ecologically necessary for our health and survival. By gathering and storing carbon, open spaces are one of the only things helping to lessen the effects of human caused Global Warming. We should be mitigating wildfires by having companies like PG&E manage the trees around their wires, and we should be mitigating wildfire damage to our homes and buildings by spending the money and resources our state has allocated for wildfire prevention on hardening homes. But we should not be burning healthy habitat in anticipation that it may ignite someday in the future, thereby, destroying the very habitat we don't want wildfire to destroy.

Response to Comment #40-5: Please see Response to Comment #41-3 regarding home hardening, reduction of utility-related wildfire risk, and prescribed burning as they relate to the State's wildfire resiliency plan. Please see Response to Comment #40-4 regarding the importance of fire as a natural ecological process in California ecosystems.

Comment #41-1 (DB):

Dear Ms. Collamer and Chief Sampson,

**I. Overview****A. Importance of Chaparral and Coast Scrub Plant Communities**


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<sup>12</sup>Wiedimmyer, Christine, and Matthew David Hurteau. 2010. Prescribed Fire as a Means of Reducing Forest Carbon Emissions in the Western United States. Environmental Science and Technology.

<sup>13</sup> Sugihara, N., Van Wagetendonk, J., Shaffer, K., Fites-Kaufman, J., Thode, A. (2018). Fire in California's Ecosystems.

<sup>14</sup> Barbour, M., Keeler-Wolf, T. (2007). Terrestrial Vegetation of California.

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**“California’s native chaparral plant communities support exceptional biodiversity and provide critical ecological services but increased fire frequency threatens to extirpate much of the chaparral due to long regeneration times needed between fires for many species.** When short fire intervals inhibit shrub recovery, this favors invasion of exotic herbaceous species, and vegetation type conversion from woody shrubs to grassland is therefore a serious ecological concern in this biodiversity hotspot.... The top drivers for woody conversion and decline included a fire interval shorter than 15 yr and total number of fires, actual evapotranspiration, and elevation... chaparral decline and replacement indicates that vegetation change is occurring extensively and rapidly... has serious implications for ecological and human communities, as chaparral provides critically important ecological services in the region ... which are not provided by exotic annual grasses and forbs...chaparral itself, has incredibly high biodiversity ... with most characteristic bird, mammal, and insect communities aligning with shrub cover. Thus, the loss of chaparral is an ecological impact of global significance (Cowling et al. 1996).”<sup>1</sup>

“Although often maligned as a useless or even dangerous because of concerns over fire hazard, chaparral ecosystems provide critical ecosystem services through their roles in erosion control, hydrology, biomass sequestration, and preservation of biodiversity... Short fire-return intervals of less than 10–15 years present an increasing threat to chaparral ecosystems by eliminating shrub regeneration and leading to type-conversion to non-native annual grasslands.”<sup>2</sup>

“Chaparral and California sage scrub are typically closed-canopy shrublands that are relatively resistant to invasion by nonnative species... Land management practices such as grazing and mechanical disturbance may also enhance invasion (Stylinski and Allen 1999).”

“This first systematic review of all species of mammals inhabiting California chaparral [conducted in 1990] found... Among the 49 species, 7 species (6 rodents and 1 rabbit) are found primarily in mature chaparral, 9 species (the mule deer and 9 rodents, including 5 kangaroo rats) in young chaparral or along ecotones between chaparral and other plant communities, and 19 species (12 bats and 7

<sup>1</sup> Syphard, A., “Extend and Drives of Vegetation Type Conversion in Southern California Chaparral” (2019) (Attachment 1)

<sup>2</sup> Rundel, Philip. California Chaparral and Its Global Significance. (2018) (Attachment 2)

terrestrial species) in riparian areas. Five species occur in many habitats but prefer chaparral in California, and nine other species have wide ranges that encompass many communities, including chaparral. An area of chaparral (0.5 to 6.8 ha) generally contains two to four common, and two to nine total, species of rodents. Seeds, fruits, and young vegetation growth are the most important plant foods in chaparral. **Fire affects the distribution and abundance of mammalian populations in chaparral by altering the structure of the plant community and the availability of many foods...** Quinn. R.D. Habitat preferences and distribution of mammals in California chaparral. Res. Paper PSW-202. Berkeley, CA: Pacific Southwest Research Station, U.S. Forest Service. U.S. Department of Agriculture: 11 p. (1990) (Attachment 3)

Response to Comment #41-1: This comment contains quotes from various article and literature sources and does not specifically comment on the analysis of the environmental impact on the proposed project. Specific comments on the environmental impact of the proposed project are discussed below.

Comment #41-2:

**B. Saving Homes and Lives**

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**“Fifteen of California’s 20 most destructive wildfires have occurred since 2015, following a pattern that overwhelmingly unfolds outside of the state’s most heavily forested areas. In late summer and autumn, strong wind gusts, often called Santa Ana or diablo winds, have repeatedly whipped up fast-moving blazes through bone-dry vegetation, most commonly shrublands. Those blazes blow embers into nearby communities, where homes explode into flames as firebrands torch unkempt landscaping, slip through vents to ignite attics, and land in gutters filled with dry leaves... While landscape-scale vegetation treatments most appropriate for forests would receive more than \$500 million, the governor’s budget ponies up just \$25 million for the home-hardening pilot. ‘There is a pretty big disconnect between this budget and trying to do something about the loss of lives and homes,’ said Max Moritz, a widely recognized wildfire expert with the University of California Cooperative Extension in Santa Barbara. ‘Those forest treatments, they don’t do barely anything to alleviate the risk to human communities.’ ... Still, critics say Sacramento’s spending priorities are backward.”** Smith, J. E., “Newsom’s \$1-billion wildfire plan favors logging over homeowners, critics say,” *Los Angeles Times*, April 30, 2021 (Attachment 4)

**“Comparing homes that survived fires to homes that were destroyed, we investigated the role of defensible space distance, defensive actions, and building structural characteristics, statewide and parsed into three broad regions. Overall, structural characteristics explained more of a difference between survived and destroyed structures than defensible space distance. The most consistently important structural characteristics—having enclosed eaves, vent screens, and multi-pane windows—were those that potentially prevented wind-born ember penetration into structures, although multi-pane windows are also known to protect against radiant heat.”** Syphard, “Factors Associated with Structure Loss in the 2013–2018 California Wildfires,” *FIRE*, 2019. (Attachment 5)

**“Fire management of California shrublands has been heavily influenced by policies designed for coniferous forests, however, fire suppression has not effectively excluded fire from chaparral and coastal sage scrub landscapes and catastrophic wildfires are not the result of unnatural fuel accumulation. There is no evidence that prescribed burning in these shrublands provides any resource benefit and in some areas may negatively impact shrublands by increasing fire frequency.** Therefore, fire hazard reduction is the primary justification for prescription burning, but it is doubtful that rotational burning to create landscape age mosaics is a cost effective method of controlling catastrophic wildfires. **There are problems with prescription burning in this crown-fire ecosystem that are not shared by forests with a natural surface-fire regime.”** Jon. E. Keeley, U.S. Geological Survey, “Fire Management of California Shrubland Landscapes,” *Environmental Management* Vol. 29, No. 3, pp. 395–408 (2002) (Attachment 6)

**“This analysis suggests that the greatest improvements in reducing community vulnerability to wildfires is not like going to come from improved fuel treatments or fire suppression capabilities, but rather from changes in human infrastructure. The most significant advances are likely to come from improved fire prevention and careful analysis of land planning and zoning issues.”** Keeley, J., et al, “Large, high-intensity fire events in southern California shrublands: debunking the fine-grain age patch model,” *Ecological Applications*, 19(1), 2009, pp. 69–94 (Attachment 7)

“Prichard et al. 2020 found that fuel reduction treatments can be overwhelmed during wind-driven fires, and Lydersen et al. 2014 also referred to similar results for plume-dominated fire events... Some studies are already pointing to differentiate the fire mechanisms between fires driven by wind or by fuel (Duane et al., 2015; Jin et al., 2015; Keeley and Syphard, 2019) and how to approach them from a management perspective.,,, current

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suppression systems have less opportunities to stop fires driven by landscape structure...” Duane, Andrea & Miranda, Marcelo & Brotons, Lluís. “Forest connectivity percolation thresholds for fire spread under different weather conditions.” *Forest Ecology and Management*. 498. (2021).

“In interior conifer forests, past land management has produced dangerous fuel loads and pre-fire fuel treatments are the main approach to altering these fire outcomes. However, on lower elevation landscapes subjected to extreme wind events, **fire suppression has never come close to excluding fires, and thus fuel accumulation is not the causal factor in these fires**. Wind-driven fires are the result of annual foehn wind events coupled with occasional human ignitions, either directly or through infrastructure failures. **The primary means of reducing impacts of these fires is through better fire prevention, improved land planning that puts fewer people at risk, enhanced homeowner protection, and improved agency prediction of fire spread trajectories and communicating those to fire-fighting agencies and homeowners.**” Keeley, J.E., Syphard, A.D. Twenty-first century California, USA, wildfires: fuel-dominated vs. wind-dominated fires. *fire ecol* 15, 24 (2019). <https://doi.org/10.1186/s42408-019-0041-0> (Attachment 8)

“Prescribed burning, intended to remove dead wood and fuel before fire season, does help control fires in Western conifer forests, like the tall giants of Sequoia National Park in Northern California. But chaparral isn't forest. It's a dense carpet of woody shrubs: chamise, ceonothus and other plants that cling to steep canyons and ridges. ‘I work in Sequoia National Park, and we've had a prescription burning program for the last 40 years, and it's extremely necessary,’ Keeley told Our Amazing Planet. ‘In most of Southern California, it is completely irrelevant. There is overwhelming evidence we've never come anywhere close to excluding fire on this landscape,’ through prescribed burns, he said. In Southern California, 29 years of prescribed burns had no effect on reducing the area burned by future fires, a 2012 study Keeley co- authored found. The study was published in the *Journal of Environmental Management*. ‘It's wrong headed to think there's just one fire story out there,’ Keeley said. ‘There's lots of fire stories. There's what's going on in forests, and what's going on in chaparral landscapes, and they're very different in terms of how to solve them.’” Oskin, B., “Fighting Fires: You're Doing It Wrong,” *LiveScience.com* (2013) (Attachment 18)<sup>3</sup>

### C. Converting Native Chaparral Plant Communities to “Grasslands”

“... **Conversion of chaparral to exotic herbaceous<sup>4</sup> cover may also increase wildfire risk to humans**, and may lead to a perpetuating positive feedback cycle, frequently referred to as the grass–fire cycle (D’Antonio and Vitousek 1992)... With unprecedented recent large fires having occurred across Southern California, there are huge expanses of vulnerable young vegetation that are at risk of burning again before the minimum of at least 10–15 yr needed for chaparral recovery.” (Attachment 1)

<sup>3</sup> <https://www.livescience.com/26257-fighting-chaparral-fires-myths-busted.html>

<sup>4</sup> Given CalFire conducts no restoration after the controlled burn, the spread of non-native grasses is likely to accelerate in previous native chaparral habitat.

### D. Fire in Chaparral Environments

“Fire probably occurred once to three times a century in chaparral environments (known as a fire return interval) or even longer in some places during pre-settlement times ... Repeated fires at short intervals (fewer than 10 years) that kill young plants before they produce seed can reduce populations of ‘fire-following’ shrub species. In addition, **non-native grasses often colonize chaparral stands recovering from fire and persist until**

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**shrubs fill in and close the canopy**; however, if fire occurs during this grass phase, the reduced fire intensity can allow grass seeds to survive and perpetuate a cycle of more frequent fire and reduced shrub cover. Steep slopes where chaparral ecosystems have converted to grasses and other herbaceous plants are more prone to soil slippage and slope failure during high-intensity rainstorms, likely due to decay of deep shrub roots. Re-establishment of chaparral shrubs after grass conversion is difficult and a topic of active research.” Pacific Southwest Research Station, “Fire in chaparral ecosystems” US Forest Service<sup>5</sup> (Attachment 9)

“While logging and other vegetation treatments may prove crucial for forests, **researchers have found that clearing chaparral shrublands can increase wildfire risks by inviting the spread of highly flammable invasive grasses.**” Smith, J.E., *Los Angeles Times*, April 30, 2021. (Attachment 4)

#### **E. Prescribed Burns Shouldn't Be Done in Chaparral Plant Communities**

“In the last forty years fire managers have promoted the idea that prescribed fire is necessary to protect ecosystems and communities by restoring fire's natural role in the environment to thin forest stands and to reduce hazardous fuels. This is true for western forests where the natural fire regime was frequent, low intensity surface fires started by lightning, and for many other ecosystems like southern longleaf pine forests, Florida palmetto scrub, and the Great Plains tall grass prairies. **However, it is not true for the shrubland dominated ecosystems** of southern California and the Santa Monica Mountains... The Mediterranean climate favors the development of shrubland vegetation types. Southern California chaparral and coastal sage scrub often grow as continuous, closed canopies and have the perfect fuels characteristics to ignite easily, burn intensely and spread rapidly.... **Many studies have shown that repeated fires at short intervals will eliminate chaparral shrub species and can promote establishment of non-native annual weeds... Prescribed burning is not effective in limiting the spread of wildfires** under the conditions that burn the largest amount of land and cause the most home losses. Native shrublands are being burned too frequently because of human ignited wildfires. **Prescribed fire does not fulfill any identified ecological need in chaparral or coastal sage scrub and would increase the probability of a damaging short fire interval following a prescribed burn.**” National Parks Services, Santa Monica Mountains National Recreation Area. (Attachment 10)

Response to Comment #41-2: This comment contains quotes from various article and literature sources and does not specifically comment on the analysis of the environmental impact on the proposed project. Specific comments on the environmental impact of the proposed project are discussed below.

Comment #41-3 (DB):

#### **F. Revised MND Objectives**

The revised MND states the Project Objectives are:

1. The primary goal of the project is to create or maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful, thereby increasing the safety of neighborhoods near the SFPUC Watershed.

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<sup>5</sup> [https://www.fs.fed.us/psw/topics/fire\\_science/ecosystems/chaparral.shtml](https://www.fs.fed.us/psw/topics/fire_science/ecosystems/chaparral.shtml)

2. Auxiliary project objectives, which CAL FIRE hopes to accomplish but do not constitute the main purpose of

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the project, include:

- a. Return fire to the landscape, with the goals of maintaining existing native grasslands by slowing shrub encroachment.
- b. Train CAL FIRE personnel in firing and control techniques.

CalFire revised the original Objectives to the above primary and “auxiliary” objectives; previously the agency acknowledged it had three equally weighted objectives which were:

1. Create or maintain areas of **reduced vegetation with the goal to reduce fuel loading** and woody fuel continuity where firefighting tactics can be more successful, **thereby increasing the safety of neighborhoods near the SFPUC Watershed.**
2. maintaining existing native grasslands **by slowing shrub encroachment and potentially restoring some areas of shrub encroachment to open native grassland**
3. **Train CAL FIRE personnel** in firing and control techniques.

Presumably, the equally-weighted objectives were not justifiable either from either a legal or public relations perspective or both. Merely changing the objective without altering or modifying the action is window dressing – and is not a substantive change. A substantive change would include addressing areas of concern – e.g., public concern about destroying healthy native plant communities, reduced scope of the targeted areas, modification of the proposed action to reflect the objective change. No such modifications were made that can be correlated to the objective change.

Given that the “primary goal” of the proposed action is to “reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful ... increasing the safety of the neighborhoods,” my comments will largely focus on whether or not this primary objective can or will be achieved with the proposed action, whether CalFire considered and analyzed current data and science on the management of vegetation to make neighborhoods safer in the event of a wildfire, considered and analyzed alternative actions that would mitigate areas of public concern while still achieving the stated goal and took a hard look at whether the proposed action is the only justifiable action to achieve the goal(s) or whether modified actions could similarly achieve the goal(s).

As Chief Sampson stated at the “Informational Meeting for the Prescribed Burn, SFPUC” held on Wednesday, March 24, 2021 (7pm-8pm) hardening homes or taking actions to ensure homes are not susceptible to flying embers during a wildfire event was not CalFire’s mission – that was the local jurisdiction’s responsibility.

Sadly, local jurisdictions such as the City of Belmont (along with state officials) are lacking in their responsibilities to ensure home are hardened. Instead of conducting independent research the entities rely upon each other to promote a one-size fits all approach which has proven unsuccessful.

Science shows that wildfires spread and often ignite homes with flying embers during a wildfire event. For many, if not most homes, vents, wooden decks, wooden siding and other highly combustible or flammable home attributes put homes at risk. So, while the City of Belmont submitted thanks and support for the proposed action, the City remains negligent in ensuring residents are taking measures to harden and secure their homes. Merely slashing and burning habitat does not make homes safer – recent wildfires and home



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destruction proves this to be true. Yet, sadly, CalFire and other governmental agencies continue to push this decades-old, broad approach of slash and burn instead of considering data and science which shows (1) there are more effective actions that can be taken to save homes and lives in the case of a wildfire event and (2) some actions, such as the proposed action, are not making homes safer and are likely accelerating the threat to homes.

At the March 24 Informational Meeting, Ms. Collamer specifically outlined her premise that the proposed action would “return” the targeted areas to the “original grasslands” by burning the chaparral plant communities which “encroached” the area. She based her premise on photos of the area that ranchers who had cleared the land for livestock grazing and highlighted her lack of understanding of historic ecology of the area. I think CalFire representatives would agree that the agency is not a land management agency; therefore, CalFire should not be making these types of important land management decisions.

State wildfire experts who have for decades promoted prescribed burns for forests highlight the danger of this one-size-fits-all approach to using prescribed burns in chaparral plant communities. More on this herein.

Response to Comment #41-3: The project objectives were clarified in the revised MND to make clear that fuel reduction has always been the primary objective. The three objectives were never equally weighted, and CAL FIRE has never made such a claim. Nor does CAL FIRE claim in this MND, or more generally, that prescribed fire is a panacea for wildfire risk. Other resilience activities are important, including home hardening, and are discussed in California’s Wildfire and Forest Resilience Action Plan<sup>15</sup>. This project is only part of the solution for promoting wildfire resiliency in San Mateo county, and across the state more broadly. Other such activities, such as home hardening, are beyond the scope of this project and near the project site would be under jurisdiction of local agencies and at the level of individual homeowners. Grants for these types of activities may be available through the state in the future<sup>16</sup> and may be available via local agencies, such as exists in the City of Woodside<sup>17</sup>.

Comment #41-4 (DB):

**A. Summary of the Issue**

***Chaparral stands are generally not resilient to fire-return intervals less than about 10–15 years (Keeley et al. 2012b), and the increased number and frequency of anthropogenic ignitions in southern California have already led to major areas of type-conversion from chaparral to non-native annual grassland (see Chaps. 12 and 13).***

***Once converted, an alternate stable state may be reached where ignitions can occur almost any time of the year because of the fine grass fuels. This said, land-use changes from urbanization and agricultural development over the coming decades may well play as important or more important a role as climate change in the conservation of chaparral and related shrubland ecosystems (Riordan and Rundel 2014)***

***Historically the primary management focus on chaparral, particularly in southern California, has been on management of fuels and fire hazard, with little emphasis on the sustainability of chaparral ecosystems and the associated ecosystem services provided. In simple terms, chaparral has been widely ignored by federal and state management agencies as an uninteresting but flammable landscape that produces threats to the built***

<sup>15</sup> Available at <https://www.fire.ca.gov/media/ps4p2vck/californiawildfireandforestresilienceactionplan.pdf>

<sup>16</sup> <https://news.caloes.ca.gov/california-sets-framework-for-wildfire-home-hardening-program/>

<sup>17</sup> <https://www.woodsidetown.org/community/defensible-space-and-home-hardening-matching-fund-program>

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*However, for a variety of historical and cultural reasons that fail to value chaparral like a commodity, land managers have neither given adequate attention to chaparral as an important natural resource nor appreciated its ecological and ecosystem value.*

***As a result, chaparral has been treated more as a fuel problem than a native plant community worthy of preservation, and chaparral management plans have largely ignored sustainability and ecosystem services, and have centered instead on approaches to fuel reduction.***

*Today there is an increasing understanding at many government levels that **chaparral ecosystems provide critical ecosystem services, most directly through their role in erosion control, hydrology, biomass sequestration, and preservation of biodiversity. These functions will increase in significance in the future under conditions of reduced precipitation and warmer temperatures. The presence of chaparral communities at or near the expanding boundaries of suburban development leads to inevitable conflicts between the impacts of chaparral wildfire and the protection of human life and structures. Such conflicts will continue without informed regional and local policies for planning and land use development.***<sup>6</sup>

The current MND fails to consider modern science and data, relies on outdated information, fails to consider alternative actions that would mitigate public concerns and fails to consider that the proposed action may actually increase wildfire dangers to adjacent neighborhoods.

Response to Comment #41-4: This comment serves to express to commenters opinion that chaparral is ecologically important in California. CAL FIRE does not dispute that chaparral is an important part of California's ecology, and this project does not propose widespread treatments across large areas of chaparral in San Mateo county nor does it propose conversion of chaparral stands to grassland. First, the shrub communities proposed for prescribed burning are best described as coyote brush scrub, a subset of northern coastal scrub, and while similar to the chaparral discussed in the quotes above and in attached literature sources, is not analogous to those systems. This project selectively targets areas of coyote brush scrub which pose fire danger to adjacent communities, and proposes a prescribed burn program to reduce fuel loading without causing type conversion of existing scrub into open grassland. The project is also designed to prevent further encroachment of woody vegetation into currently existing native grasslands. Without a natural disturbance such as fire, these native grasslands will be lost and type converted into dense coyote brush scrub with a loss of native herbaceous species<sup>18</sup>.

Comment #41-5 (DB):**I. California Environmental Quality Act**

The purpose of California Environmental Quality Act (CEQA) is to prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring. The Department of Forestry is required to consider alternative actions that would minimize damage to the environment. The Department must take a hard look at the content, data and information submitted via public comments to determine whether alternative actions may be taken to achieve the claimed objectives of the proposed action.

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<sup>18</sup> Hopkinson, P., Hammond, M., Bartolome, J., Macaulay, L. (2020). Using consecutive prescribed fires to reduce shrub encroachment in grassland by increasing shrub mortality.

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The revised MND continues to fail to adequately consider or disclose endangered and threatened species in the project location, adequately provide microsite- and date-specific actions, adequately consider and evaluate potential environmental effects that could result from the proposed action and alternative actions that would work towards the cited goal(s).

Because the proposed action includes a precedent-setting action of burning watershed lands near to or adjacent to an urban neighborhood (Plots 4, 5 and 6), an EIR is needed to conduct in-depth studies of potential impacts, measures to reduce or avoid those impacts, and an analysis of alternatives to the project.

SFPUC has never conducted an environmental review or assessment of the targeted sites – specifically Plots 4 & 6, but other sites also. The MND makes no reference to such a document. CalFire is literally the first agency to do any assessment of the environmental conditions at the sites, therefore, the agency cannot rely upon the SFPUC's incomplete data. The MND states, "This search was limited to State or Federally listed or candidate species, and California Rare Plant Rank (CRPR) List 1 and 2 species. List 3 and 4 species are not considered significant as those species do not meet then definition of endangered or rare in State CEQA Guidelines Section 15380(b). Additionally, GIS data for all known occurrences of special status plant species on watershed land was provided by SFPUC and reviewed. Figure 7 shows the project area and CNNDDB occurrences of special status plant species within a 5-mile radius. This figure does not include confidential SFPUC data. Table 1 below includes all special status plant species which occur within the project vicinity (as defined above) as well as their potential to occur in the project area." This is clearly not adequate. The few hours of documentation/observation that the CalFire contractor (Dudex) executed is not sufficient.

Mission blue butterflies are regularly observed in the areas and protecting lupin is not sufficient given that these highly endangered butterflies are known to utilize and rely upon for their survival other plants in the scrub and chaparral plant communities.

If you have ever observed mission blue butterflies, you know that they rely on plant communities far outside of a 25-foot radius for survival. The proposal to rely upon a potentially larger buffer area if the "qualified biologist determines a larger buffer is needed to protect nectar plants near occupied larval host plants" fails to take adequate actions to protect the butterfly. It is not reasonable to only protect "larval host plants;" it is not reasonable to only protect host plants and "nectar plants near occupied larval host plants." Adult mission blues drink flower nectar from buckwheat and other plants. Caterpillars eat only lupine. In fact, the California buckwheat (aka chaparral buckwheat) has been observed to be a star attraction for mission blues in the area, along with a host of other plants from the chaparral plant community.<sup>7</sup>

<sup>6</sup> Rundel, Philip. (2018). California Chaparral and Its Global Significance. (2018) (Attachment 2)

<sup>7</sup>[https://www.fws.gov/sacramento/es\\_species/Accounts/Invertebrates/mission\\_blue\\_butterfly/](https://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/mission_blue_butterfly/)

Project impacts to CRPR CEQA Guidelines §15070 states a Negative Declaration or Mitigated Negative Declaration may be prepared when:

*The initial study shows that there is **no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment**, or The initial study identifies potentially significant effects, **but:**(1) **Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur,** and (2) **There***

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**is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.**

CEQA § 21080 states, “If there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment, an **environmental impact report shall be prepared.**” CEQA also states, “**substantial evidence includes fact**” or “**a reasonable assumption predicated upon fact.**”<sup>8</sup>

The inadequacies in the revised MND and comments herein outline that there remains a reasonable assumption predicated upon fact (or substantial evidence) that the project may have a significant effect on the environment and therefore an Environmental Impact Report must be prepared.

<sup>8</sup> For the purposes of this section and this division, **substantial evidence includes fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact.**

Response to Comment #41-5: This comment expresses the commenters opinion that an EIR is required for the proposed project. They state that SFPUC has never conducted an environmental assessment of the environmental conditions at the burn units. This MND serves as the environmental analysis of the environmental conditions present in the burn units. The lack of environmental assessments prior to the environmental assessment included in this MND does not indicate that an EIR is necessary.

