

State of California
Department of Fish and Wildlife



Memorandum

Date: March 30, 2023

To: Steve Rothert
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Erin Chappell

From: Erin Chappell, Regional Manager

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California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: Searsville Watershed Restoration Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2023020346, San Mateo and Santa Clara Counties

The California Department of Fish and Wildlife (CDFW) has reviewed the Department of Water Resources' (DWR) Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the Searsville Watershed Restoration Project (Project). CDFW submits these comments on the NOP to inform DWR, as the California Environmental Quality Act (CEQA) lead agency, of potentially significant impacts to biological resources associated with the Project.

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines, § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting these comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.). Likewise, to the extent the Project may result in "take," as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

PROJECT DESCRIPTION AND LOCATION

The Project is located within the San Francisquito Creek watershed and spans seven local jurisdictions, including unincorporated areas of Santa Clara and San Mateo counties; the incorporated cities of Palo Alto, East Palo Alto, and Menlo Park; and the towns of Portola Valley and Woodside. The Project will be implemented: at the Searsville Reservoir and Searsville Dam; in Corte Madera and San Francisquito creeks between Searsville Dam and Interstate 280 in unincorporated San Mateo County; at Felt Reservoir in unincorporated Santa Clara County; and at the Pump Station along the Santa Clara and San Mateo County boundary.

The Project involves reestablishing sediment transport processes and fish passage conditions past Searsville Dam, restoring stream and riparian habitats above the dam, removing a substantial amount of sediment trapped behind the dam, relocating the Searsville Reservoir water diversion downstream to the Pump Station, expanding the Pump Station's capacity, relocating historic non-potable water supply and storage from Searsville Reservoir to an expanded Felt Reservoir, and construction of a new Felt Dam. The Project's purposes include enhancing water supply reliability during drought and other emergency conditions and improving public safety.

Searsville Reservoir

Searsville Reservoir is an artificial impoundment built in 1891 on Corte Madera Creek. It is a non-potable water source for stock watering, fire suppression, and irrigation supply for functional turf and landscaping at the Stanford Campus and the Stanford Golf Course. The Searsville Reservoir has been filling with sediment due to significant natural erosion and turbidity caused by the geology of the San Francisquito Creek watershed, particularly in Corte Madera Creek, which is located on a shear zone of the San Andreas Fault. As a result, Searsville Dam currently retains an estimated 2.7 million cubic yards of coarse and fine sediment. The Searsville Reservoir's water storage capacity has been reduced from about 1,200-acre-feet (AF) to about 100-AF, and the reservoir is anticipated to eventually fill completely with sediment. The existence of Searsville Dam has also transformed the area upstream of the dam from a confluence valley with mostly free-flowing streams to one with a mix of open water surrounded by floodplain and wetland delta.

Felt Reservoir

Felt Reservoir was formed by Felt Dam, an earthen embankment dam, that was originally built in 1875, expanded in 1889, and replaced in 1929. Felt Reservoir is a potable water storage facility. Water stored in Felt Reservoir is supplied from a diversion structure on Los Trancos Creek, the Pump Station on San Francisquito Creek, and surface water diversions from the Searsville Reservoir. Felt Reservoir also stores stormwater captured through Stanford's campus stormwater collection system. The storage capacity of the reservoir is 1,024-AF. Based on a seismic evaluation conducted

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in 2020, Stanford determined that Felt Dam complies with the safety requirements set forth by DWR's Division of Safety of Dams, but the failure risk when Felt Reservoir is at full capacity is unacceptably high in comparison to the design requirements for new dams. Stanford is therefore, voluntarily restricting the maximum amount of water stored in the existing Felt Reservoir to 200-AF.

Pump Station

The Pump Station is on San Francisquito Creek within the Stanford Golf Course. Water diverted from San Francisquito Creek at the Pump Station is used to meet direct non-potable system demands or is pumped to Felt Reservoir for storage and later use. The facility is operated in compliance with minimum bypass flow requirements to facilitate fish passage.