The commenter further claims that CAL FIRE can not rely solely on SFPUC’s dataset for environmental data. This is why CAL FIRE, SFPUC, and our consultants performed surveys across the units to determine which special status species may be present based on site-specific environmental conditions, regardless of whether they had been known to occur within the project area previously. The commenter further discusses specifically that the known plant occurrences are not sufficient to determine definitive presence or absence – this is why Mitigation Measure #1 stipulates that complete floristic surveys will be completed at each unit prior to implementation, and significant impacts will be avoided as stipulated in Mitigation Measures #2 - #5.

The commenter next discusses potential impacts to Mission blue butterfly. Mitigation Measure #6 protects host plants and nectar plants when they nearby occupied host plants. The commenter does not acknowledge that this is not a permanent clearing project – nectar plants for mission blue butterfly will regrow following the prescribed burn, prior to next Mission blue butterfly flight season. This, in conjunction with retaining nectar plants nearby occupied hosts plants, will insure that impacts to Mission blue butterfly are avoided. The commenter also neglects to acknowledge that the U.S. Fish and Wildlife Service (USFWS) has stated that this species is under threat from shrub encroachment of native grasslands, which this project aims to ameliorate<sup>19</sup>. In fact, USFWS states in their latest recovery plan for the Mission blue butterfly “For mission blue butterflies, habitat degradation via encroachment of coastal chaparral, coastal scrub succession, and non-native grasses and associated thatch build-up is now considered *the most serious threat*” (emphasis added)<sup>20</sup>. The commenter has not provided evidence that the project will result in significant impacts to Mission blue butterfly.

Finally, the commenter claims that there is “substantial evidence... that the project will have significant environmental impacts... (and) an environmental impact report shall be prepared”. As discussed above, the commenters claims of potential environmental impacts have ignored the mitigations included in the MND,

<sup>19</sup> U.S. Fish and Wildlife Service. 2010. San Bruno Elfin Butterfly (*Callophrys mossii bayensis*) and Mission Blue Butterfly (*Icaricia icarioides missionensis*) 5-Year Review: Summary and Evaluation.

<sup>20</sup> U.S. Fish and Wildlife Service. 2019. Recovery Plan for San Bruno Elfin Butterfly (*Callophrys mossii bayensis*) and Mission Blue Butterfly (*Icaricia icarioides missionensis*). Page 5.

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ignored aspects of the preparation of the MND, or ignored aspects of project design. For the proposed project as mitigated, the commenter has provided no substantial evidence that potentially significant environmental impacts would occur.

Comment #41-6 (DB):**I. CalFire: “this project only intends to burn less than 5% of the watershed”**

CalFire’s assertion that the proposed action does not warrant and mitigating actions or an EIR fails to acknowledge the requirement to consider cumulative impacts. While the revised MND state, “this project only intends to burn less than 5% of the watershed” clearly 5% is a significant portion given the other actions and impacts on the watershed ranging from recreational usage, impacts from drought, EIR-reviewed projects, etc.

“Cumulative impact analysis gets at the overall intent of CEQA as a piece of conservation legislation. It looks at the big picture of “preventing environmental damage, while providing a decent home and satisfying living environment for every Californian” (Public Resources Code [PRC] Section 21002[g]). By looking outside of a particular project site or action, **a cumulative impact analysis allows decision makers to look at the impacts of a project within the greater context.**”<sup>9</sup> Cumulative impact assessment must encompass potential impacts to soil, vegetation, wildlife, endangered/threatened species, and consider cumulative impact resulting from repeated burns over years. The revised MND fails to even outline the extent to which the actions may or may not continue into the future. Does the proposed action only allow an area to only be burned one time? Or is there a possibility for repeated burns in the future? When does the MND expire?

<sup>9</sup> [https://ceqaportal.org/tp/AEP%20CEQA%20Portal\\_Cumulative%20Impacts.pdf](https://ceqaportal.org/tp/AEP%20CEQA%20Portal_Cumulative%20Impacts.pdf)

CalFire states, “CAL FIRE disagrees with the commenters opinion that the analysis is too vague and generalized to be considered applicable under CEQA. The MND adequately analyses the projects potential impacts and provides mitigations when necessary to reduce these impacts to a less than significant measure.” However, the MND fails to specify whether areas will be burned only one time, how many years the MND will remain in effect, what areas will be burned first, and other microsite-and date-specific information for proposed action. This lack of specificity makes it difficult to provide meaning public comments.

CalFire takes the position, as outlined in the revised MND, that the agency does not have to consider the harmful effects of the proposed action because there are no harmful effects – the agency claims no need to consider cumulative effects. This nullifies the objective of CEQA because the agency circumvents adequacy analysis by claiming there are no impacts; therefore, there are no mitigating actions needed, no real analysis needed ... it’s the “don’t look here nothing is happening” approach.

CalFire is also failing to consider the cumulative impacts to chaparral habitat given that the agency states it plans to burn up to 500,000 acres in 2021. What are the cumulative impacts to the mission blue butterfly given this massive destruction of the native chaparral plant communities the animal relies on to survive?

Given this is a precedent-setting action, CalFire must disclose and analyze cumulative impacts for the proposed action. Adhering to CEQA is necessary.

Response to Comment #41-6: Despite claims made by the commenter, restrictions related to prescribed burn frequency are clearly discussed in the project description. The MND will remain in effect as long as the

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environmental analysis is still relevant. The commenter also claims they need to know which units will see prescribed fire first to provide meaningful public comment. However, the order in which units will be treated has no bearing on the project's potential environmental impacts.

The commenter claims that the project has potentially significant cumulative impacts. CAL FIRE does not claim that the project will have no impacts whatsoever, but rather that impacts will be less than significant under CEQA. The project's impacts are very minor, in the context of other projects in the region such as development which completely converts wildland to urban usage. The proposed project will reintroduce a natural ecological process back to the landscape and will not result in lasting environmental impacts or conversion of wildland to urban uses. The commenter discusses the State and Federal governments' commitment to treat 500,000 acres annually by 2025. This is a statewide goal which will occur over California's 140.7 million acres and again, will not result in conversion or elimination of wildland which is the end result of most projects analyzed under CEQA. The commenter has provided no substantial evidence here that the project's impacts would be considered cumulatively significant under CEQA, given the relatively benign nature of the project and the minor impacts of related projects occurring statewide.

Comment #41-7 (DB):**I. Plots 3, 5 and 7 Should Be Eliminated from the Burn**

The primary objective outlined in the revised MND will not be met for Plots 3, 5 and 7 which are not near neighborhoods and therefore there is no justification for the proposed action as per the "primary objective" of the proposed action. The "auxiliary" objectives are supplemental and cannot be claimed to be the reason for the proposed action. CalFire has created a contradiction and untruth in the revised MND— it now claims the proposed action is primarily for the safety of the neighborhood(s). Yet, three plots are not adjacent neighborhoods. Homes on the west side of Hwy 35 are adjacent to wildlands which will not be burned so clearly the safety of those homes is not the objective of CalFire's proposed action.

In order to claim the primary objective is to reduce flora for the safety of a neighborhood, the MND must outline scenarios how wildfire might spread to each neighborhood – a necessary component to determine whether the proposed action (e.g., extreme and precedent-setting burn) is truly the most effective (and least environmentally harmful) action to achieve the stated primary objective. The MND must (and in its current form fails to) consider that if a wildfire were to occur in Plots 4 or 6 it would likely be caused by activities on Highway 280. Yet the MND fails to consider mowing a 100-foot firebreak along Highway 280 to prevent a wildfire from spreading to the neighborhood. Flying embers could also cause a wildfire to occur in the Watershed; however, similar flying embers could also ignite homes given that most homes in the neighborhood have not been hardened largely because the State is not focused on making *homes* safer, but rather focuses on eliminating native habitat.

The MND fails to outline any rationale or data that supports the selection of Plots 4 and 6 for the proposed action rather than other areas that are adjacent to urban neighborhoods. The lack of data indicates the selection to be arbitrary and this is insufficient to implement such a precedent-setting burn in the area. There is no historic practice of conducting a prescribed burn behind homes in this area and none has occurred on these plots. Due to the controversial nature of this burn and the precedent-setting nature of this proposed action, an EIR is needed to determine that this extreme action is necessary to achieve the stated objective(s). There are many SFPUC Watershed lands and other open spaces that are adjacent to urban neighborhoods throughout the Peninsula which are not targeted for prescribed burns. Indeed, it would be impossible to target to burn all open spaces adjacent to all neighborhoods in the Bay Area or the region.

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CalFire states, “CEQA does not require a formal project alternatives analysis to be included in a Mitigated Negative Declaration. CEQA only specifically require alternatives analysis for Environmental Impact Reports (CEQA Guidelines Section 15126.6).” This further supports the inadequacy of the MND because it fails to even consider alternative actions that would better achieve the claimed primary objective to increase neighborhood safety and reduce environment impacts including but not limited to the facts that the prescribed burn will destroy native chaparral and sage scrub plant communities, may likely kill native wildlife (including reptiles, rats, ground-dwelling animals), contribute to CO2 emissions and destroy the natural esthetic beauty of the Watershed’s native plant communities which I have come to love and cherish. I have lived in this area for most of the past 40 years, I will be harmed if this proposed action is implemented for the above-mentioned reasons.

If CalFire were doing this for the primary objective (“safety of the neighborhood”) as claimed, it is reasonable that the agency would consider alternative actions (whether required by law or not) in order to better achieve the claimed goal or consider an alternative action that could provide greater neighborhood safety. Instead, the agency refuses to consider alternatives because the auxiliary objectives (training CalFire crew and destroying the “encroachment” of chaparral, which is being referred to as “shrub encroachment”) would not be achieved with any alternative actions. This shows that the change of the three equally-weighted goals remain despite the window-dressing change to the primary and auxiliary objectives.

Response to Comment #41-7: The commenter claims that units 3, 5 and 7 are not adjacent to neighborhoods and thus do not meet the project objectives. The commenter does not acknowledge the fact that a unit does not need to be directly adjacent to a neighborhood to provide areas for firefighters to stop a wildfire before they reach neighborhoods. In the case of wildfires in the watershed, these areas will provide areas for firefighters to stop fire before it directly threatens neighborhoods which directly abut the watershed.

The commenter also states that CAL FIRE should consider alternatives. As CAL FIRE stated above, CEQA does not require a formal project alternatives analysis to be included in the environmental documentation for an MND. However, this does not mean that CAL FIRE did not consider alternatives when designing the project. CAL FIRE conducted a substantial number of site visits and meetings to determine the best course of action to provide cost efficient and ecologically sensitive fuel reduction and it was determined that the project as proposed was the best course of action.

Comment #41-8 (DB):

**I. Impacts to Wildlife**

“An increase in fire size or speed may make escape or recolonization impossible for large- or medium- sized animals. Possibly the most damaging, a change in fire season may affect vulnerable stages of nest building, offspring rearing, or juvenile survival for all three wildlife functional groups.... Depending on a species’ ability to utilize the fire-transformed landscape, recolonization back into the burned area will be rapid or slow as the vegetation follows its successional pathway (Figure 1). Early seral stage specialists and generalists will appear within a burn area immediately, while others may take years to recover. ...The larger or more mobile animals that flee a fire need to find adequate shelter outside the fire perimeter until conditions are suitable for recolonization. Thus, regional patterns of land use and extent of habitat fragmentation will be particularly important to these species. Recolonizing burned areas will depend on the distribution of metapopulations and patterns of suitable corridors.” van Mantgem, E.F., Keeley, J.E. & Witter, M. Faunal Responses to Fire in Chaparral and Sage Scrub in California, USA. *fire ecol* 11, 128– 148 (2015).

<https://doi.org/10.4996/fireecology.1103128> (Attachment 11) This paper provides careful consideration of the impacts to various species and I urge CalFire to read this paper to understand concerns of members of the public.



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“Fire affected animal species composition by shifting vegetation structure and composition.”<sup>10</sup> “Burns followed by substantial non-native plant invasion (i.e., “type conversion”) resulted in a simplified small mammal community.” Ibid. “In already-disturbed areas, managers should pay special attention to non- native herbaceous plants. Fire may foster their presence and alter the diversity of small mammal communities as well as other animals.” Ibid.

<sup>10</sup> When Chaparral and Coastal Sage Scrub Burn: Consequences for Mammals, Management, and More (Attachment12)

“We studied bird populations following two types of vegetation removal, prescribed fire and mastication (the mechanical crushing of vegetation), because both management methods have been used to try reduce wildfire risk in California chaparral,” said Erica Newman, lead author of the study and a scientist in the University of Arizona School of Natural Resources and the Environment. “We know from multiple studies that any management eventually increases fire risk as invasive grasses move in,” said Newman, PhD '16 Energy Resources Group. “But to add to this, we now know that mastication in particular is extremely harmful to bird populations.” UC Berkeley Rausser Natural Resources, “Study reveals that chaparral fire management can devastate California’s wild birds”<sup>11</sup> (Attachments 13a-b, 14)

<sup>11</sup> <https://nature.berkeley.edu/news/2018/02/study-reveals-chaparral-management-can-devastate-california-s-wild-bird> and <https://magazine.scienceconnected.org/2018/04/fire-management-california-chaparral-harms-birds/> and Newman, E.A., Potts, J.B., Tingley, M.W., Vaughn, C., Stephens, S.L. (2018). Chaparral bird community response to prescribed fire and shrub removal in three management seasons. J Appl Ecol, 00 : 1 – 11. (Attachments 13a-b and 14)

Response to Comment #41-8: This comment includes quotations from literature and article sources with minimal actual comment on the content of the MND. CAL FIRE does not dispute that there may be some transitory and less than significant impacts to common wildlife species during the course of the prescribed burn. It is important to note, as discussed previously, that these burns are relatively small and abundant habitat will remain intact for animals to disperse to following the prescribed burn. Additionally, the prescribed burn will be conducted using slow moving fire which allows animals time to escape the prescribed burn area. The articles quoted above mainly explore the effects of large, fast moving and intense wildfires on chaparral animal communities which are not analogous to the type of prescribed fire that this project proposes. In fact, the proposed project may prevent these large, fast moving and ecologically damaging fires from occurring within these areas, thereby helping to protect animal populations.

Comment #41-9 (DB):

**I. Revised MND Continues to Promote Intent to Convert Chaparral and Sage Scrub Communities to Grasslands**

The MND repeats claims of “encroachment” by “shrub” or chaparral or “woody shrub” or “coastal scrub.” Encroachment by definition means “intrusion” or “spread” or “loss of habitat.”

The MND has outlined the Department’s intention to kill and convert chaparral and sage shrubs to grasslands: “pretreatment involves **killing some or all shrub species** in a unit” and “**crushing stands of shrubs** by driving a bulldozer with its blade lifted through stands” and “limited amounts of **brush may be pretreated by herbicide application and/or by cutting with chainsaws**” and “**Hand crews utilizing chainsaws will cut and remove woody material** (both living and dead).”



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CalFire states, “The commenter is of the opinion that areas of grassland where (*sic*) created through anthropogenic activities and did not naturally occur without human influence. There is dispute among experts with regards to the role ranching and other anthropogenic activities played in maintaining areas of open grassland in San Mateo county versus the natural fire regime.” CalFire site no source or data to support this claim that “there is dispute among experts.” It’s easy to make assertions without citing a source. Governmental agencies should be held to a higher standard. Even the response is written with bias as it suggests the anthropogenic activities played a role in “maintaining” grasslands when it hasn’t even been established that grasslands were the original habitat.

“California grasslands were once vegetated by native perennial grasses. **But during the last 200 years, exotic annual grasses from Europe started taking over and now only 2 percent of the state’s grasslands are vegetated by native perennial grasses. There are about 300 species of native grasses, which began to get displaced when Spaniards settled in California in the 1700s, bringing livestock and new land practices. Annual grasses took over in the 1800s, possibly because of overgrazing.**” The California Naturalist Handbook, Greg de Nevers, Deborah Stanger Edelman, Adina Merenlender, University of California Press, Feb 15, 2013.

Because, the revised MND states an “auxiliary” goal of “maintaining existing **native** grasslands by slowing shrub encroachment,” the scientific accuracy of the statement holds importance. While CalFire states, “The analysis of potential environmental impacts is not predicated on the historical composition of the vegetation communities in the project area.” But if an auxiliary objective to “**potentially restore[e] some areas of shrub encroachment to open native grassland**” then whether or not those “grasslands” are native is important. While CalFire calls this “restoring” shrubs to grasslands it is really the conversion of native shrubs to primarily non-native grasslands which were likely created by the livestock industry. (Attachment 19)

If CalFire takes seriously its stated auxiliary objective – (1) it cannot “restore” what was not there given the native plant communities are chaparral and not “grasses” and (2) it cannot restore “native” grasslands if the agency proceeds to destroy native plant communities only to allow the non-native grasses which taken over the areas to continue to spread.

There is ample scientific evidence that outlines the destruction of chaparral opens the door to spreading non-native grasses which are much more flammable than chaparral.

The agency has now revised its primary objective and created two auxiliary objectives and must be sincere in its objectives. If the objectives are not based on science and facts the agency cannot merely speculate that there is hearsay that there is “dispute among experts.” The agency must as per CEQA consider facts and data.

Specifically, it is imperative to address whether or not the assertion that existing grasslands are in fact “native.” For if these “grasslands” are highly invasive (and by definition highly flammable) grasslands and not native – the shrubs, scrubs, woody shrubs could not be considered to be “encroaching.” Then CalFire would need to look to science to determine whether removing native plant communities (e.g. chaparral and coastal scrub) would decrease or increase wildfire risk, what plants would likely replace the burned native plants and then determine whether or not the proposed action would actually achieve the stated primary objective.

Based on the MND’s failure, and the agency’s refusal, to consider alternatives, CalFire makes clear its intention remains to what it originally claimed, to “**restor[e] some areas of shrub encroachment to open native grassland.**” Because CPR 4483 prohibits this conversion the agency has merely changed the word and (which is wrongfully being referred to as “restoration,” the revised MND eliminates the blatant language but does not modify in any way the proposed actions to achieve those same objectives which are now called by a different

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name.

The MND refers to chaparral and sage scrub plant communities as “shrub” and “woody material.” Coyote brush is a predominate plant in most chaparral communities. Plots 4 and 6 are thriving chaparral plant communities – with a variety of associated plants scattered throughout -- including lupin, manzanitas, sage and others. As discussed previously, these plant communities greatly contribute to biodiversity (Attachment 2) and are key species for not only the mission blue butterfly (which I have observed in the area) but other native species,

including the Kangaroo rat<sup>12</sup>, and threatened and endangered species. Coyote brush and Lupin are common chaparral plants – living on ridges, slopes, canyons, coastal scrub. These are symbiotic native plant communities that support a host of native species; yet the MND refers to them as “woody materials” and as something to be eradicated. All targeted Plots (with the exception of the Skyline plot) have native chaparral and sage scrub plant communities.

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<sup>12</sup> (Attachment 15)

The revised MND continues to include the reference to Schirokauer et al (2003) who could not map **native** grasslands and instead mapped ‘grasslands’ on the Peninsula Watershed and labeled them as “California Annual Grasslands.” The continued usage of the designation of invasive, non-native grasses as “California Annual Grasslands” is misleading at best. CalFire relies heavily upon one SFPUC contracted firm known as Eckbo, Dean, Austin and Williams or EDAW which apparently published in 2002 claims that, “It has since [2003] been determined that many of these areas have a component of, or are dominated by, native bunchgrass vegetation and would be considered native grassland based on currently accepted definitions (>10% cover native grass species).” CalFire has not claimed to conduct the necessary research to confirm that bonafide native grasses comprise at least 10% of the grasses; from anecdotal observations that appears unlikely.

The low 10% standard of native grasses used to qualify “native grasslands” is a decades-old criteria created that appears to lack scientific foundation; therefore, it holds no value except to mislead the public into thinking that “native grasslands” are primarily comprised of native plants which is not the case – given up to 90% could be invasive, exotic flora. Such misleading terminology should not be used by government agencies to confuse and mislead the public.

The primary “grass” found in Plots 4 and 6 are non-native cheatgrasses – arguably of these non-native grasses exceed 90% of the grasses. Again, there are many sources that outline that cheatgrass and other nonnative grasses were introduced in the western United States in the 1800s due to the livestock grazing which largely destroyed ecological conditions and overgrazing hastened and accelerated the fast invasion of the non-native grass.<sup>13</sup>

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<sup>13</sup> [http://www.columbia.edu/itc/cerc/danoff-burg/invasion\\_bio/inv\\_spp\\_summ/Bromus\\_tectorum.html](http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/Bromus_tectorum.html)

The native habitat of each of the targeted Plots is important because the California Legislature has clearly stated in **CPR 4483**.

California Public Resources Code 4483 states:

*(b) (1) It is the intent of the Legislature that additional consideration be provided for chaparral and coastal sage scrub plant communities that are being increasingly threatened by fire frequency in excess of their natural fire return patterns due to climate change and human-caused fires.*

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***(2) Prescribed burning, mastication, herbicide application, mechanical thinning, or other vegetative treatments of chaparral or sage scrub shall occur only if the department finds that the activity will not cause “type conversion” away from the chaparral and coastal sagescrub currently on site.***

The “wood material” or “shrubs” or “brush” that is referred to throughout the MND is largely coyote brush which is a founding component of the chaparral community. Sage scrub plant communities are throughout Plots 4 and 6 and they are also to be protected from conversion to “grasslands.” The MND fails to consider CPR 4483 and fails to adhere to the CPR’s mandate that killing the “brush” will not convert the habitat away from the chaparral and coastal sage scrub currently on the site.

A thorough study outlines the threat of fire to the long-term health of chaparral lichen taxa:

*Methods: Using a chronosequence of wildfires in a Northern California chaparral shrubland, we compare lichen communities among sites that burned 3, 13, 22, 30 and 65 years previously, as well as old-growth chaparral sites without a recorded fire over the past century.*

*Results: We find that lichen richness increases consistently with time since fire but begins to level off 20–30 years following fire, roughly corresponding to the closure of the shrub canopy. Some taxa and guilds were found only in old-growth chaparral.*

*Conclusions: Our findings highlight that fire-intolerant organisms may be relatively slow to recolonize landscapes after high-severity fire and that the majority of chaparral lichen taxa may be lost where fire intervals shorten to <20 years, which has already occurred in some parts of California.*

*Source: Miller, J., Weill, A., “Epiphytic macrolichen communities take decades to recover after high-severity wildfire in chaparral shrublands,” Diversity and Distributions. 2021;00:1–9. (Attachment 16)*

Additionally, given there are riparian area(s) in specific Plot(s), it is clear adequate CEQA review has not been undertaken to protect these sensitive areas which are known habitats for highly endangered species known to be found in close proximity to the Plots (if not found in the Plots). The MND outlines the species (flora and fauna) within a five-mile radius of the Plots and we know from recent discoveries on the Peninsula that endangered species (including frogs, snakes, et al) have gone undocumented in other areas. The limited consideration CalFire has given these Plots is indicative of the insufficient consideration and oversight of the proposed management of such sensitive species in the targeted Plots.

Response to Comment #41-9: The commenter makes the claim that CAL FIRE is attempting type conversion prohibited by CPRC 4483. Type conversion is converting areas of chaparral or coastal sage scrub communities to open grassland. The proposed project does not intend to cause type conversion. As clearly stated the project attempts to reduce fuel loadings and reduce encroachment of woody species in currently existing native grassland. The project does not attempt to convert existing chaparral to open grassland. The project will help maintain the existing matrix of coyote brush and grassland. Coyote brush will resprout and new seeds will germinate. Despite claims made by the commenter, PRC 4483 does not prohibit fuel reduction activities in shrublands if the department (CAL FIRE) determines that the project will not cause type conversion. As stated previously, given the prevalence of resprouting in coyote brush and other scrub/chaparral species following fire, there is no evidence that type conversion to open grassland will occur. Wildfires in the region have not resulted in the type conversion of coyote brush scrub to open grassland.

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The commenter also misunderstands the definition of “native grasslands”. Native grasslands are defined by the composition of the grassland, not by what habitat type existed at some arbitrary time period in the past. The commenter completely ignores natural successional processes (which includes disturbance by fire) that vary the vegetation composition and habitat types over time, from open grasslands to shrubland to forests and is an accepted and important aspect of vegetation ecology<sup>21 22 23</sup>. Despite the fact that vegetation type varies temporally, the commenter arbitrarily chooses shrubland as the “natural” composition of the vegetation community present in the project area, when in fact these areas naturally varied through different habitat types based on natural disturbance which are now absent and which this project aims to restore.

The commenter further characterizes the habitat in units 4 and 6 as “thriving chaparral plant communities – with a variety of associated plants scattered throughout -- including lupin, manzanitas, sage and others”. This is exactly the type of habitat which CAL FIRE hopes to maintain through this project. The commenter does not mention that areas of significant coyote brush encroachment within these units are completely dominated by coyote brush, with no understory herb or forb component and therefore very low species diversity. Within these areas, other shrub species such as manzanita (*Arctostaphylos* sp.) and California sage (*Artemisia californica*) are unusual, if not entirely absent. Through this project, CAL FIRE hopes to maintain these open areas where other plant species can continue to thrive, particularly the prolific native bunchgrasses present (*Stipa* sp.). Without a disturbance such as fire to help reset the successional clock, these areas will continue to see coyote brush encroachment until the diverse native grassland communities are lost as they have been in other parts of the Peninsula Watershed and through the Bay Area more generally. Scientific research has shown that it is possible to utilize prescribed fire in similar ecological systems to reduce coyote brush encroachment while maintaining the native plant community and without encouraging invasive species<sup>24</sup>.

The commenter further claims that the 10% cover standard of native grasses used to quantify native grasslands is “decades-old criteria created that appears to lack scientific foundation”. This metric is widely accepted in the scientific and regulatory community, and the commenter does not provide an alternative metric or provide any evidence that the metric used in the MND is invalid. Due to the significant degradation of grasslands throughout California, grasslands with even a 10% native component are considered high quality as they are rare state-wide. The commenter further states that the primary grass present in units 4 and 6 is cheatgrass (*Bromus tectorum*). In reality, cheatgrass is not a common component of grasslands in the Bay Area and is much more prevalent in the Sierra Nevada and Great Basin region<sup>25</sup>. The grasslands in the project area do contain non-native annual grasses, including over types of brome and wild oats (*Avena* sp.). However, surveys conducted during preparation of the MND revealed many of these areas to have a native grass component which easily meets the commonly accepted 10% cover threshold.

The commenter further states that there are riparian areas in some of the units which CAL FIRE did not consider. However, the MND analysis impacts to riparian communities in the *Biological Resources* section and after

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<sup>21</sup> Gurevitch, J., Scheiner, S., Fox, G. (2020). The Ecology of Plants.

<sup>22</sup> Sugihara, N., Van Wagtendonk, J., Shaffer, K., Fites-Kaufman, J., Thode, A. (2018). Fire in California’s Ecosystems.

<sup>23</sup> Barbour, M., Keeler-Wolf, T. (2007). Terrestrial Vegetation of California.

<sup>24</sup> Hopkinson, P., Hammond, M., Bartolome, J., Macaulay, L. (2020). Using consecutive prescribed fires to reduce shrub encroachment in grassland by increasing shrub mortality.

<sup>25</sup> <https://www.calflora.org/app/taxon?crn=1218>

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mitigation, did not find impacts to be significant. Please see Response to Comment #24-13 regarding special-status plants and animals which the commenter claims have not been considered.

Comment #41-10 (DB):

**I. MND Continues Inaccurate Claim of “Historic” “Grassland” Which is Pertinent to CPR 4483**

The MND states:

*Historical analysis, including analysis of historical photos, indicates that many areas of the project east of the San Andreas fault were dominated by coastal prairie or oak savannah, with some areas eventually becoming shrub dominated due to the lack of disturbance such as fire.*

The revised MND eliminated the goal to “provide improved habitat for wildlife, as so much of the watershed has remained in a stagnant state. Disturbance in the landscape creates more grassland and higher light conditions, which are required by many animals and plants. Historic photos of San Mateo show an open coastal prairie, with few trees or brush.”

While the revised MND no longer aims to improve habitat for wildlife and eliminated some of these misleading claims, it fails to change any of the proposed actions to address these word changes. The MND continues to fail to consider the importance of the current chaparral and sage scrub communities; fails to consider the contribution these native plant communities make to biodiversity, reducing carbon (as chaparral and coastal scrub capture far more carbon than grasses) and fails to consider the negative impacts the destruction of these native plant communities will have on wildlife – from mission blue butterflies, to reptiles, birds, insects, rodents, raptors, etc. The notion that increasing grass areas benefits predators and other animals is a short-term perspective. The reduction of chaparral and scrub canopy reduces homes for many small critters which reduces those populations in the short- and long-term.

Additionally, the severe drought may continue for years – the length and severity of the drought cannot be predicted. There are predictions that we will experience more severe weather patterns which may jeopardize natural vegetative propagation which would have an impact on all wildlife.

While it is true, when small critters (mammals, reptiles, birds) lose their homes due to human actions (chain sawing, discing, fire, etc.) they are more vulnerable to predation. While that may temporarily boost predator success in catching prey, it may also severely impact the short- and long-term populations of small critters. Coyote brush, chaparral plant community and sage brush are desirable native habitat – instead the MND addresses these important native communities instead refer to them as “stagnant” and that “disturbance” – through burns, chain-sawing, herbicides and other mastication methodologies – will create “more grassland.” The MND fails to consider that destroying native plants to create (or convert it to) “grassland and higher light conditions” will accelerate the expansion of invasive non-native weeds including cheat grass which is more flammable than the current native plant communities as described in numerous scientific papers attached herein.

Response to Comment #41-10: This comment once again expresses the opinion that chaparral ecosystems are important ecologically. As discussed extensively above, CAL FIRE agrees shrublands are important contributors to California’s ecology however this project only includes a small percentage of shrublands in the peninsula water and a miniscule proportion within the region more generally. Even within the project site, the project will not convert areas of shrubland to open grassland. Shrub component may be reduced, but it will remain and support animal species which rely on it. The commenter again claims that the prescribed fire will facilitate

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invasion by non-native species despite the best available science for the coyote brush shrubland systems present on the site showing otherwise<sup>26</sup>. The commenter continues to mischaracterize the project as intending to reduce the probability of *ignition*, when instead the project intends to reduce *fire intensity* and improve the ability for firefighters to control a wildfire.

Comment #41-11 (DB):**I. Revised MND State “Auxiliary” Objective: Train Cal Fire Personnel**

The revised MND fails to provide sufficient information or rationale to support this as an auxiliary goal. Given this is no longer a primary objective, it should be given little to no weight. Clearly, CalFire could consider alternative burning activities to train personnel such: (a) as cutting down non-native invasive trees (pines or eucalyptus) and practice burning such tree piles; or (b) conducting small grass burns on invasive non-native weeds on small one-acre parcels.

Response to Comment #41-11: As stated in the MND, training personnel is an auxiliary benefit of the project and not its main objective. The activities the commenter recommends, including small pile burns of non-native trees and small 1-acre grass burns would not achieve the project's primary objective of reducing fuel loading in the peninsula watershed in any substantial or effective way.

Comment #41-12 (DB):**I. Controlled or Prescribed Burns Are Not Effective in Chaparral Plant Communities**

*Chaparral, among the most stable and resilient vegetation types in California, has shown signs of degradation by altered frequency, drought, non-native species, recreation, urban development, and possibly anthropogenic nitrogen deposition in southern California.*

*Despite its reputation for resilience, chaparral is subject to a range of anthropogenic disturbances that degrade or eliminate it, including purposeful vegetation type- conversion, short-return intervals, suppression, invasion by non-native species, drought, and fragmentation by urban development, roads, corridors and fuel breaks. **Deliberate type-conversion to grass dominated vegetation has been done to increase forage for livestock (Biswell 1954), enhance water yield (Corbett and Rice 1966 ... extreme efforts needed to suppress shrub regeneration, which includes combinations of burning, herbicide, and seeding with grasses ... Severely disturbed chaparral, whether by frequent fire or mechanical disturbance, is usually slow, or unable, to recover naturally. Some highly disturbed stands have persisted for decades as non-native forbs and grasses, sometimes with scattered deciduous shrubs that were not constituents of the original chaparral vegetation (Stylinski and Allen 1999). ... To date, there has not been a landscape-scale assessment of the extent of chaparral type-conversion to challenge this perception (but see Chap. 12). Because we know that chaparral degradation is occurring and is likely to accelerate, it is important to develop successful techniques for restoration of chaparral structure and function. ... Some chaparral functions may be deemed more critical than others on specific sites and such valuation may influence priorities for reestablishing different types of species. For example, **slope stabilization above vulnerable habitats and protection of downslope communities** could be enhanced through the establishment of deep-rooted shrubs **Slope stabilization, water infiltration, and carbon sequestration are typical ecosystem function goals relevant to degraded chaparral...** For the purposes of enhancing animal diversity, vegetation structure and plant species composition are important. Interactions between animal diversity and***

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<sup>26</sup> Hopkinson, P., Hammond, M., Bartolome, J., Macaulay, L. (2020). Using consecutive prescribed fires to reduce shrub encroachment in grassland by increasing shrub mortality.

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vegetation structure and composition have been extensively reviewed (Keeley and Swift 1995). Shrub cover attracts small mammals, habitat edges between shrub cover and more open vegetation attract a variety of mammals, and insect pollinators, especially bee species, are abundant in chaparral (Moldenke 1976; Keeley and Swift 1995). The abundance of pollinators can be influenced by plant species diversity and this is particularly important in chaparral because of the large number of specialist pollinator/shrub relationships. Pollinator abundance has also been attributed to vegetation structure and the sheltering effect of the chaparral canopy on ground-nesting bees (Moldenke 1976; Force 1990; Keeley and Swift 1995).

Allen, E., Williams, K. et al, "Chapter 13, Chaparral Restoration," Underwood, E.C. et al. (eds.), *Valuing Chaparral*, E.C. Underwood, Springer Nature Series on Environmental Management, (2018)  
[https://doi.org/10.1007/978-3-319-68303-4\\_13](https://doi.org/10.1007/978-3-319-68303-4_13) (Attachment 17)

Response to Comment #41-12: Based on its title, this comment tries to claim that "Controlled or Prescribed Burns Are Not Effective in Chaparral Plant Communities". However, the quoted text does not support this claim, and makes no reference to the effectiveness of prescribed fire in chaparral communities. This comment does not address the potential environmental impacts of the proposed project and is merely quotes from literature with no specific comment on the MND. No further response is required.

Comment #41-13:

## **II. MND Fails to Consider Science and Instead Relies on Decades-Old Assumptions**

### **A. Fires: High Fuel loads v Extreme Wind Events**

"Although there are always multiple factors driving wildfire behavior, we believe a helpful model for understanding fires in the state is to frame the discussion in terms of bottom-up vs. top-down controls on fire behavior; that is, fires that are clearly dominated by anomalously high fuel loads from those dominated by extreme wind events. Of course, this distinction is somewhat artificial in that all fires are controlled by multiple factors involving fuels, winds, and topography. However, we believe that fires clearly recognizable as fuel-dominated vs. wind-dominated provide interesting case studies of factors behind these two extremes. These two types of fires differ greatly in their (1) geographical distribution in the state, (2) past fire history, (3) prominent sources of ignition, (4) seasonal timing, (5) resources most at risk, and (6) requirement for different management responses... on lower elevation landscapes subjected to extreme wind events, fire suppression has never come close to excluding fires, and thus fuel accumulation is not the causal factor in these fires. Wind-driven fires are the result of annual foehn wind events coupled with occasional human ignitions, either directly or through infrastructure failures. The primary means of reducing impacts of these fires is through better fire prevention, improved land planning that puts fewer people at risk, enhanced homeowner protection..." Keeley and Syphard Fire Ecology (2019) 15:24 (Attachment 8)

Response to Comment #41-13: This comment does not address the potential environmental impacts of the proposed project and merely quotes from literature with no specific comment on the environmental analysis presented in the MND. No further response is required.

Comment #41-14 (DB):

### **A. Controlled Burns: Time of Year**

"For example, reduced native recovery has been reported for out-of-season prescribed burns (Keeley 2006b) and this vacuum is always filled with alien species. The mechanism by which out-of-season burning decreases native plant recovery is unknown, but it is commonly attributed to prescribed burns during winter or spring that



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cause heating of seed banks with moist heat, which is often lethal (Parker 1987). Perhaps more important though is that winter burning greatly decreases the length of the first growing season. For most seedlings having the growing season reduced from a typical 6 months (following summer or fall burns) to perhaps as little as 1 month (following a winter burn) could limit survival during the ensuing dry summer.... During the last 100 years, fire was apparently used to convert shrublands to annual grasslands as the expansion of agriculture in the late 1800s reduced available open lands for grazing (Tyler et al. 2007). As these newly formed and existing grasslands were utilized for livestock and crop production... **Fuel treatment of chaparral through crushing. Such sites will invariably become dominated by alien species and native communities are not likely to regain this site for an extremely long time. These treatments are designed solely for fire hazard reduction and can be viewed as sacrificing natural resources...**The greatest future threat to this [chaparral] ecosystem again lies in the combined impacts of increased fire frequency due to human population pressure and climate change, and the subsequent spread of invasive plant species.” Keeley, Jon & Franklin, Janet & D’Antonio, Carla. (2011). Fire and Invasive Plants on California Landscapes. 10.1007/978-94-007-0301-8\_8. (Attachment 19)

Response to Comment #41-14:

This comment does not address the potential environmental impacts of the proposed project and is merely quotes from literature with no specific comment on the MND. No further response is required.

Comment #41-15:**III. Conclusion**

Given that there has never been an environmental review of parcels CalFire is proposing a controversial and precedent-setting controlled burn, the agency must conduct an Environmental Impact Report in order to address the issues raised in this letter and issues raised by other members of the public. Given that CalFire is unwilling to modify the proposed action – to address wildlife and environmental issues of concern – and is unwilling to consider taking mitigating actions to address issues of concern, only an EIR which will require the agency to consider alternative action that would achieve the stated objective while mitigating the negative environmental impacts. The current MND has unsubstantiated claims, is vague and continues to have erroneous information about the recreational activities which occur on Plot 6. Current recreational activities are not limited to a “few events.” The recreational usage of the Plot 6 is far more expansive than described in the revised MND.

Response to Comment #41-15: Prior responses to this comment letter, both above for the revised MND and for the original MND, have discussed the request for an EIR in detail and why it is not warranted. The commenter has not provided substantial evidence that potentially significant environmental impacts will result from project implementation given features of project design and mitigations in the MND. Finally, the letter ends claiming that the recreation use of unit 6 is “large” without substantiating evidence, and furthermore continues to ignore that the project will not result in permanent cessation of recreation usage of unit 6 and will only result in temporary closures during project implementation.

Comment #41-16:**Addendum 1**

Chaparral is not one plant but rather a diverse community of plants that are unique to California’s Mediterranean climate and is the most widespread natural vegetation from the coast to the mountains. Contrary to common misperceptions, the best available science shows that old-growth chaparral is an ecologically rich natural resource, that frequent fire is **not** necessary to maintain the health of chaparral, and that fire suppression has **not** produced an unnatural accumulation of chaparral fuel or caused the catastrophic wildfires in southern California.



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“It’s an all-too-common myth that past fire suppression has allowed uncontrolled plant growth and an increased risk of unnaturally severe fire,” said Dave Hogan with the Center of Biological Diversity.

“While this is true of some forests, California's chaparral is actually experiencing more fire than is natural owing to human ignitions. Chaparral has evolved with fire and is very resilient under the right conditions. But too much fire, including prescribed fire, destroys habitat and allows exotic grasses to replace natural vegetation.”

According to the best available science:

- **Prescribed fire and other fuel treatments in chaparral are not effective for fire safety**

Fires occurring under non-extreme weather conditions are fairly easily suppressed, so prescribed fire in chaparral is either likely to be unnecessary under non-extreme conditions, or ineffective under extreme conditions (Keeley *et al.* 2004)[1]. Prescribed fire is also risky because it can escape and become an even more hazardous wildfire (Keeley and Fotheringham 2003)[2].

According to Moritz *et al.* (2004)[3]: “Fire management policy based on eliminating older stands of shrubland vegetation through fuel treatments [e.g. prescribed fire] will not diminish the size of wildfires ignited under extreme weather.” According to Keeley *et al.* (2004): “Under extreme weather conditions, there is overwhelming evidence that young fuels, or even fuel breaks...will not act as a barrier to fire spread. This is quite evident for the recent [2003] fires. Crossing nearly the entire width from north to south of the east-west burning Cedar Fire were substantial swaths of vegetation that were less than 10 years of age, not just in one but two parts of that fire... The Otay Fire exhibited the same phenomenon...; the fire burned through thousands of acres that were only 7 years of age.”

Cohen and Saveland (1997)[4] reached a related important conclusion when they found that “Vegetation management beyond the immediate vicinity of a building has little effect on structure ignitions.”

- **Fire suppression has not resulted in an unnatural accumulation of chaparral fuel and catastrophic fire**

According to Moritz *et al.* (2004): “Fire suppression is not an underlying cause of catastrophic wildfires in southern California.” Southern California chaparral is burning more frequently than a century ago, with a higher number of ignitions and a shorter fire return interval than occurred prior to organized fire suppression activities (Keeley *et al.* 2004; Keeley and Fotheringham 2003). Fire suppression has not effectively excluded fire in southern California chaparral (Keeley and Fotheringham 2003; Keeley and Fotheringham 2001;[5] Mensing *et al.* 1999[6]).

- **Overly frequent fire actually increases the risk of wildfire and is harmful to chaparral**

Overly frequent fire, including prescribed fire, produces a negative cycle of invasion by highly flammable exotic grasses, which in turn results in an increased fire frequency and the related significant threat to public safety, firefighters, property, natural resources, and economic values like water storage and quality.

Chaparral will convert to highly flammable exotic grasslands if burnt too frequently. According to Keeley (2006)[7]: “In recent years ineffective fire prevention has allowed an unnaturally high number of wildfires on chaparral landscapes, which has resulted in conversion to alien dominated grasslands...”; A repeat fire within a decade is typically sufficient to provide an initial foothold for exotic grasses; “...[A]lien grasses increase the

*Response to Comment – SFPUC Prescribed Burn Project – SCH #2021020321 – October 13, 2021*

***probability of burning...***, and; “As fire frequency increases there is a threshold beyond which [chaparral] cannot recover.” The conversion of native chaparral to exotic grasslands harms biodiversity and increases erosion, landslides, and other harmful landform changes (Keeley 2006, emphasis added).

Prescribed fire does not benefit chaparral and in fact can be very harmful when prescribed fire becomes apart of an overly frequent cycle of fire (Keeley and Fotheringham 2003) that causes conversion of chaparral to more flammable and less ecologically and economically valuable exotic invasive grasslands (Keeley 2006). Prescribed fire is regularly applied outside the normal fire season and this can produce extreme resource damage (Keeley 2006).

- **Old-growth chaparral is not unhealthy and doesn’t need to burn**

Chaparral is not threatened by a lack of fire (Keeley and Fotheringham 2003). According to Keeley *et al.* (2005)[8]: Chaparral more than a century old is just as resilient to fire as younger chaparral; A long fire- free period “...had little impact on the ability of these shrublands to recover following fire...” and; A fire-free period of even as much as 150 years may not be outside the norm.

- **Southern California wildfires have not become not unnaturally large or intense**

According to Keeley and Fotheringham (2003), “Historically fire intensity was variable, and there is no credible evidence that it has increased during the era of fire suppression...” “ The firestorm during the last week of Oct. 2003 was a natural event that has been repeated on these landscapes for eons... While the recent 273,230 [acre] Cedar Fire ... was the largest in California since official fire records have been kept, there are historical accounts of even larger fire events. For example, during the last week of Sept. 1889, a Santa Ana wind-driven fire east of Santa Ana in Orange County, California reportedly burned 100 miles north and south and 10-18 miles in width ... This event would have been three times larger than the recent Cedar Fire. Collectively, Sept. 1889 would have exceeded all of the Oct. 2003 burning because there was another fire that ignited that week near Escondido in San Diego County and in 2 days the same Santa Ana winds blew it all the way to downtown San Diego...” (Keeley *et al.* 2004).

Cited information is available upon request.

[1] Keeley, J.E., C.J. Fotheringham, and M.A. Moritz. 2004. Lessons from the 2003 wildfires in southern California. *Journal of Forestry* 102(7):26-31.

[2] Keeley, J.E. and C.J. Fotheringham. 2003. Impact of past, present, and future fire regimes on North American Mediterranean shrublands, pp. 218-262. In T.T. Veblen, W.L. Baker, G. Montenegro, and T.W. Swetnam (eds), *Fire and Climatic Change in Temperate Ecosystems of the Western Americas*. Springer, New York.

[3] Moritz, M.A., J.E. Keeley, E.A. Johnson, and A.A. Schaffner. 2004. Testing a basic assumption of shrubland fire management: How important is fuel age? *Frontiers in Ecology and the Environment* 2:67-72.

[4] Cohen, J. D, and J. Saveland. 1997. Structure ignition assessment can help reduce fire damages in the W-Ul. *Fire Management Notes* 57(4): 19-23.

[5] Keeley, J.E. and C.J. Fotheringham. 2001. The historical role of fire in California shrublands. *Conservation Biology* 15: 1536-1548.

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[6] Mensing, S.A., J. Michaelsen, and R. Byrne. 1999. A 560-year record of Santa Ana fires reconstructed from charcoal deposited in the Santa Barbara Basin, California. *Quaternary Research* 51:295–305.

[7] Keeley, J.E. 2006. Fire management impacts on invasive plant species in the western United States. *Conservation Biology* 20:375-384.

[8] Keeley, J.E., A.H. Pfaff, and H.D. Safford. 2005. Fire suppression impacts on postfire recovery of Sierra Nevada chaparral shrublands. *International Journal of Wildland Fire* 14: 255-265.  
Addendum 2.

## Prescribed Fire

The Los Padres National Forest and the surrounding region is predominantly covered with chaparral. To understand why prescribed fire is ineffective and can actually be harmful to native chaparral ecosystems, it is important to first understand the issue of type conversion. Simply put, type conversion is the replacement of native chaparral with nonnative grasses and weeds. A major cause of type conversion in our region is overly-frequent fire.

## Chaparral Loss to Frequent Fire

Before humans settled along the central and south coasts of California, chaparral had evolved adaptations to a specific fire regime. Areas would burn every 30 – 150 years depending on the frequency of lightning — the only natural source of wildfire ignition. Wildfires here are [naturally intense crown fires](#), meaning they burn all above-ground vegetation. Between fires, chaparral species had ample time to grow to maturity and produce enough seed to recolonize an area after the next fire. As humans settled these areas, they began setting fires intentionally and unintentionally, and at a greater frequency than species were adapted. This has resulted in less time between fires for plants to grow to maturity and produce seed. As fires burn the same area more frequently than every 30 years or more, that area becomes more susceptible to nonnative species dominating since the native chaparral seedbank is depleted.

## The Ineffectiveness of Prescribed Fire



Type-converted fuelbreak in the Santa Ynez Mountains. This area has had prescribed burns and repeated bulldozing over the years. The chaparral has been replaced with black mustard and nonnative grasses. Note the encroachment of the type conversion into the chaparral in the background.

Prescribed fire only [exacerbates](#) the type conversion process and doesn't necessarily reduce an area's risk of burning later, with studies concluding that it is [not a cost-effective method](#) in chaparral. This can be easily seen by overlapping wildfire burn areas in and around the Los Padres National Forest. For example, the 2017 Thomas Fire burned most of the areas [burned by 1985's Wheeler and Ferndale Fires](#), areas burned by the 2003 Piru Fire and 2006 Day Fire, and canyons that burned in the 2008 Tea Fire and 2009 Jesusita Fire. The 2016 Soberanes Fire burned over half of the area burned by the 2008 Basin Complex Fire in the Monterey Ranger District. The recent Thomas Fire also burned through several prescribed burns that had been conducted near Ventura. Prescribed burns in chaparral would probably have to be conducted very frequently (every five years or less) in order to be effective, and as described above, overly-frequent fire in chaparral can have serious environmental consequences.

The timing of prescribed burns is also of concern to fire scientists. Prescribed burns must be conducted during a narrow window in order to be successful due to vegetation moisture levels and weather conditions, meaning they are often done in winter or spring when many wildlife species are breeding and birds are nesting in the area. Prescribed burns during this time may heat up the moist soil to the point that [seeds are damaged](#) by the resulting steam. Conversely, these fires may not burn hot enough to stimulate native seed germination. For example, many native ceanothus species require high heat to crack their seed coat and allow germination. Lower temperature fires—which may intuitively seem like a good thing—have actually been shown to reduce ceanothus and other similar seed germination. And there is always the risk of [prescribed burns escaping](#) and becoming full-fledged wildfires.

*Response to Comment – SFPUC Prescribed Burn Project – SCH #2021020321 – October 13, 2021***Indigenous Use of Prescribed Fire**

There is evidence that Native Americans used prescribed fire along the central coast before Europeans settled in our region. However, researchers have [determined](#) prescribed fire was being used to purposefully convert chaparral to grasslands —primarily along coastal plains and inland valleys—to allow for movement across the landscape, the creation of open hunting areas, the selection of edible herbaceous plants, and the reduction of habitat for potentially dangerous predators such as grizzlies — notto reduce the incidence of large wildfires. In fact, large landscape-scale fires [still occurred](#) prior to the European invasion. These areas tended to be highly localized, indicating that indigenous peoples in the region used fire very thoughtfully rather than burning the landscape indiscriminately. Many of the areas that were converted from chaparral to native grassland were then claimed by European colonizers to be used for non-native cattle grazing. American ranchers later expanded these areas through indiscriminate use of frequent fire, which likely led to large losses of chaparral in the 19th and early 20th centuries.

Unlike the native grasses and herbs that grew in the chaparral's place when Native Americans type converted areas, today type conversion results in the spread of non-native species such as black mustard and highly flammable cheatgrass. These species actually pose a [greater wildfire risk](#) as they dry out earlier in the year, ignite more easily, and [spread wildfire more quickly](#) than chaparral.

**Approaches That Work**

So, with the concerns and challenges surrounding prescribed burning, is there a more effective way to protect our communities from wildfire? Scientists and fire ecologists agree that the most effective ways to protect communities involve fire-proofing structures, creating smart defensible space around homes, and rethinking where and how we build in fire-prone areas. For more, check out our [fire page](#).

<https://lpfw.org/fire/prescribed-fire/>

Response to Comment #41-16:

This comment contains quotes from various article and literature sources and does not specifically comment on the analysis of the environmental impact on the proposed project. No further response is required.

Comment #42:

I'm completely unclear on your motivations re: the "controlled" burn off of the land surrounding the Crystal Springs Reservoir. I live across the street from this area, it's my front yard. It makes no sense that you believe this is a solution to lowering the fire danger of this district. It consists of low, dry grassland with a few clumps of bushes here & there. Nothing that would warn of a massive fire that could threaten our housing development. There are ample roads for fire trucks to enter the said area from a number of directions & douse a fire. Beside that, the whole place is surrounded by a flimsy, wire fence that my car could drive through, let alone a fire truck or any vehicle more forceful, if that were necessary.