Modifications to Searsville Dam

As part of the proposed Project, Stanford will construct a tunnel through Searsville Dam to flush trapped sediment, restore natural sediment transport, reestablish fish passage conditions past the dam, and otherwise improve ecosystem function. Stanford will also install a gate to control flows through the tunnel during the flushing process. Stanford will keep the gate in the closed position until the appropriate hydrologic conditions occur, at which point Stanford will open the gate to allow sediment trapped behind the dam to flush downstream. Stanford will not open the gate until the San Francisquito Creek Joint Powers Authority completes the San Francisquito Creek Flood Protection, Ecosystem Restoration, and Recreation Project Upstream of Highway 101 project, which is intended to increase the creek's capacity between West of Bayshore Road and the Pope-Chaucer Bridge location to allow the creek to contain flows up to the 1998 flood event level. Stanford will operate the gate adaptively for up to eight years to flush sediment out of Searsville Reservoir, after which it will keep the gate in a partially open position to passively attenuate peak flood flows by detaining floodwater in the sediment-evacuated valley area upstream of the dam. The volume of sediment that will be flushed is reliant on natural watershed flows, and therefore, uncertain. The target sediment volume to be flushed ranges from 900,000 cubic yards to 1.5 million cubic yards. The minimum volume is necessary to provide sufficient capacity to detain floodwaters behind the modified Searsville Dam during peak storm events and to prevent an increase in downstream flooding. If monitoring during the initial years of flushing shows that the minimum sediment volume might not be flushed during the eight-year period, Stanford will take additional steps to enhance flushing (e.g., staging excess sediment near the dam and/or excavating, testing, and dewatering sediment from above the dam and trucking it off-site for reuse or disposal).

Restoration Design in Tributary Delta Area

The proposed Project would re-establish a confluence valley with creeks, riparian areas, and floodplain terraces supporting a variety of habitats between Searsville Dam and the

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upstream limits of the Stanford property. The Corte Madera and Sausal/Alambique Creek channels would be expected to return to a profile similar to that found before construction of Searsville Dam. The restoration effort would be initiated with clearing and grubbing and the excavation of pilot channels to concentrate flows, followed by flushing of accumulated sediments and post-flush grading to bring the upstream reaches to their final configuration. Restoration design goals include providing channels that meet fish passage design criteria, avoiding impacts to areas upstream of Stanford property, managing sediment concentrations for aquatic life health, and avoiding archaeological resources.

Downstream Channel Modifications

Stanford would construct sediment traps, habitat improvements, and bank stabilization features at 30 to 40 locations on Corte Madera and San Francisquito creeks between Searsville Dam and Interstate 280 to reduce deposition of sediment farther downstream, improve natural habitat conditions, and stabilize banks. The sediment traps would store coarse sediment mobilized during flushing while facilitating fish passage conditions after flushing.

Fish Passage Conditions

The proposed Project design incorporates features to meet regulatory criteria for reestablishing fish passage conditions upstream and downstream of the dam, as well as, through the tunnel. After sediment flushing, channel improvements would be constructed downstream of the dam plunge pool to dissipate erosive energy from high flows and to facilitate fish passage conditions through the tunnel.

Adaptive Management

Adaptive management procedures would be used to modify the restoration design, as needed, based on actual conditions that occur in the field. Examples include enhanced flushing (e.g., moving sediment in the Tributary Deltas area to promote flushing), gate operations (e.g., to saturate sediments or otherwise adjust the gate position during flushing), and invasive species management.

San Francisquito Creek Pump Station Upgrade

The proposed Project includes modifications to the Pump Station to compensate for the loss of water diversion at Searsville Reservoir. The Pump Station would be modified to enable the existing surface water diversions at Searsville Reservoir to be relocated to the Pump Station and to remedy existing sediment-related operating deficiencies.

Replacement of Felt Dam and Expansion of Felt Reservoir

A new dam will be constructed downstream of the existing Felt Dam. Once construction is complete, the existing (old) dam will be demolished and removed. This would enable

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expansion of Felt Reservoir and improve the seismic stability of the dam. The expanded Felt Reservoir would replace historic non-potable storage capacity lost at Searsville Reservoir and enhance water supply reliability during droughts and other emergencies.