Please stop trying to justify that this burn off is necessary. IT IS NOT.

You will be threatening existing wildlife and native ground cover, that will be replaced by taller invasive species, let alone all the existing structures, including an elementary school and MY HOUSE.

My final point is how badly this will impact the air quality of this area.

It's beyond my comprehension that you can qualify burning up a grassland and calling it anything near to fire abatement.

I PROTEST THIS ACTION.

*Response to Comment – SFPUC Prescribed Burn Project – SCH #2021020321 – October 13, 2021*

Response to Comment #42: Many areas in the burn units consist of dense, tall shrublands with little to no open grassy areas. Some areas, particularly near the residences in Units 4, 5, and 6, are composed of grassy areas with scattered shrub cover. This scattered shrub cover is exactly what CAL FIRE hopes to maintain through this project. Without disturbance, these open grassy areas will continue to be encroached by coyote brush and other shrub species under the grassland is eliminated and replaced with extensive, dense shrubland with high levels of fuel loading. Please see the *Biological Resources* and *Air Quality* sections of the MND for relevant analysis of those potential impacts.

Comment #43:

Thank for having re-issued the document "SFPUC Prescribed Burn Project - SCH Number 2021020321" and for having taken the public's comments into consideration.

The remaining areas of concern I have concerns about are:

- Notification of the neighborhood prior to burn activities including prep work
- The burns don't address favoring native plants vs. invasive species. I hope care is given to take care to selectively burn invasive species and not harm native species to the extent possible. Our Fire Marshal reminds us often of the need to eliminate French, Scottish and other Brooms and replace them with fire-tolerant and drought-tolerant native plants.

Response to Comment #43: The public will be informed of prescribed burn days through a combination of press releases, social media, and notifications posted at the project site. These notifications will be made as early as possible and will occur at least three days in advance of the proposed burn. SFPUC is also committed to assisting CAL FIRE with project notifications (see Comment #33). Notifications will not necessarily be made prior to prep work unless it will result in temporary closures of publicly accessible areas. Please see Response to Comment #27-2 regarding the proposed projects impacts on invasive species.





# San Francisco Water Power Sewer

Operator of the Hetch Hetchy Regional Water System

525 Golden Gate Avenue, 10th Floor  
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Natural Resources and Lands Management Division

July 30, 2021

Sarah Collamer  
Vegetation Management Plan Coordinator, Forester I  
California Department of Forestry and Fire Protection  
CZU Resource Management  
6059 Highway 9  
Felton, CA 95018  
Phone (831) 335-6792

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Via Email to: [sacramentopubliccomment@fire.ca.gov](mailto:sacramentopubliccomment@fire.ca.gov)

**Re: Proposed SFPUC Prescribed Burn Project Initial Study-Mitigated  
Negative Declaration**

Dear Sarah,

We are writing to extend our support and thank CALFIRE for its efforts related to the Prescribed Burn Project on the San Francisco Public Utilities Commission's (SFPUC) Peninsula Watershed. The Peninsula Watershed is part of our Hetch Hetchy Regional Water System and collects and stores high quality drinking water for our 2.7 million customers. We are committed to and invest in the protection of surrounding communities and watershed resources from wildfires.

The Peninsula Watershed is a Hazardous Fire Area and State Responsibility Area (SRA) with CALFIRE as the legally responsible agency for providing fire protection. The SFPUC supports vegetation management efforts by CALFIRE to protect resources, enhance areas for fire suppression, and improve evacuation routes for the Peninsula Watershed's wildland urban interfaces.

We appreciate the collaboration with CALFIRE as it prepared this Initial Study-Mitigated Negative Declaration, which was first made available for public comment on February 18, 2021. In response to the many comments received on this initial document, CALFIRE decided to incorporate responses into a second version and provide the public with a 30-day comment period, and we support this effort to clarify some of the specific project components. This updated document is the result of almost 20 years of work together with CALFIRE and will increase our collective ability to conduct fuel load reduction projects to minimize the risk of catastrophic wildfire and protect surrounding communities, critical infrastructure, and drinking water quality. We support the project objectives, and implementation will create another opportunity for SFPUC staff to train alongside CALFIRE, as we do now when conditions allow for prescribed burns on the San Andreas and Pilarcitos Dams.

**London N. Breed**  
Mayor

**Sophie Maxwell**  
President

**Anson Moran**  
Vice President

**Tim Paulson**  
Commissioner

**Ed Harrington**  
Commissioner

**Newsha Ajami**  
Commissioner

**Michael Corlin**  
Acting  
General Manager

Services of the San Francisco Public Utilities Commission

**OUR MISSION:** To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.





Given the proximity of the proposed prescribed burns to adjacent communities, we would like to work with CALFIRE on the notification process used in advance of the project being implemented. This effort would supplement the process we use now to notify SFPUC wholesale customers and local jurisdictions of the prescribed burns on San Andreas and Pilarcitos Dams. We believe this is another opportunity to build interest and awareness of management of the Peninsula Watershed and our partnership to minimize wildfire risk and protect water quality and ecological resources.

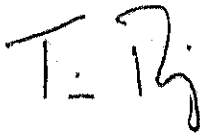
Given the public transportation corridors through the watershed, we anticipate that wildfires will continue to be unintentionally started in the watershed, and that this project and other vegetation management actions will reduce the risk of these small fires from becoming larger and catastrophic. This was our experience with the August 2020 lightning strikes on the Peninsula Watershed, and thanks to the quick support from CALFIRE and local fire departments responding these small fires were all quickly extinguished.

Prescribed fire is a vegetation management tool that requires a predefined set of conditions to achieve ideal fire behavior and meet the project objectives. We will work closely with CALFIRE to define the specific boundaries and project objectives for each burn unit. CALFIRE as the lead agency will write the prescription for each burn unit to meet the defined objectives and take responsibility to ensure that fuel moisture, ambient temperature, smoke dispersal, wind speed and direction, and relative humidity are all within the prescription written into the burn plan and that conditions are appropriate for each burn.

The Peninsula Watershed is an important ecological resource for the Bay Area, and we recognize the significance of our role as environmental stewards of its native plants and animals. The SFPUC will complete all pre-burn environmental surveys to ensure that ecological resources are protected and burn plans are adjusted accordingly, post burn vegetation monitoring, and ongoing non-native invasive plant management at project sites. The SFPUC will also provide staff, water support and equipment to assist the day of each burn.

We support CALFIRE continuing to use prescribed fire as a tool for vegetation management and fuel reduction to enhance wildfire response and provide safe evacuation routes on the Peninsula Watershed. The proposed SFPUC prescribed burn project has been thoroughly reviewed by SFPUC staff and we look forward to working with CALFIRE on its implementation.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Ramirez".

Tim Ramirez  
Division Manager

Cc: SFPUC Commissioners



State of California  
Department of Fish and Wildlife

## Memorandum

Date: July 30, 2021

To: Ms. Sarah Collamer  
VMP Coordinator, Forester I  
California Department of Forestry and Fire Protection  
CZU Resource Management  
6059 Highway 9  
Felton, CA 95018  
[Sarah.Collamer@fire.ca.gov](mailto:Sarah.Collamer@fire.ca.gov)  
[sacramentopubliccomment@fire.ca.gov](mailto:sacramentopubliccomment@fire.ca.gov)

DocuSigned by:

*Stacy Sherman*

From: Ms. Stacy Sherman, Acting Regional Manager  
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: SFPUC Prescribed Burn Project, Initial Study/Mitigated Negative Declaration,  
SCH No. 2021020321, San Mateo County

California Department of Fish and Wildlife (CDFW) personnel has reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) for the San Francisco Public Utilities Commission (SFPUC) Prescribed Burn Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

CDFW is submitting comments on the IS/MND to inform the California Department of Forestry and Fire Protection (CAL FIRE), as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the Project.

### CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA (Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines Section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA) or Native Plant Protection Act, the Lake and Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

### PROJECT DESCRIPTION SUMMARY

**Project Proponent:** California Department of Forestry and Fire Protection.

<sup>1</sup> CEQA is codified in the California Public Resources Code in Section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with Section 15000.

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California Department of Forestry and Fire Protection

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**Project Location:** The Project is located entirely on SFPUC property, in San Mateo County, California. The area is managed as watershed water storage and distribution to the City of San Francisco and other water agencies. The Project area consists of six burn units (Units 3 – 8) that cover 775 acres of the approximately 23,000-acre SFPUC property, near communities including Woodside, Emerald Hills, Devonshire, Highlands, San Mateo, San Bruno, Belmont, San Carlos, Hillsborough, and Redwood City.

**Project Description:** The primary goal of the Project is to create and maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity. By creating and maintaining areas of reduced vegetation, the Project intends to protect the SFPUC water supply by limiting the spread of wildfire. The Project would reduce the amount and continuity of woody vegetation within the six burn units (Units 3 – 8) through manual and mechanical site preparation and broadcast burning. Broadcast burning would occur on approximately 775 acres of grass, shrubs, and some tree understory. Burning would be limited to 200 acres per year, where burning in a single day would likely be no more than 40-50 acres. Burn units are located adjacent to roads, trails, and existing disk lines. Control lines would be established using wet lines, disk lines, mowing, hand crews and bulldozers.

**Timeframe:** The Project would begin during the fall of 2021 and would continue over subsequent years.

## ENVIRONMENTAL SETTING

The SFPUC Watershed property is approximately 23,000 acres of oak woodland, coniferous forest, grassland, chaparral, and coastal scrub. Most of the property is fenced and gated to protect the water supply. Recreational activities on the property include the Crystal Springs Regional Trail, the Crystal Springs Cross Country Course, and the Fifield-Cahill Ridge Trail. The property includes SFPUC-owned residences and buildings, water supply infrastructure, Pacific Gas and Electric Company (PG&E) gas and electric transmission lines, other water agencies' facilities, and various cell phone towers. Three large reservoirs and a lake exist within the SFPUC property, and several small intermittent and ephemeral drainages occur in the Project area.

Special-status species with the potential to occur in or near the Project area include, but are not limited to:

- California red-legged frog (*Rana draytonii*), federally threatened and California Species of Special Concern
- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), federally endangered, State endangered, California Fully Protected Species
- Mission blue butterfly (*Icaricia icarioides missionensis*), federally endangered
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), California Species of Special Concern

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- pallid bat (*Antrozous pallidus*), California Species of Special Concern
- white-tailed kite (*Elanus leucurus*), California Fully Protected Species
- olive-sided flycatcher (*Contopus cooperi*), California Species of Special Concern
- northern harrier (*Circus hudsonius*), California Species of Special Concern
- grasshopper sparrow (*Ammodramus savannarum*), California Species of Special Concern
- Marin western flax (*Hesperolinon congestum*), federally threatened, State threatened, California Rare Plant Rank 1B.1
- western leatherwood (*Dirca occidentalis*), California Rare Plant Rank 1B.2
- Crystal Springs lessingia (*Lessingia arachnoidea*), California Rare Plant Rank 1B.2
- bent-flowered fiddleneck (*Amsinckia lunaris*), California Rare Plant Rank 1B.2

## REGULATORY REQUIREMENTS

### California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of an ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting plan. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain an ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064, & 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with CESA.

### Lake and Streambed Alteration Agreement

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use of material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, washes, watercourses with subsurface flow, and floodplains are subject to notification requirements. In those cases, CDFW will consider the CEQA document for the project

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and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement until it has complied with CEQA as a Responsible Agency.

### Raptors and Other Nesting Birds

CDFW has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession or needless destruction of the nests or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

### Fully Protected Species

Fully Protected species, such as the San Francisco garter snake and white-tailed kite, may not be taken or possessed at any time (Fish and Game Code, §§ 3511, 4700, 5050, & 5515).

### COMMENTS AND RECOMMENDATIONS

CDFW provides the comments and recommendations below to assist CAL FIRE in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts to fish, wildlife, and other biological resources.

The IS/MND includes several avoidance and minimization measures for impacts to special-status plant and wildlife species that cannot be avoided (Mitigation Measures #1-12). CDFW has the following recommendations to include in the IS/MND:

### Special-Status Wildlife

The IS/MND states that ten special-status wildlife species have the potential to occur in the Project area, including the Mission blue butterfly (*Icaricia icarioides missionensis*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and the California red-legged frog (*Rana draytonii*).

**CDFW Comment #1:** Other than the three identified listed species shown above, the IS/MND does not disclose the remaining seven special-status wildlife species that may occur within the Project area. To evaluate and avoid potential impacts to special-status wildlife species, CDFW recommends the IS/MND include a table identifying all special-status wildlife with potential to occur in the Project area. The table should include the scientific name, common name, listing status, and identify the potential burn unit(s) that the special-status species may occur in.

**CDFW Comment #2:** Due to the abundance of biological diversity within the SFPUC property, the IS/MND Project has the potential to directly impact individual wildlife

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California Department of Forestry and Fire Protection

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species from broadcast burn activities. To further reduce impacts to wildlife to less-than-significant, CDFW recommends the following mitigation measure be incorporated into the IS/MND:

**Recommended Mitigation:** If Project employees, crew, or contractors, injure or kill a special-status species, or finds any such animal injured or dead, all activities in the work area shall immediately cease, and CDFW and the U.S. Fish and Wildlife Service (USFWS) should be notified at the time of discovery. A detail of the time, location, and general circumstances under which the dead or injured individual animal was found should be submitted to CDFW and USFWS no later than five (5) business days following the incident. Any injured special-status species should be immediately transported to an approved wildlife rehabilitation facility.

<https://wildlife.ca.gov/Conservation/Laboratories/Wildlife-Health/Rehab/Facilities>

### San Francisco Garter Snake

According to the IS/MND, burn units 3, 5, and 8 are connected to and within dispersal distance of occupied breeding habitat for the San Francisco garter snake. *Mitigation Measure #9: Pre-activity Surveys for San Francisco Garter Snake and California Red-legged frog* attempts to address potential impacts to this species as follows:

*"Any San Francisco garter snake or California red-legged frog found in a location where it may be at risk will be captured and released (if proper permits are obtained from USFWS and CDFW) in a safe area or allowed to leave the area on its own accord."*

*"Only biologists specifically approved by the USFWS and CDFW shall be allowed to capture, handle, and relocate species individuals. If necessary, during the burn, individual San Francisco garter snakes (but not red-legged frogs) may be held in captivity in a pillowcase for less than 24 hours and may later be released in a vegetated area near the point of capture after the burn has been completed."*

**CDFW Comment #3:** The San Francisco garter snake is fully protected under Fish and Game Code § 5050 and, as such, may not be taken or possessed at any time. Take<sup>2</sup> of the species cannot be authorized by CDFW except for necessary scientific research, including efforts to recover the species. The Project as proposed does not meet the requirements as stated in Fish and Game Code § 5050 (scientific research or recovery). While *Minimization Measure #9* included in the IS/MND would reduce the likelihood of "take", CDFW recommends that the measure be revised to completely avoid take of San Francisco garter snake during prescribed burn activities, including no handling or relocating of San Francisco garter snake. Any San Francisco garter snake encountered

<sup>2</sup> Take is defined in § 86 of the Fish and Game Code, as "to hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill."

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Ms. Sarah Collamer  
California Department of Forestry and Fire Protection

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July 30, 2021

in the Project area should not be handled and should be left alone and allowed to leave the area unharmed and on their own volition.

**CDFW Comment #4:** To further reduce impacts to San Francisco garter snake to less-than-significant, CDFW recommends the following mitigation measure be incorporated into the IS/MND:

***Recommended Mitigation:*** Any vehicle or heavy equipment parked on-site within burn units 3, 5, and 8 for more than 30 minutes will be inspected by the qualified biologist or biological monitor before it is moved to ensure that San Francisco garter snake have not moved under the vehicle. Prior to being used, access roads, parking and staging areas must be checked for San Francisco garter snake by the qualified biologist or biological monitor.

#### ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form, online field survey form, and contact information for CNDDDB staff can be found at the following link:  
<https://wildlife.ca.gov/data/CNDDDB/submitting-data>.

#### FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required for the underlying Project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

#### CONCLUSION

CDFW appreciates the opportunity to comment on the IS/MND to assist CAL FIRE in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Ms. Robynn Swan, Senior Environmental Scientist (Specialist), at [Robynn.Swan@wildlife.ca.gov](mailto:Robynn.Swan@wildlife.ca.gov); or Ms. Julie Coombes, Senior Environmental Scientist (Supervisory), at [Julie.Coombes@wildlife.ca.gov](mailto:Julie.Coombes@wildlife.ca.gov).

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2021020321)  
Will Kanz, CDFW Bay Delta Region – [Will.Kanz@wildlife.ca.gov](mailto:Will.Kanz@wildlife.ca.gov)

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# SIERRA CLUB

LOMA PRIETA CHAPTER

SAN MATEO, SANTA CLARA & SAN BENITO COUNTIES

July 30th, 2021

Via email to: [sacramentopubliccomment@fire.ca.gov](mailto:sacramentopubliccomment@fire.ca.gov)  
Cc: Kevin Mullin's office via: [Elena.Ortiz@asm.ca.gov](mailto:Elena.Ortiz@asm.ca.gov)

Subject: Comments on the revised Mitigated Negative Declaration for the proposed SFPUC Prescribed Burn Project

The Response to Comments, page 11 says: A unit may be burned more than once, but species may return following the burn that could prevent re-burning (specifically host plants of the Mission Blue Butterfly).

Reply- This statement is conjecture and indefinite. The IS-MND does not propose any before-burn data collection, followed by an after-burn data set, to validate this statement. In this serpentine grassland environment, given the nitrogen fertilizing from the adjacent freeway, we don't know if "prescribed burning for habitat improvements for the species discussed below" will be beneficial to the natives and the environment and the goal of fuel reduction. This is because invasive grasses are just as likely to return and expand into the resulting clearing as happens everywhere, including on the road edge. Invasives will increase fuel load on the landscape; thus, resulting in an annual cycle of fuel reduction burns that would end up destroying the native grassland.

Pre and post data collection should be a minimum outcome of this project. Before-and-after vegetation surveys show that a single fire kills millions of native plants, and millions of weeds grow in their place- more on invasive recolonization below. Like goats, fire is non-discriminate but unlike goats, fire can burn the soil too as California is currently experiencing. And where the natives were replaced by the weeds, the fire-fuel on that spot increases by 2,000 percent thus negating the goals of this project.

The IS-MND says the project is a native species rich grassland which will prescribed burned and then the SFPUC will manage if for invasive species. This is backward. Why would you burn out low fuel natives and then proceed to manage high fuel invasives creating a fire hazard that must be managed? How does introducing invasive for the SFPUC to manage meet the stated goals of fuel reduction and species revival? Wouldn't it make more sense to strategically remove the few invasive and expand natives on their habitat?

Repeated burns as projected on page 31 of the IS-MND will be a major impact on the scenic resources of the landscape. The response states with regard to the scenic easement,

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"The SFPUC regularly conducts mowing, tree removal, fuel break management, fuel load reduction, non-native plant removal, and prescribed burn projects on the Peninsula Watershed which are not subject to the federal concurrence language in these easements." Note that the SFPUC is in violation of its own EIR which says that prescribed burns result in toxic runoff that will contaminate water. And that these burns have not been noticed within the scenic easement by the general public- none of your commenters said that they had seen it already. What this project proposes to do is to infringe on the scenic resources of the general public and should not be permitted until the goal outlined can be shown to be effective. The SFPUC is a malicious partner in the project who cannot be trusted to even follow their own EIR.

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The SFPUC serpentine grasslands around the Crystal Spring reservoirs has the most concentrated square mile of rare and endangered species in California according to Craig Dremann in Woodside a grassland restoration authority and maybe unique in North America. The response also says on page 12 that "Ten special-status wildlife species are known to occur or could potentially occur in the project area." We should follow Muir and Leopold's advice to do the least harm in this area. However, the IS-MND does not look at alternatives so there is no way of evaluating what would cause the least harm to this species rich landscape.

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There are examples of grassland restoration in the area such as the highland portion at Edgewood and the Dremann project in Woodside. Neither involves fire. They involve considerable volunteer effort and show what can be feasibly done under CEQA to achieve the goals of this project without fire. The long-term trend in CA grasslands is extinction of the native species many of which are more successful getting on the Endangered Species List characterization than achieving restoration status. This project needs to say how a landscape that experiences fire rarely will be restored under the current goals of fuel reduction, grassland restoration and personal training.

The project could be beneficial- if done rarely or occasionally. That link to the paper from Berkeley doesn't go to a paper so I was not able to browse and evaluate the boundary conditions of the study. Until Calfire can show how invasive will NOT dominant the charred landscape, requiring repeated burns, there is no data presented in this IS-MND, or pre and post burn sampling called for in this IS-MND, to arrive at another conclusion. Most examples of natural fire on the landscape show expansion of invasive fuel loading. USDA forest service and other outlets report this phenomenon. See for example

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.461.7645&rep=rep1&type=pdf> where species, such as those that occur here on serpentine grasslands, "are adapted to a particular temporal and spatial pattern of burning", not fire adapted in general as this IS-MND implies.

The precipitation pattern has changed in California because of climate change. We have heavier downfalls and longer dry periods which compacts the soil and increase runoff. Following recent fires including the Rim Fire we have seen toxic runoff from the recent burn contaminating the water. Murphy's Law states that the landscape would see a massive downpour following a prescribed burn impacting the water quality that this project seeks to protect. Alternatives such as excluding native serpentine grasslands from treatment zones would be beneficial to the stated goal of fuel reduction and native regeneration.

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Calfire's stated goal for the project has changed in this reissued IS-MND from preventing wildfires to reducing fuel load so as to protect water quality; and helping grassland restoration of native species. Note that if you cannot prevent wildfires given the scale of fires today in CA there is no way to protect the water. And fire may be a poor choice for restoration. When Area H in Redwood Shores was restored, 900 goats were utilized, so that the endangered species could move out of the way of the foraging goats at the slow pace of the goat's foraging movement. Fire with its rapid progression in a controlled burn is a poor choice for species preservation.

Cities are using goats to reduce fuel load and control wildfires according to NPR and they work best on steeper terrain. <https://www.npr.org/2020/01/05/792458505/california-cities-turn-to-hired-hooves-to-help-prevent-massive-wildfires> The NPR article doesn't say anything about native restoration just fuel reduction. In Kenya and Sudan, the goats have to be moved or they will strip the bark off adjacent shrubs and trees killing the entire landscape by munching it into a denuded mudscape. They will browse down and eat the roots too if left untended. Indiscriminate browsing is resulting in the loss of semi-arid Savannah to desertified Sahara landscapes a process that is reappearing in California with cow-wrecked landscapes. Herders with spears protect the goats at night from foraging lions and leopards within popup acacia thorn enclosures. In Half Moon Bay at Beechwood goats are penned in steel enclosures that have foregone electrification. The response stating that goats do not consume woody stems is not correct- it only holds if the goats are allowed to move to new pasture. The goats are as indiscriminate as fire but with their slower pace can be managed over the landscape including sweeping up their droppings, similar to wood pellets, for cooking fires, to prevent reseeding of invasives.

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Goats are also lighter on the landscape than the heavy "trucks and mechanized" diesel equipment that Calfire will be using where possible on the "small patches of leafy bushes" that occur here. They are also able to access hilly locations that the equipment cannot, and they provide an alternative to herbicides that Calfire is considering.

This project's goals are to reduce fuels to prevent the spread of wildfire and to help natives on the landscape. Only one method exists for the grasslands to achieve these two purposes simultaneously: in this part of California--"Craig Carlton Dremann's Monthly Hand-mowing Method at 8 inches high, with Echo 225 2-cycle String Trimmers, fueled

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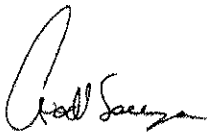
with 100 octane gas, and stung with Ace hardware professional string". Dremann says it's "very easy to do (i.e., restore a CA grassland), if you have the dormant native seeds still in the soil. Just cut the weeds monthly so they never produce any more viable seeds--always cut them green, never brown. Then, whenever necessary, add the nutrients that were removed during the Spanish Rancho Grant days, and "Oui-la!" you have unearthed a native grassland, as if you were unearthing an ancient civilization--having the exact plants grow on the exact spots where they last grew, maybe one or two centuries ago." Repeated burning would result in the loss of the dominant seeds in the soil, forever denuding the landscape. This may be why Mid-Peninsula Open Space District denied Calfire a permit to continue burning on the southern portion of Russian Ridge and that decision process should be included in this IS\_MND.

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The project should look at an alternative to MOVE the project to a grassland where NO rare and endangered species exist in order to preserve the scenic resources, conserve natives on the landscape, and reduce fuel loading with natives. The remaining 90% of California's grasslands do not have this concentration of rare and endangered species, adapted to a particular temporal and spatial pattern of burning, so why weren't other locations that contain zero rare and endangered species, looked at in this document as alternatives? This is where an EIR is necessary since it requires alternatives. A no burn alternative that preserves the scenic easement and reduces fuel loads, by say mowing, before invasive set their seeds, is a proven method for reducing fuel load and reestablishing natives on the land. Managed goat herding is another alternative that should be looked at in view of the stated goals. Moving the project to a site without natives is a third relevant alternative to the stated goals. An alternative to exclude native serpentine grasslands from treatment zones would be beneficial to the stated goal of water quality protection. These are all feasible alternatives under CEQA. The result of this minimal range of alternatives is that the impacts associated with them can be evaluated simultaneously giving policy makers the information to make an informed decision under CEQA.

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Sincerely,



Gladwyn d'Souza  
Conservation Committee Chair  
Loma Prieta Chapter Sierra Club

Raymond Hasey  
1882 Woodleaf Drive  
Yuba City, CA 95993

1 July 2021

California Dept Forestry  
Attn: Ms Sarah Collamer

Mitigated Negative Declaration SCH# 202102021  
SF POC Prescribed Burn Project

I request that this MND be amended to meet the primary objectives with grazing of the grasslands. A discussion of this alternative is required by CEQA.