ENVIRONMENTAL SETTING

Sufficient information for meaningful review regarding the environmental setting is necessary to understand any potentially significant impacts on the environment of the proposed Project and any alternatives identified in the EIR (CEQA Guidelines, §§ 15125 & 15360). CDFW recommends the EIR provide baseline habitat assessments for special-status plant, fish, and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, and endangered species (CEQA Guidelines, §15380). Fully protected, threatened or endangered, candidate, and other special-status species that are known to occur, or have the potential to occur, in or near the Project site include, but are not limited to:

Common Name	Scientific Name	Status
California red-legged frog	<i>Rana draytonii</i>	FT
Foothill yellow-legged frog	<i>Rana boylei</i>	SE
Western pond turtle	<i>Emys marmorata</i>	SSC
Steelhead – Central California Coast DPS	<i>Oncorhynchus mykiss irideus</i>	FT
Santa Cruz black salamander	<i>Aneides niger</i>	SSC
Santa Cruz kangaroo rat	<i>Dipodomys venustus venustus</i>	SSC
San Francisco dusky-footed woodrat	<i>Neotoma fuscipes annectens</i>	SSC
San Francisco garter snake	<i>Thamnophis sirtalis tetrataenia</i>	FE, SE, SP
American badger	<i>Taxidea taxus</i>	SSP
Western bumble bee	<i>Bombus occidentalis</i>	SSP
Bay checkerspot butterfly	<i>Euphydryas aditha bayensis</i>	FT
Saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	SSC
Two-fork clover	<i>Trifolium amoenum</i>	FE
Bald eagle	<i>Haliaeetus leucocephalus</i>	SP
Nesting birds		

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Bats		
Rare plants		
Other aquatic and riparian species		
<p>Notes:</p> <p>FT = listed as threatened under the federal Endangered Species Act; FE = listed as endangered under the federal Endangered Species Act; ST = listed as threatened under CESA; SE = listed as endangered under CESA; SSC = state species of special concern; SP = state listed as fully protected, DPS = Distinct Population Segment.</p>		

Habitat descriptions and species profiles included in the EIR should include robust information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, and findings from “positive occurrence” databases such as California Natural Diversity Database (CNDDDB). Only with sufficient data and information from the habitat assessment can DWR adequately assess which special-status species are likely to occur in the Project vicinity.

CDFW recommends that surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available and the result of these surveys be provided in the EIR. Survey and monitoring protocols and guidelines are available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>.

Botanical surveys for special-status plant species, including California Rare Plant Rank (<http://www.cnps.org/cnps/rareplants/inventory/>), should also be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and include the identification of reference populations and the result of these surveys should be provided in the EIR. Please refer to CDFW protocols for surveying and evaluating impacts to special-status plants available at: <https://wildlife.ca.gov/Conservation/Plants>.

IMPACT ANALYSIS AND MITIGATION MEASURES

The CEQA Guidelines necessitate the EIR discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project. (CEQA Guidelines, § 15126.2). This includes evaluating and describing impacts such as:

- Changes in hydrology that could alter the timing and magnitude of streamflows both during construction and operation of the Project;
- Potential for “take” of special-status species;
- Loss or modification of breeding, nesting, dispersal, and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of

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habitat structural features (e.g., snags, roosts, overhanging banks);

- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic, or human presence;
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features;
- Water quality impacts resulting from construction and operation of the Project;
- Impacts both from construction and operation of the Project;
- Impacts to the bed, channel, and bank, in the reservoirs and creeks downstream of the Project; and
- Impacts to bed, channel, bank, and riparian habitat, and the direct and indirect effects to fish, wildlife, and their habitat.

The EIR should also identify existing and reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to each impact (CEQA Guidelines, § 15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact (e.g., reduction of available habitat for a listed species) should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

The CEQA Guidelines direct DWR, as the lead agency, to consider and describe in the EIR all feasible mitigation measures to avoid and/or mitigate potentially significant impacts of the Project on the environment based on comprehensive analysis of the potential direct, indirect, and cumulative impacts of the Project. (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370). This should include discussion of take avoidance and minimization measures for special-status species, which should be developed in consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service (NMFS), and CDFW. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

Fully protected species, such as San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) and bald eagle (*Haliaeetus leucocephalus*), may not be taken or possessed at any time (Fish and G. Code, § 3511). Therefore, the EIR should include measures to completely avoid take of fully protected species.

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. Under CESA, “take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” (Fish & G. Code, § 86). If the Project will impact CESA listed species, early consultation with CDFW is encouraged, as significant modification to the Project and mitigation measures may be required to obtain an ITP. CDFW’s issuance of an ITP is subject to CEQA and to facilitate permit issuance, any such project modifications and mitigation measures must be incorporated into the EIR’s analysis, discussion, and mitigation monitoring and reporting program.

CEQA requires a mandatory finding of significance if a project is likely to substantially impact threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065). In addition, pursuant to CEQA, the lead agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the lead agency makes and supports findings of overriding consideration for impacts that remain significant despite the implementation of all feasible mitigation. Findings of consideration under CEQA; however, do not eliminate the Project proponent’s obligation to comply with the Fish and Game Code.