It is also requested that the grazing of grasslands alternative adequately discuss the secondary objective to beneficially impact fire sensitive resources, as well as the air quality impacts for all alternatives in adequate detail.

Regards

Raymond Hasey

#36

CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

Sarah Collamer  
VMP Coordinator, Forester I  
California Department of Forestry and Fire Protection  
CZU Resource Management  
6059 Highway 9, Felton, CA 95018

RE: CalFire SFPUC Prescribed Burn Project

Dear Forester Collamer,

Thank you for revising the MND to disclose relevant site data and to redefine the project objective. However, there remain fundamental concerns about the objective of the project as well as the details of the project plan. These concerns, which were raised in our March 2021 comments, were cited in your response but not addressed in any substantive way.

**BURNING NATIVE GRASSLAND DOES NOT ACHIEVE STATED OBJECTIVE**

The stated Project Objective is:

*"The primary goal of the project is to create or maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful, thereby increasing the safety of neighborhoods near the SFPUC Watershed."*

Burning @200 acres of grassland in units 3, 5 and 6 does not serve this objective. Grassland is not woody and does not impede firefighting tactics in these units. Unit 6 has existing 50-foot break lines and several miles of 10-foot-wide drivable trails, providing ample access for firefighting tactics. The document provides no evidence that burning grasslands will address the stated objective.

To the contrary, the MND acknowledges that burned grasses will quickly regrow, thus negating any fire suppression benefit:

*p.51: "Vegetation will begin to recover shortly following the burn, and vegetation should recover to pre-existing or better condition within one year of broadcast burning."*

*p.56: "Following the first wetting rains, seed germination and reestablishment of vegetative cover from the seed bank will occur, stabilizing the soil surface from further erosion."*

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CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

## **BURNING NATIVE SERPENTINE GRASSLANDS INCREASES INVASIVES AND FUEL LOADS**

An auxiliary goal of the project is “*maintaining existing native grasslands*”. Much of the grassland of burn units 3 and 6 are high-quality native grasslands, as acknowledged in the MND:

*p.11: “... many of these areas have a component of, or are dominated by, native bunchgrass vegetation (primarily needlegrass, Stipa sp. and Danthonia californica), and would be considered native grassland based on currently accepted definitions (>10% cover native grass species). Some of the native grasslands have been identified as serpentine grasslands (EDAW 2002).”*

*P.50: Unit 3 is predominately composed of high-quality serpentine grassland, which supports a plethora of native plant species and numerous special-status plants, including Marin dwarf flax, Crystal Springs lessingia and bent flowered fiddleneck.*

The State of California considers non-serpentine native wildflower fields and native bunchgrass habitats among the rarest and most endangered plant communities in California. The attached photos document some of the listed natives found in Unit 6 this past March-April.

CalFire has acknowledged they have no proof that burning increases native grasses. In fact, vegetation counts before and after the 2007-2009 CalFire burns of MidPen’s Russian Ridge prove a net loss of native grasses. Multiple studies confirm that burning increases invasive grasses:

*“Nonnative invasive grasses can promote fire, creating new fire regimes that are unsuitable for native species and lead to lower diversity and localized extinctions (1, 2). The altered fire regimes also create favorable conditions for the invasive grasses, which recover and spread quickly postfire, resulting in a “grassfire cycle.””* Invasive grasses increase fire occurrence and frequency across US ecoregions, Emily J. Fusco, John T. Finn, Jennifer K. Balch, R. Chelsea Nagy, and Bethany A. Bradley. *Proceedings of the National Academy of Sciences*, 2019; 201908253 DOI: [10.1073/pnas.1908253116](https://doi.org/10.1073/pnas.1908253116)

*“Since few invasive weeds are effectively managed by a single year of prescribed burning, it is often necessary to incorporate other control options into a long-term management strategy (Kyser and DiTomaso 2002).”* <https://www.cal-ipc.org/product/use-of-fire-as-a-tool-for-controlling-invasive-plants/>

Burning high-quality grasslands contradicts CalFire’s auxiliary project objective of maintaining native grassland. Further, invasive grasses have higher flammability and fuel load, thus worsening the overall fire intensity.

In light of these facts, please consider the following edits to the MND document.

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CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

#### CLARIFICATIONS REQUESTED - PROJECT DESCRIPTION

1. **Project Overview - NO repeat burns of grasslands:** As discussed above, burned grassland will regrow by the following fire season, negating any fuel load reduction. Do CalFire and SFPUD intend to burn these units ANNUALLY as is done on the dam faces? CalFire's Responses to Comments pg. 12 claims: *"CAL FIRE only plans to burn these areas once. This project will increase and improve the remnant of Coastal Prairie that is left."* Please include this statement in the MND Project Overview as public assurance that grasslands shall only be burned once under the scope and authorization of this MND, and that CalFire and SFPUD will stand behind the claim of grassland benefit. #37  
-3
2. **Pretreatment:** Page 8 states *"Brush pretreatment involves killing some or all shrub species in a unit."* This can be interpreted as giving the agency authority to permanently kill 100% of brush over an entire unit, which would constitute habitat conversion, which CalFire asserts is not the intent. Please replace the word "killing" with "clearing", and delete the words "or all". #37  
-4
3. **Prescribed Burning:** Pg. 9 states *"A helicopter may also be present in order to ignite fuels in the interior of larger burn units, or in areas which are impractical to reach on foot."* The report provides no evidence that any unit is too large or impractical to reach on foot. Please eliminate helicopter use for ignition. If CalFire asserts this method is necessary, please specify which unit/area is too large or impractical to reach on foot and, if the area is inaccessible by foot, describe how the "burn will be terminated" ... if fire behavior is no longer acceptable (as claimed on p. 9). #37  
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#### ADDITIONAL MITIGATION REQUESTED:

##### Document Mitigation for SFPUC Weed Abatement in Native Grasslands.

Promised outcomes are meaningless if there is no means of verification and no means of restitution in the event the results are not realized. In its Response to Comments pg.12, CalFire asserts *"This project will increase and improve the remnant of Coastal Prairie that is left."* The MND claims an auxiliary benefit of *"maintaining existing native grassland"*. #37  
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MND pg. 9 and the Response to Comments both assign the responsibility for monitoring for invasive species to SFPUC:

*"The SFPUC shall be responsible for post-fire vegetation monitoring and any necessary weed control in order to support the ecological integrity of the project area per the standard operating procedures for the Peninsula Watershed."*

CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

This promise of post fire weed control is significant, and must be formally listed as a required mitigation if CalFire is to rely upon this to legally assert mitigated negative impacts.

California Code 15097 states: *"In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."*

15097 (f) *"Where a trustee agency proposes mitigation measures or project revisions for incorporation into a project, that agency, at the same time, shall prepare and submit to the lead or responsible agency a draft monitoring or reporting program for those measures or revisions. The lead or responsible agency may use this information in preparing its monitoring or reporting program."*

Since this **MND declaration is predicated in part on this promise of weed abatement**, please:

1. List the SFPUC Weed Abatement plan as a required Mitigation Measure (p.25), and
2. Attach the full contents of said plan, or provide the full name and location of/access to this document for public verification, and
3. Include declaration in the MND document that, as per California law, CalFire remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

**Mitigation Measure #1: Pre-treatment survey for Special Status Plant Species.**

The MND Response to Comments document on pages 7 and 26 claims *"the MND contains requirements for full floristic surveys,"* but the MND document does NOT contain this. Please clarify in writing that floristic surveys shall evaluate every plant taxon for ALL units, including Sensitive Natural Communities, per CDFW protocol.

Floristic Survey is minimum standard. CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline> require floristic survey for *entire* communities, not just listed special status plants:

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CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

*"Conduct botanical field surveys in a manner which maximizes the likelihood of locating special status plants and sensitive natural communities that may be present. Botanical field surveys should be floristic in nature, meaning that every plant taxon that occurs in the project area is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.*

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*"Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts."*

### **Mitigation Measure #3: Avoidance of CRPR List 1 and 2 Plant Species**

The MND states *"If direct impacts cannot be avoided, no more than 10% of an occurrence/population (by number of individuals or areal extent) will be impacted."*

Mitigations must be verifiable. Please provide a means of quantifiable verification for this mitigation, particularly with regard to native grassland communities as noted in Mitigation Measure #1.

CDFW Protocol <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline> describes the information required to assess impacts to special status plants and sensitive natural communities, and the documentation required by law. Permanent transects with before and after native/invasive counts would serve as quantifiable verification.

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### **Mitigation Measure #14: Limit Control Line Construction to Handline in Native or Serpentine Grassland**

As discussed above, the report provides no justification for burning native or serpentine grassland at all. Please revise this mitigation to require exclusion of surveyed native and serpentine grasslands from the burn area by establishing a suitable perimeter and avoiding disturbance of such areas entirely.

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### **Mitigation Measure #15: Limit Out-of-Season Burning in Native or Serpentine Grassland**

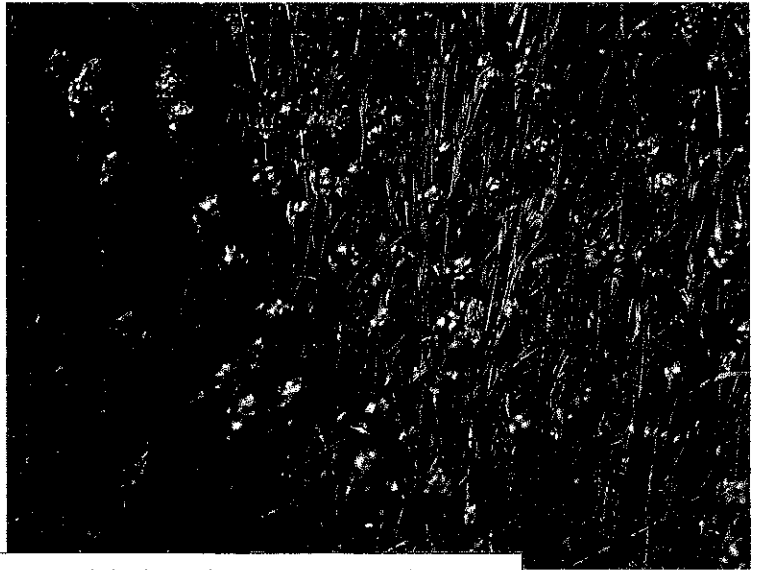
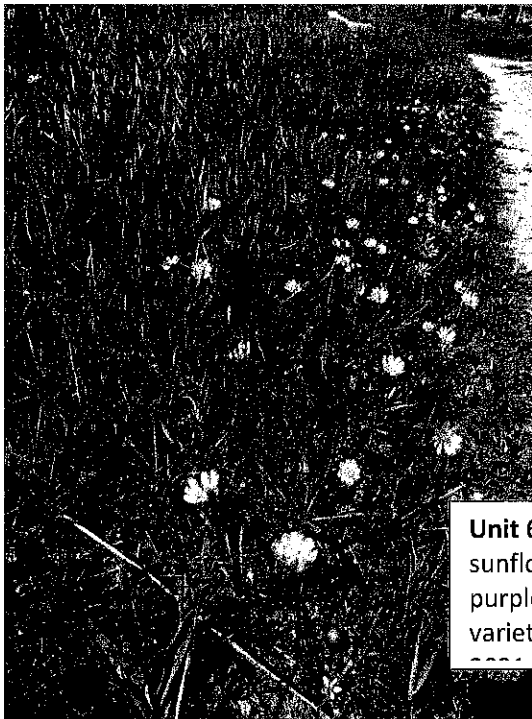
As discussed above, the report provides no justification for burning native or serpentine grassland at all. Please revise this mitigation to require exclusion of surveyed native and serpentine grasslands from the burn area by establishing a suitable perimeter and avoiding disturbance of such areas entirely.

CalFire-SFPUC MND Comments  
Frank & Kristin Mercer July 25, 2021

Thank you for considering these edits to improve transparency and demonstrate the CalFire commitment to environmental integrity.

Frank and Kristin Mercer  
Belmont  
tomercer@comcast.net

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**Unit 6 Natives** (Clockwise): San Mateo wooly sunflower, dwarf plantain (checkerspot butterfly), purple needlegrass and lupin (one of 4 lupin varieties found in unit 6.) Photos March-April 2006



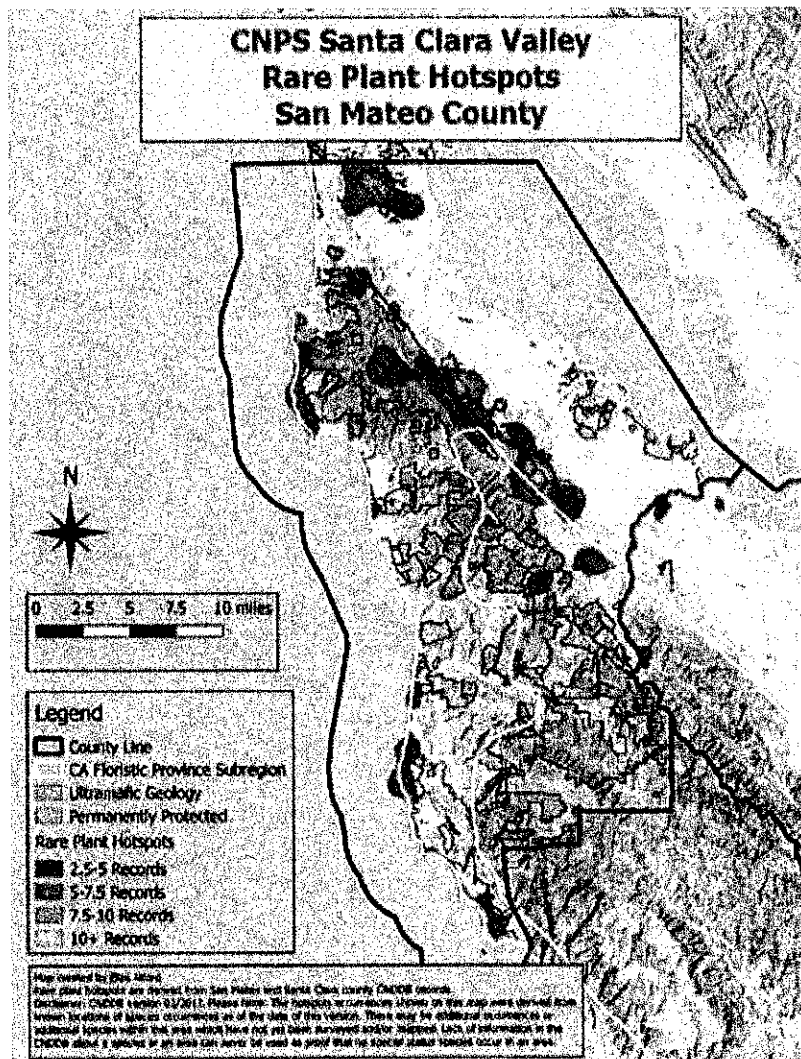
ADDENDUM – Supporting Sources – MND Comments  
 Frank & Kristin Mercer July 25, 2021

Rare Plant Hotspots in San Mateo and Santa Clara Counties Elan Alfred, CNPS, 2017

<https://www.cnps-scv.org/conservation/rare-plants/322-rare-plant-hotspots>

"The Peninsula Watershed Golden Gate Recreational Area and San Bruno Mountain are mountainous hotspots in the Central Coast subregion. Edgewood Natural Preserve and Crystal Springs County Park are associated with an ultramafic corridor in the San Andreas rift zone in San Mateo County."

The map below is a summary figure based on 762 database records and shows where records are clustered in the two counties. The map shows the areas with the highest data point density. Notice that the lands surrounding the Crystal Springs watershed are the highest density rare plant hotspots in the area.



ADDENDUM – Supporting Sources – MND Comments  
Frank & Kristin Mercer July 25, 2021

**Fire and Invasive Plants on California Landscapes, Keely, Franklin and D'Antonio, 2011**

[https://link.springer.com/chapter/10.1007%2F978-94-007-0301-8\\_8](https://link.springer.com/chapter/10.1007%2F978-94-007-0301-8_8)

"The initially "open" (grassland or forbland) habitats created by indigenous burning likely were maintained by intensive livestock grazing during the mission era (Minnich 2008). During the last 100 years, fire was apparently used to **convert shrublands to annual grasslands** as the expansion of agriculture in the late 1800s reduced available open lands for grazing (Tyler et al. 2007). "

"The trend of increased presence of woody vegetation on landscapes previously supporting extensive grassland is particularly apparent in the San Francisco Bay area. Contrary to conventional wisdom, this trend is not related to disruption of the natural fire regime by fire suppression, but rather due to a reduction in anthropogenic ignitions and cessation of intensive livestock grazing (Keeley 2005). Thus, this so-called shrubland invasion is perhaps better viewed as a recolonization following the cessation of anthropogenic disturbance, at least for the dominant native shrub, coyote bush (*Baccharis pilularis*)."

"However, as fire intensity decreases, alien invasion increases due to a variety of correlated factors. Lower fire intensity occurs in more open stands with a mixture of grasses and shrubs; thus, they are likely to have more alien propagules in the soil at the time of fire. **Reduced native recovery has been reported for out-of-season prescribed burns (Keeley 2006b) and this vacuum is always filled with alien species.** The mechanism by which out-of-season burning decreases native plant recovery is unknown, but it is commonly attributed to prescribed burns during winter or spring that cause heating of seed banks with moist heat, which is often lethal (Parker 1987). Perhaps more important though is that winter burning greatly decreases the length of the first growing season. For most seedlings having the growing season reduced from a typical 6 months (following summer or fall burns) to perhaps as little as 1 month (following a winter burn) could limit survival during the ensuing dry summer."

"In a meta-analysis of the outcome of fire management treatments across California grasslands, Bainbridge and D'Antonio (in prep.; reanalysis of Corbin et al. 2004) found that fire can depress the abundance of European annual grasses, but **only for the immediate season after fire.**"

**Invasive grasses increase fire occurrence and frequency across US ecoregions**

Emily J. Fusco, John T. Finn, Jennifer K. Balch, R. Chelsea Nagy, and Bethany A. Bradley

*Proceedings of the National Academy of Sciences*, 2019; 201908253 DOI: [10.1073/pnas.1908253116](https://doi.org/10.1073/pnas.1908253116)

"Nonnative invasive grasses can promote fire, creating new fire regimes that are unsuitable for native species and lead to lower diversity and localized extinctions (1, 2). The altered fire regimes also create favorable conditions for the invasive grasses, which recover and spread quickly postfire, resulting in a "grassfire cycle.""

"Consistent and repeated collection of invasive species abundance information is rare but critical for understanding impacts (50) and could improve our models. Therefore, given the nature of these data, our results likely provide a conservative estimate of invasive grass impacts on fire."

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ADDENDUM – Supporting Sources – MND Comments

Frank & Kristin Mercer July 25, 2021

"In the regions highlighted by this analysis, we suggest that fire and invasive species managers work together to create integrated management plans that account for invasive grass-fire interactions."

Introduced annual grass increases regional fire activity across the arid western USA (1980–2009)

JENNIFER K. BALCH\*†, BETHANY A. BRADLEY‡, CARLA M. D'ANTONIO and JOSE GÓMEZ-DANS

<http://people.umass.edu/bethanyb/Balch%20et%20al.%2C%202013%20GCB.pdf>

"MODIS records show that 13% of these cheatgrass-dominated lands burned, resulting in a fire return interval of 78 years for any given location within cheatgrass. This proportion was more than double the amount burned across all other vegetation types (range: 0.5–6% burned). Furthermore, multi-date fires that burned across multiple vegetation types were significantly more likely to have started in cheatgrass. Finally, cheatgrass fires showed a strong interannual response to wet years, a trend only weakly observed in native vegetation types. These results demonstrate that cheatgrass invasion has substantially altered the regional fire regime. Although this result has been suspected by managers for decades, this study is the first to document recent cheatgrass-driven fire regimes at a regional scale."

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Fremontonia Journal of the California Native Plant Society, April – July 2010

[https://www.cnps.org/wp-content/uploads/2018/03/Fremontia\\_Vol38-No2-3.pdf](https://www.cnps.org/wp-content/uploads/2018/03/Fremontia_Vol38-No2-3.pdf)

Fire on California Landscapes; Jon E. Keeley

"The majority of our landscape is not forested and humans have not reduced fire frequency, but rather have radically increased burning (Halsey 2004). In many places this has had the unfortunate impact of **type converting native shrublands to nonnative grass and forb lands** as outlined by Lambert, D'Antonio, and Dudley in this issue. As a member of the California Native Plant Society, this type conversion concerns me because of the loss of both native flora and fauna. As an *ecologist* this concerns me because of the change in functional types from deep-rooted shrubs that can hold soils on steep slopes, to shallow rooted herbs. As a *fire scientist* this concerns me because of the change in fire season from about 6 months in shrublands to 12 months in annual grasslands, and lastly as a *scientist* this is of concern due to the loss in the capacity for carbon storage and potential impacts on climate."

"Rather it is common for homes to burn from embers entering vents or igniting piles of dead leaves on roofs or gutters. Since embers can travel a mile or more, clearance zones are not likely to be highly effective in altering housing losses in many instances."

Invasive Species and Fire in California Ecosystems; Adam M. Lambert, Carla M. D'Antonio, and Tom L. Dudley

Most evidence indicates that the strongest impacts of invasive plants on fire regimes in California occur in coastal sage scrub, deserts, and riparian areas. Contrary to common perception, foliar tissue does not easily ignite except under super-heated conditions or when leaf tissue moisture is low. However, several weedy forbs and grasses tend to thrive at the disturbed edges of these shrublands along roads, power lines, and fuel breaks where shrubs are removed. The invasive, annual grasses that often colonize these areas dry out much earlier in the spring than the native shrubs, and with their high surface area to volume ratio, are more prone to ignition than the native vegetation. Mediterranean

## ADDENDUM – Supporting Sources – MND Comments

Frank &amp; Kristin Mercer July 25, 2021

grasses such as *Bromus* species and slender oats (*Avena barbata*) are particularly implicated since they act as wicks, spreading fast-moving fire into the canopies of larger shrub vegetation.

Early human inhabitants used fire to reduce woody plant cover and maintain grassland habitats for hunting, and to promote growth of particular species. After Euro-American colonization, grasslands were maintained by intensive livestock grazing, and fire was used to convert shrublands to grasslands. Prescribed fire has been used as a tool in some invaded grasslands to try to manage against nonnative grasses, but results have been mixed as demonstrated in a metaanalysis conducted by D'Antonio and Bainbridge (Corbin et al. 2004).

While it appears that a single fire can reduce non-native grasses, this **effect is short-lived**, and only recurrent fire or fire combined with grazing can keep down non-native grasses. At the same time, some nonnative forbs such as species in the genus *Erodium* and black mustard (*Brassica nigra*) are promoted by fire. Thus, the use of fire in grasslands to enhance native species must be carefully done, and consideration of what non-native species are in the local seedbank is a key element. But **overall, fire is not considered a key factor in the maintenance of invasive plant dominance, nor an appropriate management tool for eliminating non-native species in most California grasslands.**

Riparian areas are often considered to be functional barriers to the spread of wildfire (Pettit and Naiman 2007). However, several invasive plants in California riparian systems are changing these dynamics. For example, giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.) are well known to be highly flammable, yet both species recover rapidly from fire by regrowth from below-ground plant parts. By contrast, **cottonwoods, willows, and other native woody plants are much less tolerant of direct exposure to fire.** Recent studies suggest that the invasive plants mentioned above are making riparian systems fire-prone.

<https://wildlife.ca.gov/Conservation/Survey-Protocols>

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>

State of California Natural Resources Agency Dept of Fish and Wildlife, March 20, 2018

**"Special status plants**, for the purposes of this document, **include all plants that meet one or more of the following criteria:**

Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish & G. Code, § 2050 et seq.) **"Threatened species"** means a native species or subspecies of plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). **"Candidate species"** means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).

**Sensitive natural communities** are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat. CDFW's *List of California Terrestrial Natural*

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ADDENDUM – Supporting Sources – MND Comments

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*Communities*<sup>7</sup> is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort.”

“Impacts to **CRPR 3** plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Impacts to **CRPR 4** plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity.

“Focused surveys” that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are **not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.**”

“Conduct botanical field surveys by traversing the entire project area to ensure thorough coverage, documenting all plant taxa observed. **Parallel survey transects may be necessary** to ensure thorough survey coverage in some habitats.”

“Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area.”



Unit 6 (clockwise): California ringlet butterfly, anise swallowtail, native grasslands of Unit 6 with running course in fore and background.



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**From:** jclien@aol.com [mailto:jclien@aol.com]

**Sent:** Monday, July 26, 2021 3:01 PM

**To:** Sacramento Public Comment@CALFIRE <SacramentoPublicComment@fire.ca.gov>; Collamer, Sarah@CALFIRE <Sarah.Collamer@fire.ca.gov>

**Subject:** Comments regarding MND for Prescribed Burn in Area 6 - San Mateo County

**Warning:** this message is from an external user and should be treated with caution.

Thank you for your amended MND Cal Fire prescribed burn document and comments. I live on Paddington Court in Area 6 of your prescribed burn, directly across the street from Hallmark Park on Hallmark Drive in Belmont.

I bring up several **NEW** concerns that have come up after nearby wildfire impacts and studies that link wildfire smoke exposure to increased Covid cases. Specifically:

1. Although Cal Fire burn plan includes a fire behavior model, does it actually measure the Particulate Matter on the day of the Burn and what is the **actual PM emissions number** anticipated for the Burn on that day?

Recent news articles indicate that Wildfire smoke exposure of 2.5 PM is linked to **Covid-19 case increases** in Reno, Nevada so it is important that the actual PM number is monitored and kept well below that figure and reported to the Public each time a prescribed burn is executed.

2. Air quality affected by wildfire smoke in California (Dixie) and Oregon (Bootleg) has affected residents **as far as the East Coast due to wind direction** and extremely strong winds due to climate change so it is imperative that your prescribed burn doesn't exacerbate the air pollution by adding to the smoke pollution from real wildfires burning all around us, even though they may be miles away. Will you be monitoring all the nearby wildfires and their wind direction and speed and possible dry lightning strikes before executing our prescribed burn in order to guarantee the safety of our residents?

3. Our specific location in Area 6 is quite different from other areas; we are windy and breezy almost everyday.

Residents that live nearby, especially those that live on Hallmark and side streets such as myself need to be notified of the dates in advance so that we can close all our windows and take in any outdoor furniture that could be impacted due to lingering odors. A one page sheet tacked to the trailhead is **NOT sufficient notice** to those of us living right across the street. Please have flyers distributed under our doormats to those of us that live on Hallmark Drive and the side streets such as Paddington court, Wakefield Court, Leigh Way and Soho Circle; within 1000 feet from the entrance of Hallmark Park at the minimum so we can take precautionary measures.

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4. Since you plan to do 50 acres per day and 200 acres per year, that implies you will be doing a prescribed burn 4 times a year. How long do you anticipate each prescribed burn to take from start to finish?

Thank you for your attention.

Jennifer and Ken Lien  
2 Paddington Court  
Belmont

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**From:** [mimi36626@aol.com](mailto:mimi36626@aol.com) [mailto:[mimi36626@aol.com](mailto:mimi36626@aol.com)]

**Sent:** Thursday, July 29, 2021 7:28 PM

**To:** Sacramento Public Comment@CALFIRE <[SacramentoPublicComment@fire.ca.gov](mailto:SacramentoPublicComment@fire.ca.gov)>

**Subject:** Crystal Springs Burn

**Warning:** this message is from an external user and should be treated with caution.

Dear Cal Fire,

I am so sorry to see that you are insisting on going ahead with the Crystal Springs burn which will kill endangered species, risk burning up the adjoining school and houses on this property and by your own admission, is totally unnecessary. Oh yes and let's not forget that you will need to come back every year and do the same thing.

However, if you let the native species take over (by mowing the taller invasive species which come in sooner and are taller than the native growth) you would not need to come back, and would help sustain the endangered wildlife which are dependent on these native grasses.

Apparently you don't care about the environment or our safety, only the opportunity to burn up something.

Sincerely and sadly,  
Belmont resident, Mimi Iversen

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Comments on MND – SFPUC Prescribed Burn Project, San Mateo County, CA Mercer, July 30, 2021

Sarah Collamer  
VMP Coordinator, Forester I  
California Department of Forestry and Fire Protection CZU Resource Management 6059  
Highway 9  
Felton, CA 95018  
Email: sacramento publiccomment@fire.ca.gov

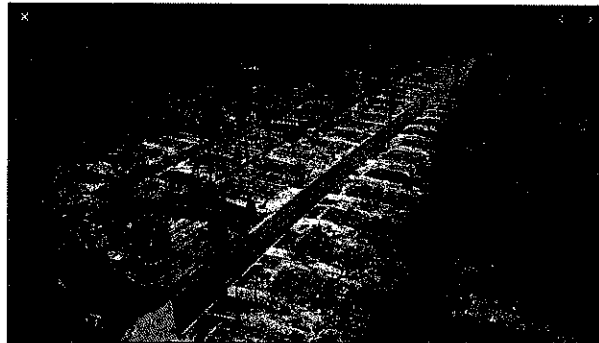
Dear Ms. Collamer,

RE: Initial Study MND for the proposed SFPUC Prescribed Burn Project, San Mateo County, California, Released February 16, 2021. Public comment period from July 1 through July 30, 2021, pursuant to email from Matthew Mosher, Environmental Scientist, CAL FIRE San Mateo – Santa Cruz Unit.

I am opposed to the prescribed burns proposed by Cal Fire for the following reasons.

In its Mitigated Negative Declaration (hereinafter “MND”) Cal Fire states its primary project objective for the proposed prescribed burn is to increase the safety of neighborhoods near the SFPUC Watershed. MND, p. 6. However, Cal Fire’s method of reaching its primary objective is counter to all the evidence we have regarding protecting homes from wildfire threat. It is well known the main cause of home ignition from wildfires is flying embers and firebrands, which can fly over a mile.<sup>1</sup> Every fire agency, including Cal Fire, knows the primary means of protecting homes from wildfire threat is to harden the homes, not burn nearby habitat.<sup>2</sup> When homes are hardened, even if by chance nearby habitat does ignite, the homes are protected from wildfire threat.

Photos of past California wildfires show unhardened homes are often even more combustible than the vegetation around the home.



<sup>1</sup> <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire>.

<sup>2</sup> *Id.*

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Yet, despite this knowledge Cal Fire's response to my comment on the initial MND was "home hardening is outside the scope of this project and is the responsibility of the homeowner."<sup>3</sup> By stating the primary means of protecting homes from wildfire is the responsibility of the homeowner then Cal Fire is admitting the prescribed burn is really not intended to, and cannot under any scenario, fulfill its primary objective – protecting neighboring homes from the threat of nearby wildfire.

If hardening homes is the best means of protecting homes from wildfire threat and is outside the scope of Cal Fire's project - the objective of which is to protect nearby neighborhood homes from wildfire threat - then Cal Fire needs to change the scope of the project to hardening homes. At least this way when Cal Fire spends California's limited taxpayer money and resources on protecting homes from wildfire it will be using a method proven to actually protect homes from wildfire threat. We shouldn't be, and can't afford to, compartmentalize solutions. If an agency proposes a project with the primary objective being to reduce wildfire threat to homes then that agency should use its money and resources to reduce wildfire threats to homes using the best method available; which at this point is hardening homes. If changing the scope of the project is not doable then Cal Fire needs to abandon this misguided project altogether.

I live in a neighborhood nearby one of the proposed prescribed burns and there are still homes with highly flammable wood shingle roofs, and many homes that still have highly flammable vegetation right next to the home. Additionally, there are many homes that do not have fire proof vents or gutters or double-pane windows. Many homeowners can't afford the modifications necessary to harden their homes, and so the risk of house-to-house-to-house ignition is great. It is not cost effective to spend taxpayer money on prescribed burns, under the guise of protecting highly flammable homes, instead of spending these dollars directly to protect the homes, by hardening them.

There are thousands of acres of open space habitat surrounding the watershed area, the neighboring homes and the hundreds of acres Cal Fire wants to prescribe burn. Burning hundreds of acres - for which there is zero guarantee they would ever even ignite - will do nothing to mitigate the wildfire threat to the nearby homes from the surrounding thousands of acres. Because each home is wildfire fuel, all it takes is for one unhardened home to ignite which would result in the emission of flying embers and firebrands endangering every other unhardened home within its neighborhood. This allows the fire to continue to spread beyond to other neighborhoods. Accordingly, only hardening homes will achieve Cal Fire's primary objective; to protect neighboring homes from wildfire threat.

Cal Fire states its auxiliary project objectives include (1) return fire to the landscape to maintain existing native grasslands by slowing shrub encroachment and (2) train Cal Fire personnel in firing and control techniques.

<sup>3</sup> **Response to Comment-** SFPUC Prescribed Burn Project San Mateo County, California- State Clearinghouse Number # 2021020321 - Prepared by: The California Department of Forestry and Fire Protection P.O Box 944246 Sacramento, CA 94244-2460 June 18, 2021, p. 46.

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Regarding auxiliary objective number one, why would Cal Fire want to maintain existing grassland that is mostly non-native over native shrub? As well using the term "encroachment" to describe the migration of native shrub in its own habitat is not only meant to demonize the native shrubs but is scientifically inaccurate. Native plants can't "encroach" in their own habitat. Non-native grasses can, and have in the proposed burn areas, and most of California. Cal Fire's objective to transform native shrub land into non-native grassland belies an understanding of the importance of native plants over non-native and the role native plants play in maintaining biodiversity and healthy ecosystems. It is also morally and scientifically weak to refer to an open space's complex diversity of plants and animals as fuel, essentially reducing habitat biodiversity to being viewed as a can of gasoline.

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Additionally, the MND, notes that shrubland is capable of significantly more carbon sequestering than grass lands; Purple tussock grass- California oatgrass grassland Fuel Model equals 3.56 total fuel load tons/acre, carbon content is 1.55 tons C/acre versus North Coastal Scrub which equals 5.8 total fuel load tons/acre, carbon content is 2.7 tons C/acre. MND, p. 59. Global Warming is caused by greenhouse gases (GHG) and one of its effects in California is a longer and hotter dry season, which is resulting in a longer fire season with more intense and hotter wildfires. So why would a state agency that fights wildfires seek to transform a shrub environment into a grassland which would be less efficient at sequestering greenhouse gases (GHG) and mitigating Global Warming? This belies common sense and logic.

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Moreover, the proposed prescribed burn will not only destroy carbon gatherers – the plants that will be burned - it will be releasing into our atmosphere the carbon these gatherers have stored, thereby, increasing GHGs and accelerating Global Warming. Cal Fire's response to this concern from my previous comment is; "vegetation will regrow and continue to sequester carbon."<sup>4</sup> This is, of course, contingent on new plants growing, which is contingent on rainfall. California's only Wildfire research center - San José State University's Fire Weather Research Laboratory - this year discovered that due to the severe drought there wasn't any new growth on the shrubs.<sup>5</sup> With the effects of Global Warming causing severe drought in California we can no longer rely on our seasonal rainfall to promote new growth. However, if we do get good rainfall Cal Fire is right - the new vegetation will most definitely sequester carbon, just as the current vegetation is sequestering carbon. The big difference is by burning the current vegetation Cal Fire will be releasing years of stored carbon in one day, which means before the new vegetation will be helping to offset our carbon output, and mitigate Global Warming, it will first have to get us back to square one by sequestering the amount of carbon released during the prescribed burn. How many years will this process take?

Cal Fire also claims this prescribed burn "is to help prevent a large scale, high intensity fire, which will result in significantly more greenhouse gas emissions than a low intensity prescribed

<sup>4</sup> **Response to Comment-** SFPUC Prescribed Burn Project San Mateo County, California- State Clearinghouse Number # 2021020321 - Prepared by: The California Department of Forestry and Fire Protection P.O Box 944246 Sacramento, CA 94244-2460 June 18, 2021, p. 46.

<sup>5</sup> <https://www.sfgate.com/bayarea/article/fuel-moisture-content-California-wildfire-16087019.php>.

burn.”<sup>6</sup> There are two problems with this reasoning. First there is zero evidence, and therefore no guarantee, the areas where the prescribed burns are proposed are in anymore imminent danger of ignition in the near or distant future than any of California’s other millions of acres of open space. Trying to figure out which open space areas will ignite is a mere guessing game Cal Fire is trying to disguise as well thought out science. Second if we accept this type of reasoning then we would have to suppose every acre of California’s millions of acres of healthy habitat are in imminent danger of ignition in the near or distant future. Under such a supposition we would have to accept that burning millions of acres of open space within so many miles of homes is necessary (1) to protect homes from burning and (2) to prevent larger amounts of GHGs being released on the off chance at some point these millions of acres will ignite into a high intensity fire. Trying to beat wildfires to the punch by burning millions of acres of open space would not only result in tons of GHGs being released it would be a biodiversity ecological disaster.

Based on the evidence, Cal Fire’s second auxiliary objective – to train Cal Fire personnel in firing and control techniques – really appears to be its main objective. MND, p. 6. It’s the only objective that makes any sense. Cal Fire wants to burn hundreds of acres of healthy habitat just to practice “firing and control techniques.” This is unacceptable. Our open spaces are more vulnerable than ever due to Global Warming, which is threatening the biodiversity of our open spaces with droughts and diseases, such as Sudden Oak Death (SOD). Our open spaces are not only aesthetically pleasing they are ecologically necessary for our health and survival. By gathering and storing carbon, open spaces are one of the only things helping to lessen the effects of human caused Global Warming. We should be mitigating wildfires by having companies like PG&E manage the trees around their wires, and we should be mitigating wildfire damage to our homes and buildings by spending the money and resources our state has allocated for wildfire prevention on hardening homes. But we should not be burning healthy habitat in anticipation that it may ignite someday in the future, thereby, destroying the very habitat we don’t want wildfire to destroy.

Pat Cuiello  
15 Wakefield Court  
Belmont, CA 94402

<sup>6</sup> **Response to Comment-** SFPUC Prescribed Burn Project San Mateo County, California- State Clearinghouse Number # 2021020321 - Prepared by: The California Department of Forestry and Fire Protection P.O Box 944246 Sacramento, CA 94244-2460 June 18, 2021, p. 46.

July 30, 2021

Sarah Collamer  
California Department of Forestry and Fire Protection  
Felton, CA 95018

Subject: public comments on the second release of the "Initial Study-Mitigated Negative Declaration (MND) for the proposed SFPUC Prescribed Burn Project San Mateo County, California"

*sent via email: sacramento@publiccomment@fire.ca.gov*

Dear Ms. Collamer and Chief Sampson,

## I. Overview

### A. Importance of Chaparral and Coast Scrub Plant Communities

**"California's native chaparral plant communities support exceptional biodiversity and provide critical ecological services but increased fire frequency threatens to extirpate much of the chaparral due to long regeneration times needed between fires for many species.** When short fire intervals inhibit shrub recovery, this favors invasion of exotic herbaceous species, and vegetation type conversion from woody shrubs to grassland is therefore a serious ecological concern in this biodiversity hotspot.... The top drivers for woody conversion and decline included a fire interval shorter than 15 yr and total number of fires, actual evapotranspiration, and elevation... chaparral decline and replacement indicates that vegetation change is occurring extensively and rapidly... has serious implications for ecological and human communities, as chaparral provides critically important ecological services in the region ... which are not provided by exotic annual grasses and forbs...chaparral itself, has incredibly high biodiversity ... with most characteristic bird, mammal, and insect communities aligning with shrub cover. Thus, the loss of chaparral is an ecological impact of global significance (Cowling et al. 1996)."<sup>1</sup>

"Although often maligned as a useless or even dangerous because of concerns over fire hazard, chaparral ecosystems provide critical ecosystem services through their roles in erosion control, hydrology, biomass sequestration, and preservation of biodiversity... Short fire-return intervals of less than 10–15 years present an increasing threat to chaparral ecosystems by eliminating shrub regeneration and leading to type-conversion to non-native annual grasslands."<sup>2</sup>

"Chaparral and California sage scrub are typically closed-canopy shrublands that are relatively resistant to invasion by nonnative species... Land management practices such as grazing and mechanical disturbance may also enhance invasion (Stylinski and Allen 1999)."

"This first systematic review of all species of mammals inhabiting California chaparral [conducted in 1990] found ...Among the 49 species, 7 species (6 rodents and 1 rabbit) are found primarily in mature chaparral, 9 species (the mule deer and 9 rodents, including 5 kangaroo rats) in young chaparral or along

<sup>1</sup> Syphard, A., "Extend and Drives of Vegetation Type Conversion in Southern California Chaparral" (2019) (Attachment 1)

<sup>2</sup> Rundel, Philip. California Chaparral and Its Global Significance. (2018) (Attachment 2)

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ecotones between chaparral and other plant communities, and 19 species (12 bats and 7 terrestrial species) in riparian areas. Five species occur in many habitats but prefer chaparral in California, and nine other species have wide ranges that encompass many communities, including chaparral. An area of chaparral (0.5 to 6.8 ha) generally contains two to four common, and two to nine total, species of rodents. Seeds, fruits, and young vegetation growth are the most important plant foods in chaparral. **Fire affects the distribution and abundance of mammalian populations in chaparral by altering the structure of the plant community and the availability of many foods...**" Quinn. R.D. Habitat preferences and distribution of mammals in California chaparral. Res. Paper PSW-202. Berkeley, CA: Pacific Southwest Research Station, U.S. Forest Service. U.S. Department of Agriculture: 11 p. (1990) (Attachment 3)

## B. Saving Homes and Lives

**"Fifteen of California's 20 most destructive wildfires have occurred since 2015, following a pattern that overwhelmingly unfolds outside of the state's most heavily forested areas. In late summer and autumn, strong wind gusts, often called Santa Ana or diablo winds, have repeatedly whipped up fast-moving blazes through bone-dry vegetation, most commonly shrublands. Those blazes blow embers into nearby communities, where homes explode into flames as firebrands torch unkempt landscaping, slip through vents to ignite attics, and land in gutters filled with dry leaves...** While landscape-scale vegetation treatments most appropriate for forests would receive more than \$500 million, the governor's budget ponies up just \$25 million for the home-hardening pilot. **'There is a pretty big disconnect between this budget and trying to do something about the loss of lives and homes,' said Max Moritz, a widely recognized wildfire expert with the University of California Cooperative Extension in Santa Barbara. 'Those forest treatments, they don't do barely anything to alleviate the risk to human communities.' ... Still, critics say Sacramento's spending priorities are backward."** Smith, J. E., "Newsom's \$1-billion wildfire plan favors logging over homeowners, critics say," *Los Angeles Times*, April 30, 2021 (Attachment 4)

**"Comparing homes that survived fires to homes that were destroyed, we investigated the role of defensible space distance, defensive actions, and building structural characteristics, statewide and parsed into three broad regions. Overall, structural characteristics explained more of a difference between survived and destroyed structures than defensible space distance. The most consistently important structural characteristics—having enclosed eaves, vent screens, and multi-pane windows—were those that potentially prevented wind-born ember penetration into structures, although multi-pane windows are also known to protect against radiant heat."** Syphard, "Factors Associated with Structure Loss in the 2013–2018 California Wildfires," *FIRE*, 2019. (Attachment 5)

**"Fire management of California shrublands has been heavily influenced by policies designed for coniferous forests, however, fire suppression has not effectively excluded fire from chaparral and coastal sage scrub landscapes and catastrophic wildfires are not the result of unnatural fuel accumulation. There is no evidence that prescribed burning in these shrublands provides any resource benefit and in some areas may negatively impact shrublands by increasing fire frequency. Therefore, fire hazard reduction is the primary justification for prescription burning, but it is doubtful that rotational burning to create landscape age mosaics is a cost effective method of controlling catastrophic wildfires. There are problems with prescription burning in this crown-fire ecosystem that are not shared by forests with a natural surface-fire regime."** Jon. E. Keeley, U.S. Geological Survey, "Fire Management of California Shrubland Landscapes," *Environmental Management* Vol. 29, No. 3, pp. 395–408 (2002) (Attachment 6)

**"This analysis suggests that the greatest improvements in reducing community vulnerability to wildfires is not like going to come from improved fuel treatments or fire suppression capabilities,**

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ecotones between chaparral and other plant communities, and 19 species (12 bats and 7 terrestrial species) in riparian areas. Five species occur in many habitats but prefer chaparral in California, and nine other species have wide ranges that encompass many communities, including chaparral. An area of chaparral (0.5 to 6.8 ha) generally contains two to four common, and two to nine total, species of rodents. Seeds, fruits, and young vegetation growth are the most important plant foods in chaparral. **Fire affects the distribution and abundance of mammalian populations in chaparral by altering the structure of the plant community and the availability of many foods...** Quinn. R.D. Habitat preferences and distribution of mammals in California chaparral. Res. Paper PSW-202. Berkeley, CA: Pacific Southwest Research Station, U.S. Forest Service. U.S. Department of Agriculture: 11 p. (1990) (Attachment 3)

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**"Comparing homes that survived fires to homes that were destroyed, we investigated the role of defensible space distance, defensive actions, and building structural characteristics, statewide and parsed into three broad regions. Overall, structural characteristics explained more of a difference between survived and destroyed structures than defensible space distance. The most consistently important structural characteristics—having enclosed eaves, vent screens, and multi-pane windows—were those that potentially prevented wind-born ember penetration into structures, although multi-pane windows are also known to protect against radiant heat."** Syphard, "Factors Associated with Structure Loss in the 2013–2018 California Wildfires," *FIRE*, 2019. (Attachment 5)

**"Fire management of California shrublands has been heavily influenced by policies designed for coniferous forests, however, fire suppression has not effectively excluded fire from chaparral and coastal sage scrub landscapes and catastrophic wildfires are not the result of unnatural fuel accumulation. There is no evidence that prescribed burning in these shrublands provides any resource benefit and in some areas may negatively impact shrublands by increasing fire frequency. Therefore, fire hazard reduction is the primary justification for prescription burning, but it is doubtful that rotational burning to create landscape age mosaics is a cost effective method of controlling catastrophic wildfires. There are problems with prescription burning in this crown-fire ecosystem that are not shared by forests with a natural surface-fire regime."** Jon. E. Keeley, U.S. Geological Survey, "Fire Management of California Shrubland Landscapes," *Environmental Management* Vol. 29, No. 3, pp. 395–408 (2002) (Attachment 6)

**"This analysis suggests that the greatest improvements in reducing community vulnerability to wildfires is not like going to come from improved fuel treatments or fire suppression capabilities,**

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but rather from changes in human infrastructure. The most significant advances are likely to come from improved fire prevention and careful analysis of land planning and zoning issues." Keeley, J., et al, "Large, high-intensity fire events in southern California shrublands: debunking the fine-grain age patch model," *Ecological Applications*, 19(1), 2009, pp. 69–94 (Attachment 7)

"Prichard et al. 2020 found that fuel reduction treatments can be overwhelmed during wind-driven fires, and Lydersen et al. 2014 also referred to similar results for plume-dominated fire events... Some studies are already pointing to differentiate the fire mechanisms between fires driven by wind or by fuel (Duane et al., 2015; Jin et al., 2015; Keeley and Syphard, 2019) and how to approach them from a management perspective... current suppression systems have less opportunities to stop fires driven by landscape structure..." Duane, Andrea & Miranda, Marcelo & Brotons, Lluís. "Forest connectivity percolation thresholds for fire spread under different weather conditions." *Forest Ecology and Management*. 498. (2021).

"In interior conifer forests, past land management has produced dangerous fuel loads and pre-fire fuel treatments are the main approach to altering these fire outcomes. However, on lower elevation landscapes subjected to extreme wind events, fire suppression has never come close to excluding fires, and thus fuel accumulation is not the causal factor in these fires. Wind-driven fires are the result of annual foehn wind events coupled with occasional human ignitions, either directly or through infrastructure failures. The primary means of reducing impacts of these fires is through better fire prevention, improved land planning that puts fewer people at risk, enhanced homeowner protection, and improved agency prediction of fire spread trajectories and communicating those to fire-fighting agencies and homeowners." Keeley, J.E., Syphard, A.D. Twenty-first century California, USA, wildfires: fuel-dominated vs. wind-dominated fires. *fire ecol* 15, 24 (2019).  
<https://doi.org/10.1186/s42408-019-0041-0> (Attachment 8)

"Prescribed burning, intended to remove dead wood and fuel before fire season, does help control fires in Western conifer forests, like the tall giants of Sequoia National Park in Northern California. But chaparral isn't forest. It's a dense carpet of woody shrubs: chamise, ceonothus and other plants that cling to steep canyons and ridges. 'I work in Sequoia National Park, and we've had a prescription burning program for the last 40 years, and it's extremely necessary,' Keeley told OurAmazingPlanet. 'In most of Southern California, it is completely irrelevant. There is overwhelming evidence we've never come anywhere close to excluding fire on this landscape,' through prescribed burns, he said. In Southern California, 29 years of prescribed burns had no effect on reducing the area burned by future fires, a 2012 study Keeley co-authored found. The study was published in the *Journal of Environmental Management*. 'It's wrongheaded to think there's just one fire story out there,' Keeley said. 'There's lots of fire stories. There's what's going on in forests, and what's going on in chaparral landscapes, and they're very different in terms of how to solve them.'" Oskin, B., "Fighting Fires: You're Doing It Wrong," *LiveScience.com* (2013) (Attachment 18)<sup>3</sup>

### C. Converting Native Chaparral Plant Communities to "Grasslands"

"... Conversion of chaparral to exotic herbaceous<sup>4</sup> cover may also increase wildfire risk to humans, and may lead to a perpetuating positive feedback cycle, frequently referred to as the grass–fire cycle (D'Antonio and Vitousek 1992)... With unprecedented recent large fires having occurred across Southern

<sup>3</sup> <https://www.livescience.com/26257-fighting-chaparral-fires-myths-busted.html>

<sup>4</sup> Given CalFire conducts no restoration after the controlled burn, the spread of non-native grasses is likely to accelerate in previous native chaparral habitat.

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California, there are huge expanses of vulnerable young vegetation that are at risk of burning again before the minimum of at least 10–15 yr needed for chaparral recovery.” (Attachment 1)

#### D. Fire in Chaparral Environments

“Fire probably occurred once to three times a century in chaparral environments (known as a fire return interval) or even longer in some places during pre-settlement times ... Repeated fires at short intervals (fewer than 10 years) that kill young plants before they produce seed can reduce populations of ‘fire-following’ shrub species. In addition, non-native grasses often colonize chaparral stands recovering from fire and persist until shrubs fill in and close the canopy; however, if fire occurs during this grass phase, the reduced fire intensity can allow grass seeds to survive and perpetuate a cycle of more frequent fire and reduced shrub cover. Steep slopes where chaparral ecosystems have converted to grasses and other herbaceous plants are more prone to soil slippage and slope failure during high-intensity rainstorms, likely due to decay of deep shrub roots. Re-establishment of chaparral shrubs after grass conversion is difficult and a topics active research.” Pacific Southwest Research Station, “Fire in chaparral ecosystems” US Forest Service<sup>5</sup> (Attachment 9)

“While logging and other vegetation treatments may prove crucial for forests, researchers have found that clearing chaparral shrublands can increase wildfire risks by inviting the spread of highly flammable invasive grasses.” Smith, J.E., *Los Angeles Times*, April 30, 2021. (Attachment 4)

#### E. Prescribed Burns Shouldn’t Be Done in Chaparral Plant Communities

“In the last forty years fire managers have promoted the idea that prescribed fire is necessary to protect ecosystems and communities by restoring fire’s natural role in the environment to thin forest stands and to reduce hazardous fuels. This is true for western forests where the natural fire regime was frequent, low intensity surface fires started by lightning, and for many other ecosystems like southern longleaf pine forests, Florida palmetto scrub, and the Great Plains tall grass prairies. **However, it is not true for the shrubland dominated ecosystems** of southern California and the Santa Monica Mountains... The Mediterranean climate favors the development of shrubland vegetation types. Southern California chaparral and coastal sage scrub often grow as continuous, closed canopies and have the perfect fuels characteristics to ignite easily, burn intensely and spread rapidly.... **Many studies have shown that repeated fires at short intervals will eliminate chaparral shrub species and can promote establishment of non-native annual weeds...** Prescribed burning is not effective in limiting the spread of wildfires under the conditions that burn the largest amount of land and cause the most home losses. Native shrublands are being burned too frequently because of human ignited wildfires. Prescribed fire does not fulfill any identified ecological need in chaparral or coastal sage scrub and would increase the probability of a damaging short fire interval following a prescribed burn.” National Parks Services, Santa Monica Mountains National Recreation Area. (Attachment 10)

#### F. Revised MND Objectives

The revised MND states the Project Objectives are:

1. The primary goal of the project is to create or maintain areas of reduced vegetation with the goal to reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful, thereby increasing the safety of neighborhoods near the SFPUC Watershed.

<sup>5</sup> [https://www.fs.fed.us/psw/topics/fire\\_science/ecosystems/chaparral.shtml](https://www.fs.fed.us/psw/topics/fire_science/ecosystems/chaparral.shtml)

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2. Auxiliary project objectives, which CAL FIRE hopes to accomplish but do not constitute the main purpose of the project, include:
  - a. Return fire to the landscape, with the goals of maintaining existing native grasslands by slowing shrub encroachment.
  - b. Train CAL FIRE personnel in firing and control techniques.

CalFire revised the original Objectives to the above primary and “auxiliary” objectives; previously the agency acknowledged it had three equally weighted objectives which were:

1. Create or maintain areas of **reduced vegetation with the goal to reduce fuel loading** and woody fuel continuity where firefighting tactics can be more successful, **thereby increasing the safety of neighborhoods near the SFPUC Watershed.**
2. maintaining existing native grasslands **by slowing shrub encroachment and potentially restoring some areas of shrub encroachment to open native grassland**
3. **Train CAL FIRE personnel** in firing and control techniques.

Presumably, the equally-weighted objectives were not justifiable either from either a legal or public relations perspective or both. Merely changing the objective without altering or modifying the action is window dressing – and is not a substantive change. A substantive change would include addressing areas of concern – e.g., public concern about destroying healthy native plant communities, reduced scope of the targeted areas, modification of the proposed action to reflect the objective change. No such modifications were made that can be correlated to the objective change.

Given that the “primary goal” of the proposed action is to “reduce fuel loading and woody fuel continuity where firefighting tactics can be more successful ... increasing the safety of the neighborhoods,” my comments will largely focus on whether or not this primary objective can or will be achieved with the proposed action, whether CalFire considered and analyzed current data and science on the management of vegetation to make neighborhoods safer in the event of a wildfire, considered and analyzed alternative actions that would mitigate areas of public concern while still achieving the stated goal and took a hard look at whether the proposed action is the only justifiable action to achieve the goal(s) or whether modified actions could similarly achieve the goal(s).

As Chief Sampson stated at the “Informational Meeting for the Prescribed Burn, SFPUC” held on Wednesday, March 24, 2021 (7pm-8pm) hardening homes or taking actions to ensure homes are not susceptible to flying embers during a wildfire event was not CalFire’s mission – that was the local jurisdiction’s responsibility.

Sadly, local jurisdictions such as the City of Belmont (along with state officials) are lacking in their responsibilities to ensure home are hardened. Instead of conducting independent research the entities rely upon each other to promote a one-size fits all approach which has proven unsuccessful.

Science shows that wildfires spread and often ignite homes with flying embers during a wildfire event. For many, if not most homes, vents, wooden decks, wooden siding and other highly combustible or flammable home attributes put homes at risk. So, while the City of Belmont submitted thanks and support for the proposed action, the City remains negligent in ensuring residents are taking measures to harden and secure their homes. Merely slashing and burning habitat does not make homes safer – recent wildfires and home destruction proves this to be true. Yet, sadly, CalFire and other governmental agencies continue to push this decades-old, broad approach of slash and burn instead of considering data and

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science which shows (1) there are more effective actions that can be taken to save homes and lives in the case of a wildfire event and (2) some actions, such as the proposed action, are not making homes safer and are likely accelerating the threat to homes.

At the March 24 Informational Meeting, Ms. Collamer specifically outlined her premise that the proposed action would "return" the targeted areas to the "original grasslands" by burning the chaparral plant communities which "encroached" the area. She based her premise on photos of the area that ranchers who had cleared the land for livestock grazing and highlighted her lack of understanding of historic ecology of the area. I think CalFire representatives would agree that the agency is not a land management agency; therefore, CalFire should not be making these types of important land management decisions.

State wildfire experts who have for decades promoted prescribed burns for forests highlight the danger of this one-size-fits-all approach to using prescribed burns in chaparral plant communities. More on this herein.

#### G. Summary of the Issue

*Chaparral stands are generally not resilient to fire-return intervals less than about 10–15 years (Keeley et al. 2012b), and the increased number and frequency of anthropogenic ignitions in southern California have already led to major areas of type-conversion from chaparral to non-native annual grassland (see Chaps. 12 and 13).*

*Once converted, an alternate stable state may be reached where ignitions can occur almost any time of the year because of the fine grass fuels. This said, land-use changes from urbanization and agricultural development over the coming decades may well play as important or more important a role as climate change in the conservation of chaparral and related shrubland ecosystems (Riordan and Rundel 2014)*

*Historically the primary management focus on chaparral, particularly in southern California, has been on management of fuels and fire hazard, with little emphasis on the sustainability of chaparral ecosystems and the associated ecosystem services provided. In simple terms, chaparral has been widely ignored by federal and state management agencies as an uninteresting but flammable landscape that produces threats to the built environment of California.*

*However, for a variety of historical and cultural reasons that fail to value chaparral like a commodity, land managers have neither given adequate attention to chaparral as an important natural resource nor appreciated its ecological and ecosystem value.*

*As a result, chaparral has been treated more as a fuel problem than a native plant community worthy of preservation, and chaparral management plans have largely ignored sustainability and ecosystem services, and have centered instead on approaches to fuel reduction.*

*Today there is an increasing understanding at many government levels that chaparral ecosystems provide critical ecosystem services, most directly through their role in erosion control, hydrology, biomass sequestration, and preservation of biodiversity. These functions will increase in significance in the future under conditions of reduced precipitation and warmer temperatures. The presence of chaparral communities at or near the expanding boundaries of suburban development leads to inevitable conflicts*

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*between the impacts of chaparral wildfire and the protection of human life and structures. Such conflicts will continue without informed regional and local policies for planning and land use development.<sup>6</sup>*

The current MND fails to consider modern science and data, relies on outdated information, fails to consider alternative actions that would mitigate public concerns and fails to consider that the proposed action may actually increase wildfire dangers to adjacent neighborhoods.

## II. California Environmental Quality Act

The purpose of California Environmental Quality Act (CEQA) is to prevent or minimize damage to the environment through development of project alternatives, mitigation measures, and mitigation monitoring. The Department of Forestry is required to consider alternative actions that would minimize damage to the environment. The Department must take a hard look at the content, data and information submitted via public comments to determine whether alternative actions may be taken to achieve the claimed objectives of the proposed action.

The revised MND continues to fail to adequately consider or disclose endangered and threatened species in the project location, adequately provide microsite- and date-specific actions, adequately consider and evaluate potential environmental effects that could result from the proposed action and alternative actions that would work towards the cited goal(s).

Because the proposed action includes a precedent-setting action of burning watershed lands near to or adjacent to an urban neighborhood (Plots 4, 5 and 6), an EIR is needed to conduct in-depth studies of potential impacts, measures to reduce or avoid those impacts, and an analysis of alternatives to the project.

SFPUC has never conducted an environmental review or assessment of the targeted sites – specifically Plots 4 & 6, but other sites also. The MND makes no reference to such a document. CalFire is literally the first agency to do any assessment of the environmental conditions at the sites, therefore, the agency cannot rely upon the SFPUC's incomplete data. The MND states, "This search was limited to State or Federally listed or candidate species, and California Rare Plant Rank (CRPR) List 1 and 2 species. List 3 and 4 species are not considered significant as those species do not meet then definition of endangered or rare in State CEQA Guidelines Section 15380(b). Additionally, GIS data for all known occurrences of special status plant species on watershed land was provided by SFPUC and reviewed. Figure 7 shows the project area and CNNDDB occurrences of special status plant species within a 5-mile radius. This figure does not include confidential SFPUC data. Table 1 below includes all special status plant species which occur within the project vicinity (as defined above) as well as their potential to occur in the project area." This is clearly not adequate. The few hours of documentation/observation that the CalFire contractor (Dudex) executed is not sufficient.

Mission blue butterflies are regularly observed in the areas and protecting lupin is not sufficient given that these highly endangered butterflies are known to utilize and rely upon for their survival other plants in the scrub and chaparral plant communities.

If you have ever observed mission blue butterflies, you know that they rely on plant communities far outside of a 25-foot radius for survival. The proposal to rely upon a potentially larger buffer area if the "qualified biologist determines a larger buffer is needed to protect nectar plants near occupied larval host

<sup>6</sup> Rundel, Philip. (2018). California Chaparral and Its Global Significance. (2018) (Attachment 2)

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plants" fails to take adequate actions to protect the butterfly. It is not reasonable to only protect "larval host plants;" it is not reasonable to only protect host plants and "nectar plants near occupied larval host plants." Adult mission blues drink flower nectar from buckwheat and other plants. Caterpillars eat only lupine. In fact, the California buckwheat (aka chaparral buckwheat) has been observed to be a star attraction for mission blues in the area, along with a host of other plants from the chaparral plant community.<sup>7</sup>

Project impacts to CRPR CEQA Guidelines §15070 states a Negative Declaration or Mitigated Negative Declaration may be prepared when:

*The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or The initial study identifies potentially significant effects, but: (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.*

CEQA § 21080 states, "If there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment, an environmental impact report shall be prepared." CEQA also states, "substantial evidence includes fact" or "a reasonable assumption predicated upon fact."<sup>8</sup>

The inadequacies in the revised MND and comments herein outline that there remains a reasonable assumption predicated upon fact (or substantial evidence) that the project may have a significant effect on the environment and therefore an Environmental Impact Report must be prepared.

### III. CalFire: "this project only intends to burn less than 5% of the watershed"

CalFire's assertion that the proposed action does not warrant and mitigating actions or an EIR fails to acknowledge the requirement to consider cumulative impacts. While the revised MND state, "this project only intends to burn less than 5% of the watershed" clearly 5% is a significant portion given the other actions and impacts on the watershed ranging from recreational usage, impacts from drought, EIR-reviewed projects, etc.

"Cumulative impact analysis gets at the overall intent of CEQA as a piece of conservation legislation. It looks at the big picture of "preventing environmental damage, while providing a decent home and satisfying living environment for every Californian" (Public Resources Code [PRC] Section 21002[g]). By looking outside of a particular project site or action, **a cumulative impact analysis allows decisionmakers to look at the impacts of a project within the greater context.**"<sup>9</sup> Cumulative impact assessment must encompass potential impacts to soil, vegetation, wildlife, endangered/threatened species, and consider cumulative impact resulting from repeated burns over years. The revised MND fails to even outline the extent to which the actions may or may not continue into the future. Does the proposed action

<sup>7</sup> [https://www.fws.gov/sacramento/es\\_species/Accounts/Invertebrates/mission\\_blue\\_butterfly/](https://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/mission_blue_butterfly/)

<sup>8</sup> For the purposes of this section and this division, **substantial evidence includes fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact.**

<sup>9</sup> [https://ceqaportal.org/tp/AEP%20CEQA%20Portal\\_Cumulative%20Impacts.pdf](https://ceqaportal.org/tp/AEP%20CEQA%20Portal_Cumulative%20Impacts.pdf)

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only allow an area to only be burned one time? Or is there a possibility for repeated burns in the future? When does the MND expire?

CalFire states, "CAL FIRE disagrees with the commenters opinion that the analysis is too vague and generalized to be considered applicable under CEQA. The MND adequately analyses the projects potential impacts and provides mitigations when necessary to reduce these impacts to a less than significant measure." However, the MND fails to specify whether areas will be burned only one time, how many years the MND will remain in effect, what areas will be burned first, and other microsite- and date-specific information for proposed action. This lack of specificity makes it difficult to provide meaning public comments.

CalFire takes the position, as outlined in the revised MND, that the agency does not have to consider the harmful effects of the proposed action because there are no harmful effects – the agency claims no need to consider cumulative effects. This nullifies the objective of CEQA because the agency circumvents adequacy analysis by claiming there are no impacts; therefore, there are no mitigating actions needed, no real analysis needed ... it's the "don't look here nothing is happening" approach.

CalFire is also failing to consider the cumulative impacts to chaparral habitat given that the agency states it plans to burn up to 500,000 acres in 2021. What are the cumulative impacts to the mission blue butterfly given this massive destruction of the native chaparral plant communities the animal relies on to survive?

Given this is a precedent-setting action, CalFire must disclose and analyze cumulative impacts for the proposed action. Adhering to CEQA is necessary.

#### **IV. Plots 3, 5 and 7 Should Be Eliminated from the Burn**

The primary objective outlined in the revised MND will not be met for Plots 3, 5 and 7 which are not near neighborhoods and therefore there is no justification for the proposed action as per the "primary objective" of the proposed action. The "auxiliary" objectives are supplemental and cannot be claimed to be the reason for the proposed action. CalFire has created a contradiction and untruth in the revised MND – it now claims the proposed action is primarily for the safety of the neighborhood(s). Yet, three plots are not adjacent neighborhoods. Homes on the west side of Hwy 35 are adjacent to wildlands which will not be burned so clearly the safety of those homes is not the objective of CalFire's proposed action.

In order to claim the primary objective is to reduce flora for the safety of a neighborhood, the MND must outline scenarios how wildfire might spread to each neighborhood – a necessary component to determine whether the proposed action (e.g., extreme and precedent-setting burn) is truly the from most effective (and least environmentally harmful) action to achieve the stated primary objective. The MND must (and in its current form fails to) consider that if a wildfire were to occur in Plots 4 or 6 it would likely be caused by activities on Highway 280. Yet the MND fails to consider mowing a 100-foot firebreak along Highway 280 to prevent a wildfire from spreading to the neighborhood. Flying embers could also cause a wildfire to occur in the Watershed; however, similar flying embers could also ignite homes given that most homes in the neighborhood have not been hardened largely because the State is not focused on making *homes* safer, but rather focuses on eliminating native habitat.

The MND fails to outline any rationale or data that supports the selection of Plots 4 and 6 for the proposed action rather than other areas that are adjacent to urban neighborhoods. The lack of data indicates the selection to be arbitrary and this is insufficient to implement such a precedent-setting burn in the area. There is no historic practice of conducting a prescribed burn behind homes in this area and none

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has occurred on these plots. Due to the controversial nature of this burn and the precedent-setting nature of this proposed action, an EIR is needed to determine that this extreme action is necessary to achieve the stated objective(s). There are many SFPUC Watershed lands and other open spaces that are adjacent to urban neighborhoods throughout the Peninsula which are not targeted for prescribed burns. Indeed, it would be impossible to target to burn all open spaces adjacent to all neighborhoods in the Bay Area or the region.

CalFire states, "CEQA does not require a formal project alternatives analysis to be included in a Mitigated Negative Declarations. CEQA only specifically require alternatives analysis for Environmental Impact Reports (CEQA Guidelines Section 15126.6)." This further supports the inadequacy of the MND because it fails to even consider alternative actions that would better achieve the claimed primary objective to increase neighborhood safety and reduce environment impacts including but not limited to the facts that the prescribed burn will destroy native chaparral and sage scrub plant communities, may likely kill native wildlife (including reptiles, rats, ground-dwelling animals), contribute to CO2 emissions and destroy the natural esthetic beauty of the Watershed's native plant communities which I have come to love and cherish. I have lived in this area for most of the past 40 years, I will be harmed if this proposed action is implemented for the above-mentioned reasons.

If CalFire were doing this for the primary objective ("safety of the neighborhood") as claimed, it is reasonable that the agency would consider alternative actions (whether required by law or not) in order to better achieve the claimed goal or consider an alternative action that could provide greater neighborhood safety. Instead, the agency refuses to consider alternatives because the auxiliary objectives (training CalFire crew and destroying the "encroachment" of chaparral, which is being referred to as "shrub encroachment") would not be achieved with any alternative actions. This shows that the change of the three equally-weighted goals remain despite the window-dressing change to the primary and auxiliary objectives.

## V. Impacts to Wildlife

"An increase in fire size or speed may make escape or recolonization impossible for large- or medium-sized animals. Possibly the most damaging, a change in fire season may affect vulnerable stages of nest building, offspring rearing, or juvenile survival for all three wildlife functional groups.... Depending on a species' ability to utilize the fire-transformed landscape, recolonization back into the burned area will be rapid or slow as the vegetation follows its successional pathway (Figure 1). Early seral stage specialists and generalists will appear within a burn area immediately, while others may take years to recover. ...The larger or more mobile animals that flee a fire need to find adequate shelter outside the fire perimeter until conditions are suitable for recolonization. Thus, regional patterns of land use and extent of habitat fragmentation will be particularly important to these species. Recolonizing burned areas will depend on the distribution of metapopulations and patterns of suitable corridors." van Mantgem, E.F., Keeley, J.E. & Witter, M. Faunal Responses to Fire in Chaparral and Sage Scrub in California, USA. *fire ecol* 11, 128–148 (2015). <https://doi.org/10.4996/fireecology.1103128> (Attachment 11) This paper provides careful consideration of the impacts to various species and I urge CalFire to read this paper to understand concerns of members of the public.

"Fire affected animal species composition by shifting vegetation structure and composition." <sup>10</sup> "Burns followed by substantial non-native plant invasion (i.e., "type conversion") resulted in a simplified small mammal community." Ibid. "In already-disturbed areas, managers should pay special attention to non-

<sup>10</sup> When Chaparral and Coastal Sage Scrub Burn: Consequences for Mammals, Management, and More (Attachment 12)

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native herbaceous plants. Fire may foster their presence and alter the diversity of small mammal communities as well as other animals." Ibid.

"We studied bird populations following two types of vegetation removal, prescribed fire and mastication (the mechanical crushing of vegetation), because both management methods have been used to try reduce wildfire risk in California chaparral," said Erica Newman, lead author of the study and a scientist in the University of Arizona School of Natural Resources and the Environment. "We know from multiple studies that any management eventually increases fire risk as invasive grasses move in," said Newman, PhD '16 Energy Resources Group. "But to add to this, we now know that mastication in particular is extremely harmful to bird populations." UC Berkeley Rausser Natural Resources, "Study reveals that chaparral fire management can devastate California's wild birds"<sup>11</sup> (Attachments 13a-b, 14)

#### VI. Revised MND Continues to Promote Intent to Convert Chaparral and Sage Scrub Communities to Grasslands

The MND repeats claims of "encroachment" by "shrub" or chaparral or "woody shrub" or "coastal scrub." Encroachment by definition means "intrusion" or "spread" or "loss of habitat."

The MND has outlined the Department's intention to kill and convert chaparral and sage shrubs to grasslands: "pretreatment involves **killing some or all shrub species** in a unit" and "**crushing stands of shrubs** by driving a bulldozer with its blade lifted through stands" and "**limited amounts of brush may be pretreated by herbicide application and/or by cutting with chainsaws**" and "**Hand crews utilizing chainsaws will cut and remove woody material** (both living and dead)."

CalFire states, "The commenter is of the opinion that areas of grassland where (*sic*) created through anthropogenic activities and did not naturally occur without human influence. There is dispute among experts with regards to the role ranching and other anthropogenic activities played in maintaining areas of open grassland in San Mateo county versus the natural fire regime." CalFire site no source or data to support this claim that "there is dispute among experts." It's easy to make assertions without citing a source. Governmental agencies should be held to a higher standard. Even the response is written with bias as it suggests the anthropogenic activities played a role in "maintaining" grasslands when it hasn't even been established that grasslands were the original habitat.

**"California grasslands were once vegetated by native perennial grasses. But during the last 200 years, exotic annual grasses from Europe started taking over and now only 2 percent of the state's grasslands are vegetated by native perennial grasses. There are about 300 species of native grasses, which began to get displaced when Spaniards settled in California in the 1700s, bringing livestock and new land practices. Annual grasses took over in the 1800s, possibly because of overgrazing."**

The California Naturalist Handbook, Greg de Nevers, Deborah Stanger Edelman, Adina Merenlender, University of California Press, Feb 15, 2013.

Because, the revised MND states an "auxiliary" goal of "maintaining existing *native* grasslands by slowing shrub encroachment," the scientific accuracy of the statement holds importance. While CalFire states, "The analysis of potential environmental impacts is not predicated on the historical composition of

<sup>11</sup> <https://nature.berkeley.edu/news/2018/02/study-reveals-chaparral-management-can-devastate-california-s-wild-bird> and <https://magazine.scienceconnected.org/2018/04/fire-management-california-chaparral-harms-birds/> and Newman, E.A., Potts, J.B., Tingley, M.W., Vaughn, C., Stephens, S.L. (2018). Chaparral bird community responses to prescribed fire and shrub removal in three management seasons. J Appl Ecol, 00 : 1 – 11. (Attachments 13a-b and 14)

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the vegetation communities in the project area.” But if an auxiliary objective to “**potentially restore[e] some areas of shrub encroachment to open native grassland**” then whether or not those “grasslands” are native is important. While CalFire calls this “restoring” shrubs to grasslands it is really the conversation of native shrubs to primarily non-native grasslands which were likely created by the livestock industry. (Attachment 19)

If CalFire takes seriously its stated auxiliary objective – (1) it cannot “restore” what was not there given the native plant communities are chaparral and not “grasses” and (2) it cannot restore “native” grasslands if the agency proceeds to destroy native plant communities only to allow the non-native grasses which taken over the areas to continue to spread.

There is amply scientific evidence that outlines the destruction of chaparral opens the door to spreading non-native grasses which are much more flammable than chaparral.

The agency has now revised its primary objective and created two auxiliary objectives and must be sincere in its objectives. If the objectives are not based on science and facts the agency cannot merely speculate that there is hearsay that there is “dispute among experts.” The agency must as per CEQA consider facts and data.

Specifically, is imperative to address whether or not the assertion that existing grasslands are in fact “native.” For if these “grasslands” are highly invasive (and by definition highly flammable) grasslands and not native – the shrubs, scrubs, woody shrubs could not be considered to be “encroaching.” Then CalFire would need to look to science to determine whether removing native plant communities (e.g. chaparral and coastal scrub) would decrease or increase wildfire risk, what plants would likely replace the burned native plants and then determine whether or not the proposed action would actually achieve the stated primary objective.

Based on the MND’s failure, and the agency’s refusal, to consider alternatives, CalFire makes clear its intention remains to what it originally claimed, to “**restor[e] some areas of shrub encroachment to open native grassland.**” Because CPR 4483 prohibits this conversion the agency has merely changed the word and (which is wrongfully being referred to as “restoration,” the revised MND eliminates the blatant language but does not modify in any way the proposed actions to achieve those same objectives which are now called by a different name.

The MND refers to chaparral and sage scrub plant communities as “shrub” and “woody material.” Coyote brush is a predominate plant in most chaparral communities. Plots 4 and 6 are thriving chaparral plant communities – with a variety of associated plants scattered throughout -- including lupin, manzanitas, sage and others. As discussed previously, these plant communities greatly contribute to biodiversity (Attachment 2) and are key species for not only the mission blue butterfly (which I have observed in the area) but other native species, including the Kangaroo rat<sup>12</sup>, and threatened and endangered species. Coyote brush and Lupin are common chaparral plants – living on ridges, slopes, canyons, coastal scrub. These are symbiotic native plant communities that support a host of native species; yet the MND refers to them as “woody materials” and as something to be eradicated. All targeted Plots (with the exception of the Skyline plot) have native chaparral and sage scrub plant communities.

The revised MND continues to include the reference to Schirokauer et al (2003) who could not map *native* grasslands and instead mapped ‘grasslands’ on the Peninsula Watershed and labeled them as “California Annual Grasslands.” The continued usage of the designation of invasive, non-native grasses

<sup>12</sup> (Attachment 15)

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as "California Annual Grasslands" is misleading at best. CalFire relies heavily upon one SFPUC contracted firm known as Eckbo, Dean, Austin and Williams or EDAW which apparently published in 2002 claims that, "It has since [2003] been determined that many of these areas have a component of, or are dominated by, native bunchgrass vegetation ... and would be considered native grassland based on currently accepted definitions (>10% cover native grass species)." CalFire has not claimed to conduct the necessary research to confirm that bonafide native grasses comprise at least 10% of the grasses; from anecdotal observations that appears unlikely.

The low 10% standard of native grasses used to qualify "native grasslands" is a decades-old criteria created that appears to lack scientific foundation; therefore, it holds no value except to mislead the public into thinking that "native grasslands" are primarily comprised of native plants which is not the case — given up to 90% could be invasive, exotic flora. Such misleading terminology should not be used by government agencies to confuse and mislead the public.

The primary "grass" found in Plots 4 and 6 are non-native cheatgrasses — arguably of these non-native grasses exceed 90% of the grasses. Again, there are many sources that outline that cheatgrass and other nonnative grasses were introduced in the western United States in the 1800s due to the livestock grazing which largely destroyed ecological conditions and overgrazing hastened and accelerated the fast invasion of the non-native grass.<sup>13</sup>

The native habitat of each of the targeted Plots is important because the California Legislature has clearly stated in **CPR 4483**.

California Public Resources Code 4483 states:

- (b) (1) It is the intent of the Legislature that additional consideration be provided for chaparral and coastal sage scrub plant communities that are being increasingly threatened by fire frequency in excess of their natural fire return patterns due to climate change and human-caused fires.*
- (2) Prescribed burning, mastication, herbicide application, mechanical thinning, or other vegetative treatments of chaparral or sage scrub shall occur only if the department finds that the activity will not cause "type conversion" away from the chaparral and coastal sage scrub currently on site.*

The "wood material" or "shrubs" or "brush" that is referred to throughout the MND is largely coyote brush which is a founding component of the chaparral community. Sage scrub plant communities are throughout Plots 4 and 6 and they are also to be protected from conversion to "grasslands." The MND fails to consider CPR 4483 and fails to adhere to the CPR's mandate that killing the "brush" will not convert the habitat away from the chaparral and coastal sage scrub currently on the site.

A thorough study outlines the threat of fire to the long-term health of chaparral lichen taxa:

*Methods: Using a chronosequence of wildfires in a Northern California chaparral shrubland, we compare lichen communities among sites that burned 3, 13, 22, 30 and 65 years previously, as well as old-growth chaparral sites without a recorded fire over the past century.*

*Results: We find that lichen richness increases consistently with time since fire but*

<sup>13</sup> [http://www.columbia.edu/itc/cerc/danoff-burg/invasion\\_bio/inv\\_spp\\_summ/Bromus\\_tectorum.html](http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/Bromus_tectorum.html)

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*begins to level off 20–30 years following fire, roughly corresponding to the closure of the shrub canopy. Some taxa and guilds were found only in old-growth chaparral.*

*Conclusions: Our findings highlight that fire-intolerant organisms may be relatively slow to recolonize landscapes after high-severity fire and that the majority of chaparral lichen taxa may be lost where fire intervals shorten to <20 years, which has already occurred in some parts of California.*

*Source: Miller, J., Weill, A., "Epiphytic macrolichen communities take decades to recover after high-severity wildfire in chaparral shrublands," Diversity and Distributions. 2021;00:1–9. (Attachment 16)*

Additionally, given there are riparian area(s) in specific Plot(s), it is clear adequate CEQA review has not been undertaken to protect these sensitive areas which are known habitats for highly endangered species known to found in close proximity to the Plots (if not found in the Plots). The MND outlines the species (flora and fauna) within a five-mile radius of the Plots and we know from recent discoveries on the Peninsula that endangered species (including frogs, snakes, et al) have gone undocumented in other areas. The limited consideration CalFire has given these Plots is indicative of the insufficient consideration and oversight of the proposed management of such sensitive species in the targeted Plots.

#### **VII. MND Continues Inaccurate Claim of "Historic" "Grassland" Which is Pertinent to CPR 4483**

The MND states:

*Historical analysis, including analysis of historical photos, indicates that many areas of the project east of the San Andreas fault were dominated by coastal prairie or oak savannah, with some areas eventually becoming shrub dominated due to the lack of disturbance such as fire.*

The revised MND eliminated the goal to "provide improved habitat for wildlife, as *so much of the watershed has remained in a stagnant state*. Disturbance in the landscape creates more grassland and higher light conditions, which are required by many animals and plants. *Historic photos of San Mateo show an open coastal prairie, with few trees or brush.*"

While the revised MND no longer aims to improve habitat for wildlife and eliminated some of these misleading claims, it fails to change any of the proposed actions to address these word changes. The MND continues to fail to consider the importance of the current chaparral and sage scrub communities; fails to consider the contribution these native plant communities make to biodiversity, reducing carbon (as chaparral and coastal scrub capture far more carbon than grasses) and fails to consider the negative impacts the destruction of these native plant communities will have on wildlife – from mission blue butterflies, to reptiles, birds, insects, rodents, raptors, etc. The notion that increasing grass areas benefits predators and other animals is a short-term perspective. The reduction of chaparral and scrub canopy reduces homes for many small critters which reduces those populations in the short- and long-term. Additionally, the severe drought may continue for years – the length and severity of the drought cannot be predicted. There are predictions that we will experience more severe weather patterns which may jeopardize natural vegetative propagation which would have an impact on all wildlife.

While it is true, when small critters (mammals, reptiles, birds) lose their homes due to human actions (chain sawing, discing, fire, etc.) they are more vulnerable to predation. While that may temporarily boost

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predator success in catching prey, it may also severely impact the short- and long-term populations of small critters. Coyote brush, chaparral plant community and sage brush are desirable native habitat – instead the MND addresses these important native communities instead refer to them as “stagnant” and that “disturbance” – through burns, chain-sawing, herbicides and other mastication methodologies – will create “more grassland.” The MND fails to consider that destroying native plants to create (or convert it to) “grassland and higher light conditions” will accelerate the expansion of invasive non-native weeds including cheat grass which is more flammable than the current native plant communities as described in numerous scientific papers attached herein.

#### VIII. Revised MND State “Auxiliary” Objective: Train Cal Fire Personnel

The revised MND fails to provide sufficient information or rationale to support this as an auxiliary goal. Given this is no longer a primary objective, it should be given little to no weight. Clearly, CalFire could consider alternative burning activities to train personnel such: (a) as cutting down non-native invasive trees (pines or eucalyptus) and practice burning such tree piles; or (b) conducting small grass burns on invasive non-native weeds on small one-acre parcels.

#### IX. Controlled or Prescribed Burns Are Not Effective in Chaparral Plant Communities

*Chaparral, among the most stable and resilient vegetation types in California, has shown signs of degradation by altered frequency, drought, non-native species, recreation, urban development, and possibly anthropogenic nitrogen deposition in southern California.*

*Despite its reputation for resilience, chaparral is subject to a range of anthropogenic disturbances that degrade or eliminate it, including purposeful vegetation type-conversion, short-return intervals, suppression, invasion by non-native species, drought, and fragmentation by urban development, roads, corridors and fuel breaks. **Deliberate type-conversion to grass dominated vegetation has been done to increase forage for livestock (Biswell 1954), enhance water yield (Corbett and Rice 1966 ... extreme efforts needed to suppress shrub regeneration, which includes combinations of burning, herbicide, and seeding with grasses ... Severely disturbed chaparral, whether by frequent fire or mechanical disturbance, is usually slow, or unable, to recover naturally. Some highly disturbed stands have persisted for decades as non-native forbs and grasses, sometimes with scattered deciduous shrubs that were not constituents of the original chaparral vegetation (Stylinski and Allen 1999). ... To date, there has not been a landscape-scale assessment of the extent of chaparral type-conversion to challenge this perception (but see Chap. 12). Because we know that chaparral degradation is occurring and is likely to accelerate, it is important to develop successful techniques for restoration of chaparral structure and function. ... Some chaparral functions may be deemed more critical than others on specific sites and such valuation may influence priorities for reestablishing different types of species. For example, slope stabilization above vulnerable habitats and protection of downslope communities could be enhanced through the establishment of deep-rooted shrubs Slope stabilization, water infiltration, and carbon sequestration are typical ecosystem function goals relevant to degraded chaparral...** For the purposes of enhancing animal diversity, vegetation structure and plant species composition are important. Interactions between animal diversity and vegetation structure and composition have been extensively reviewed (Keeley and Swift 1995). Shrub cover attracts small mammals, habitat edges between shrub cover and more open vegetation attract a variety of mammals, and insect pollinators, especially bee species, are abundant in chaparral (Moldenke 1976; Keeley*

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and Swift 1995). The abundance of pollinators can be influenced by plant species diversity and this is particularly important in chaparral because of the large number of specialist pollinator/shrub relationships. Pollinator abundance has also been attributed to vegetation structure and the sheltering effect of the chaparral canopy on ground-nesting bees (Moldenke 1976; Force 1990; Keeley and Swift 1995).

Allen, E., Williams, K. et al, "Chapter 13, Chaparral Restoration," Underwood, E.C. et al. (eds.), *Valuing Chaparral*, E.C. Underwood, Springer Nature Series on Environmental Management, (2018)  
[https://doi.org/10.1007/978-3-319-68303-4\\_13](https://doi.org/10.1007/978-3-319-68303-4_13) (Attachment 17)

## **X. MND Fails to Consider Science and Instead Relies on Decades-Old Assumptions**

### **A. Fires: High Fuel loads v Extreme Wind Events**

"Although there are always multiple factors driving wildfire behavior, we believe a helpful model for understanding fires in the state is to frame the discussion in terms of bottom-up vs. top-down controls on fire behavior; that is, fires that are clearly dominated by anomalously high fuel loads from those dominated by extreme wind events. Of course, this distinction is somewhat artificial in that all fires are controlled by multiple factors involving fuels, winds, and topography. However, we believe that fires clearly recognizable as fuel-dominated vs. wind-dominated provide interesting case studies of factors behind these two extremes. These two types of fires differ greatly in their (1) geographical distribution in the state, (2) past fire history, (3) prominent sources of ignition, (4) seasonal timing, (5) resources most at risk, and (6) requirement for different management responses... on lower elevation landscapes subjected to extreme wind events, fire suppression has never come close to excluding fires, and thus fuel accumulation is not the causal factor in these fires. Wind-driven fires are the result of annual foehn wind events coupled with occasional human ignitions, either directly or through infrastructure failures. The primary means of reducing impacts of these fires is through better fire prevention, improved land planning that puts fewer people at risk, enhanced homeowner protection..." Keeley and Syphard *Fire Ecology* (2019) 15:24 (Attachment 8)

### **B. Controlled Burns: Time of Year**

"For example, reduced native recovery has been reported for out-of-season prescribed burns (Keeley 2006b) and this vacuum is always filled with alien species. The mechanism by which out-of-season burning decreases native plant recovery is unknown, but it is commonly attributed to prescribed burns during winter or spring that cause heating of seed banks with moist heat, which is often lethal (Parker 1987). Perhaps more important though is that winter burning greatly decreases the length of the first growing season. For most seedlings having the growing season reduced from a typical 6 months (following summer or fall burns) to perhaps as little as 1 month (following a winter burn) could limit survival during the ensuing dry summer.... During the last 100 years, fire was apparently used to convert shrublands to annual grasslands as the expansion of agriculture in the late 1800s reduced available open lands for grazing (Tyler et al. 2007). As these newly formed and existing grasslands were utilized for livestock and crop production... **Fuel treatment of chaparral through crushing. Such sites will invariably become dominated by alien species and native communities are not likely to regain this site for an extremely long time. These treatments are designed solely for fire hazard reduction and can be viewed as sacrificing natural resources...The greatest future threat to this [chaparral] ecosystem again lies in the combined impacts of increased fire frequency due to human population pressure and climate**

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**change, and the subsequent spread of invasive plant species.”** Keeley, Jon & Franklin, Janet & D’Antonio, Carla. (2011). Fire and Invasive Plants on California Landscapes. 10.1007/978-94-007-0301-8\_8. (Attachment 19)

## **XI. Conclusion**

Given that there has never been an environmental review of parcels CalFire is proposing a controversial and precedent-setting controlled burn, the agency must conduct an Environmental Impact Report in order to address the issues raised in this letter and issues raised by other members of the public. Given that CalFire is unwilling to modify the proposed action – to address wildlife and environmental issues of concern – and is unwilling to consider taking mitigating actions to address issues of concern, only an EIR which will require the agency to consider alternative action that would achieve the stated objective while mitigating the negative environmental impacts. The current MND has unsubstantiated claims, is vague and continues to have erroneous information about the recreational activities which occur on Plot 6. Current recreational activities are not limited to a “few events.” The recreational usage of the Plot 6 is far more expansive than described in the revised MND.

Thank you:  
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### Addendum 1

Chaparral is not one plant but rather a diverse community of plants that are unique to California's Mediterranean climate and is the most widespread natural vegetation from the coast to the mountains. Contrary to common misperceptions, the best available science shows that old-growth chaparral is an ecologically rich natural resource, that frequent fire is *not* necessary to maintain the health of chaparral, and that fire suppression has *not* produced an unnatural accumulation of chaparral fuel or caused the catastrophic wildfires in southern California.

"It's an all-too-common myth that past fire suppression has allowed uncontrolled plant growth and an increased risk of unnaturally severe fire," said Dave Hogan with the Center of Biological Diversity. "While this is true of some forests, California's chaparral is actually experiencing more fire than is natural owing to human ignitions. Chaparral has evolved with fire and is very resilient under the right conditions. But too much fire, including prescribed fire, destroys habitat and allows exotic grasses to replace natural vegetation."

According to the best available science:

- **Prescribed fire and other fuel treatments in chaparral are not effective for fire safety**

Fires occurring under non-extreme weather conditions are fairly easily suppressed, so prescribed fire in chaparral is either likely to be unnecessary under non-extreme conditions, or ineffective under extreme conditions (Keeley et al. 2004)[1]. Prescribed fire is also risky because it can escape and become an even more hazardous wildfire (Keeley and Fotheringham 2003)[2].

According to Moritz *et al.* (2004)[3]: "Fire management policy based on eliminating older stands of shrubland vegetation through fuel treatments [e.g. prescribed fire] will not diminish the size of wildfires ignited under extreme weather." According to Keeley *et al.* (2004): "Under extreme weather conditions, there is overwhelming evidence that young fuels, or even fuel breaks...will not act as a barrier to fire spread. This is quite evident for the recent [2003] fires. Crossing nearly the entire width from north to south of the east-west burning Cedar Fire were substantial swaths of vegetation that were less than 10 years of age, not just in one but two parts of that fire... The Otay Fire exhibited the same phenomenon...; the fire burned through thousands of acres that were only 7 years of age."

Cohen and Saveland (1997)[4] reached a related important conclusion when they found that "Vegetation management beyond the immediate vicinity of a building has little effect on structure ignitions."

- **Fire suppression has not resulted in an unnatural accumulation of chaparral fuel and catastrophic fire**

According to Moritz *et al.* (2004): "Fire suppression is not an underlying cause of catastrophic wildfires in southern California." Southern California chaparral is burning more frequently than a century ago, with a higher number of ignitions and a shorter fire return interval than occurred prior to organized fire suppression activities (Keeley *et al.* 2004; Keeley and Fotheringham 2003). Fire suppression has not effectively excluded fire in southern California chaparral (Keeley and Fotheringham 2003; Keeley and Fotheringham 2001;[5] Mensing *et al.* 1999[6]).

- **Overly frequent fire actually increases the risk of wildfire and is harmful to chaparral**

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Overly frequent fire, including prescribed fire, produces a negative cycle of invasion by highly flammable exotic grasses, which in turn results in an increased fire frequency and the related significant threat to public safety, firefighters, property, natural resources, and economic values like water storage and quality.

Chaparral will convert to highly flammable exotic grasslands if burnt too frequently. According to Keeley (2006)[7]: "In recent years ineffective fire prevention has allowed an unnaturally high number of wildfires on chaparral landscapes, which has resulted in conversion to alien dominated grasslands..."; A repeat fire within a decade is typically sufficient to provide an initial foothold for exotic grasses; "...[A]lien grasses increase the probability of burning...", and; "As fire frequency increases there is a threshold beyond which [chaparral] cannot recover." The conversion of native chaparral to exotic grasslands harms biodiversity and increases erosion, landslides, and other harmful landform changes (Keeley 2006, emphasis added).

Prescribed fire does not benefit chaparral and in fact can be very harmful when prescribed fire becomes a part of an overly frequent cycle of fire (Keeley and Fotheringham 2003) that causes conversion of chaparral to more flammable and less ecologically and economically valuable exotic invasive grasslands (Keeley 2006). Prescribed fire is regularly applied outside the normal fire season and this can produce extreme resource damage (Keeley 2006).

- **Old-growth chaparral is not unhealthy and doesn't need to burn**

Chaparral is not threatened by a lack of fire (Keeley and Fotheringham 2003). According to Keeley *et al.* (2005)[8]: Chaparral more than a century old is just as resilient to fire as younger chaparral; A long fire-free period "...had little impact on the ability of these shrublands to recover following fire..." and; A fire-free period of even as much as 150 years may not be outside the norm.

- **Southern California wildfires have not become not unnaturally large or intense**

According to Keeley and Fotheringham (2003), "Historically fire intensity was variable, and there is no credible evidence that it has increased during the era of fire suppression..." "The firestorm during the last week of Oct. 2003 was a natural event that has been repeated on these landscapes for eons... While the recent 273,230 [acre] Cedar Fire ... was the largest in California since official fire records have been kept, there are historical accounts of even larger fire events. For example, during the last week of Sept. 1889, a Santa Ana wind-driven fire east of Santa Ana in Orange County, California reportedly burned 100 miles north and south and 10-18 miles in width ... This event would have been three times larger than the recent Cedar Fire. Collectively, Sept. 1889 would have exceeded all of the Oct. 2003 burning because there was another fire that ignited that week near Escondido in San Diego County and in 2 days the same Santa Ana winds blew it all the way to downtown San Diego..." (Keeley *et al.* 2004).

Cited information is available upon request.

[1] Keeley, J.E., C.J. Fotheringham, and M.A. Moritz. 2004. Lessons from the 2003 wildfires in southern California. *Journal of Forestry* 102(7):26-31.

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[3] Moritz, M.A., J.E. Keeley, E.A. Johnson, and A.A. Schaffner. 2004. Testing a basic assumption of shrubland fire management: How important is fuel age? *Frontiers in Ecology and the Environment* 2:67-72.

[4] Cohen, J. D, and J. Saveland. 1997. Structure ignition assessment can help reduce fire damages in the W-UI. *Fire Management Notes* 57(4): 19-23.

[5] Keeley, J.E. and C.J. Fotheringham. 2001. The historical role of fire in California shrublands. *Conservation Biology* 15: 1536-1548.

[6] Mensing, S.A., J. Michaelsen, and R. Byrne. 1999. A 560-year record of Santa Ana fires reconstructed from charcoal deposited in the Santa Barbara Basin, California. *Quaternary Research* 51:295-305.

[7] Keeley, J.E. 2006. Fire management impacts on invasive plant species in the western United States. *Conservation Biology* 20:375-384.

[8] Keeley, J.E., A.H. Pfaff, and H.D. Safford. 2005. Fire suppression impacts on postfire recovery of Sierra Nevada chaparral shrublands. *International Journal of Wildland Fire* 14: 255-265.

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Addendum 2.



Prescribed Fire

## The Wrong Approach for Chaparral

The Los Padres National Forest and the surrounding region is predominantly covered with chaparral. To understand why prescribed fire is ineffective and can actually be harmful to native chaparral ecosystems, it is important to first understand the issue of type conversion. Simply put, type conversion

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is the replacement of native chaparral with nonnative grasses and weeds. A major cause of type conversion in our region is overly-frequent fire.

### Chaparral Loss to Frequent Fire

Before humans settled along the central and south coasts of California, chaparral had evolved adaptations to a specific fire regime. Areas would burn every 30 – 150 years depending on the frequency of lightning — the only natural source of wildfire ignition. Wildfires here are naturally intense crown fires, meaning they burn all above-ground vegetation. Between fires, chaparral species had ample time to grow to maturity and produce enough seed to recolonize an area after the next fire. As humans settled these areas, they began setting fires intentionally and unintentionally, and at a greater frequency than species were adapted. This has resulted in less time between fires for plants to grow to maturity and produce seed. As fires burn the same area more frequently than every 30 years or more, that area becomes more susceptible to nonnative species dominating since the native chaparral seedbank is depleted.

### The Ineffectiveness of Prescribed Fire



Type-converted fuelbreak in the Santa Ynez Mountains. This area has had prescribed burns and repeated bulldozing over the years. The chaparral has been replaced with black mustard and nonnative grasses. Note the encroachment of the type conversion into the chaparral in the background.

Prescribed fire only exacerbates the type conversion process and doesn't necessarily reduce an area's risk of burning later, with studies concluding that it is not a cost-effective method in chaparral. This can be easily seen by overlapping wildfire burn areas in and around the Los Padres National Forest. For example, the 2017 Thomas Fire burned most of the areas burned by 1985's Wheeler and Ferndale Fires, areas burned by the 2003 Piru Fire and 2006 Day Fire, and canyons that burned in the 2008 Tea Fire and 2009 Jesusita Fire. The 2016 Soberanes Fire burned over half of the area burned by the 2008 Basin Complex Fire in the Monterey Ranger District. The recent Thomas Fire also burned through several prescribed burns that had been conducted near Ventura. Prescribed burns in chaparral would probably have to be conducted very frequently (every five years or less) in order to be effective, and as described above, overly-frequent fire in chaparral can have serious environmental consequences.

The timing of prescribed burns is also of concern to fire scientists. Prescribed burns must be conducted during a narrow window in order to be successful due to vegetation moisture levels and weather conditions, meaning they are often done in winter or spring when many wildlife species are breeding and birds are nesting in the area. Prescribed burns during this time may heat up the moist soil to the point that seeds are damaged by the resulting steam. Conversely, these fires may not burn hot enough to stimulate native seed germination. For example, many native ceanothus species require high heat to crack their seed coat and allow germination. Lower temperature fires—which may intuitively seem like a good thing—have actually been shown to reduce ceanothus and other similar seed germination. And there is always the risk of prescribed burns escaping and becoming full-fledged wildfires.

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### Indigenous Use of Prescribed Fire

There is evidence that Native Americans used prescribed fire along the central coast before Europeans settled in our region. However, researchers have determined prescribed fire was being used to purposefully convert chaparral to grasslands —primarily along coastal plains and inland valleys—to allow for movement across the landscape, the creation of open hunting areas, the selection of edible herbaceous plants, and the reduction of habitat for potentially dangerous predators such as grizzlies — not to reduce the incidence of large wildfires. In fact, large landscape-scale fires still occurred prior to the European invasion. These areas tended to be highly localized, indicating that indigenous peoples in the region used fire very thoughtfully rather than burning the landscape indiscriminately. Many of the areas that were converted from chaparral to native grassland were then claimed by European colonizers to be used for non-native cattle grazing. American ranchers later expanded these areas through indiscriminate use of frequent fire, which likely led to large losses of chaparral in the 19th and early 20th centuries. Unlike the native grasses and herbs that grew in the chaparral's place when Native Americans type converted areas, today type conversion results in the spread of non-native species such as black mustard and highly flammable cheatgrass. These species actually pose a greater wildfire risk as they dry out earlier in the year, ignite more easily, and spread wildfire more quickly than chaparral.

### Approaches That Work

So, with the concerns and challenges surrounding prescribed burning, is there a more effective way to protect our communities from wildfire? Scientists and fire ecologists agree that the most effective ways to protect communities involve fire-proofing structures, creating smart defensible space around homes, and rethinking where and how we build in fire-prone areas. For more, check out our fire page.

<https://lpfw.org/fire/prescribed-fire/>

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-----Original Message-----

From: Michelle Speert [mailto:[mospeert@gmail.com](mailto:mospeert@gmail.com)]

Sent: Friday, July 30, 2021 9:06 PM

To: Sacramento Public Comment@CALFIRE <[SacramentoPublicComment@fire.ca.gov](mailto:SacramentoPublicComment@fire.ca.gov)>

Subject: Controlled burn Crystal Springs Reservoir/ San Mateo County

#42

Warning: this message is from an external user and should be treated with caution.

To whom it may concern,

I'm completely unclear on your motivations re: the "controlled" burn off of the land surrounding the Crystal Springs Reservoir. I live across the street from this area, it's my front yard. It makes no sense that you believe this is a solution to lowering the fire danger of this district. It consists of low, dry grassland with a few clumps of bushes here & there. Nothing that would warn of a massive fire that could threaten our housing development. There are ample roads for fire trucks to enter the said area from a number of directions & douse a fire. Beside that, the whole place is surrounded by a flimsy, wire fence that my car could drive through, let alone a fire truck or any vehicle more forceful, if that were necessary.

Please stop trying to justify that this burn off is necessary. IT IS NOT.

You will be threatening existing wildlife and native ground cover, that will be replaced by taller invasive species, let alone all the existing structures, including an elementary school and MY HOUSE.

My final point is how badly this will impact the air quality of this area.

It's beyond my comprehension that you can qualify burning up a grassland and calling it anything near to fire abatement.

I PROTEST THIS ACTION.

Sincerely,

Michelle Speert

2528 Hallmark Drive

Belmont, California

650-637-9266

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-----Original Message-----

From: Laurent Gharda [mailto:[lgharda@linmin.com](mailto:lgharda@linmin.com)]

Sent: Friday, July 30, 2021 11:26 AM

To: Sacramento Public Comment@CALFIRE <[SacramentoPublicComment@fire.ca.gov](mailto:SacramentoPublicComment@fire.ca.gov)>

Cc: Laurent Gharda <[laurent@gharda.net](mailto:laurent@gharda.net)>

Subject: Comments on SFPUC Prescribed Burn Project - SCH Number 2021020321 - from Laurent Gharda, Belmont

Warning: this message is from an external user and should be treated with caution.  
Hello!

Thank for having re-issued the document "SFPUC Prescribed Burn Project - SCH Number 2021020321" and for having taken the public's comments into consideration.

The remaining areas of concern I have concerns about are:

- Notification of the neighborhood prior to burn activities including prep work
- The burns don't address favoring native plants vs. invasive species. I hope care is given to take care to selectively burn invasive species and not harm native species to the extent possible. Our Fire Marshal reminds us often of the need to eliminate French, Scottish and other Brooms and replace them with fire-tolerant and drought-tolerant native plants.

Thank you!

Laurent

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