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, streams, rivers, or associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use 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, drainage ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification. CDFW may not execute a final LSA Agreement until it has considered the final EIR and complied with its responsibilities as a responsible agency under CEQA.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections

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protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds of prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

COMMENTS AND RECOMMENDATIONS

The Modifications to Searsville Dam section of the NOP states, “if monitoring during the initial years of flushing shows that the minimum target sediment volume might not be achieved during the eight-year period, Stanford would take additional steps to enhance flushing (e.g., staging excess sediment near the dam; excavating, testing and dewatering sediment from above the dam and trucking it off site for reuse or disposal).” In addition to describing a target threshold, criteria, and timeline for determining when additional actions will need to be taken, in order to ensure the EIR includes sufficient information for meaningful analysis and review, CDFW recommends the EIR fully describe a full range of potential “additional steps to enhance flushing” and fully evaluate the impacts of those actions to fish and wildlife and their habitat.

Based on the NOP, it appears the Project could adversely affect existing populations of fish and amphibians, and the habitat that supports them. CDFW therefore, recommends that the EIR identify existing aquatic species in the Project area and provide sufficient information for meaningful review that describes how the Project's construction, operation, and maintenance activities will affect those resources, as well as, resources upstream and downstream of the Project area. Physical components that can affect habitat quality and aquatic species that should be described include changes to geomorphology and substrate, sediment transport, woody debris transport, flow release timing, ramping rate, water temperature, dissolved oxygen, nutrient load, and total dissolved solids.

The NOP describes changes in points of diversion and the quantity of water that will be diverted out of San Francisquito Creek. The EIR should provide a complete description of any changes to points of diversion, and timing and quantity of diversions from baseline conditions in order to meaningfully evaluate whether Project impacts are significant.

The Project's construction, operation, and maintenance activities may affect the geomorphology and sediment transport in the San Francisquito Creek watershed downstream of the Project. The Project could cause reduced channel structural stability, altered channel bed material mobilization and distribution, and increased channel scour which could affect native fish, aquatic organism, and riparian communities. The Project's construction and operation activities could also cause significant alteration of substrate and increased stream sedimentation that could disrupt or deter fish spawning, other aquatic fauna reproduction, and impair aquatic habitat diversity.

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In addition, the Project's construction, operation, and maintenance activities may affect existing reservoir storage and induce changes in timing and quantity of streamflow releases downstream of the Project and in the San Francisquito Creek watershed. CDFW recommends that DWR identify, analyze, and impose (where feasible) Project alternatives and mitigation measures to minimize or avoid potential impacts caused by the operation of the Pump Station, including: (1) entrainment of fish; (2) reduced streamflow and available fish habitat in the Project's diverted reach; (3) inundation of stream habitats; and (4) blocked or impaired movement of fish and aquatic organisms. The EIR should also study and evaluate potential impacts of rapid fluctuating flows and increased diversions caused by the Project. If it is determined that aquatic organisms would be significantly affected by Project-induced flow fluctuations or diversions, appropriate avoidance, minimization and/or mitigation should be provided. Any modified streamflow regime should protect and maintain existing aquatic habitat. The frequency, timing, magnitude, and duration of streamflow release recommendations should be based on site-specific hydrologic and biological information. An appropriate minimum streamflow flow should be evaluated using a combination of critical riffle analysis and applying the California Environmental Flows Framework in consultation with CDFW and the NMFS.

The Project's construction, operation, and maintenance activities may affect the existing water quality and water temperature within the San Francisquito Creek watershed. Streamflow diverted by the Project could cause increased sediment deposition and affect chemical constituents, such as dissolved oxygen, pH, salinity, and turbidity. CDFW recommends a study be conducted to characterize water quality at different flow levels to detect changes in water chemistry and to evaluate the associated Project effects on biological resources. Altered water temperatures can also affect reservoir stratification patterns, reservoir nutrient cycling, oxygen concentrations and availability for fish and aquatic organisms. Any changes in water temperature should also be evaluated to determine how aquatic organisms may be affected.

The Project's construction, operation, and maintenance activities may also affect the existing nutrient cycling and woody debris transport within the San Francisquito Creek watershed. Water diversions can reduce a stream's capacity to transport and assimilate nutrients. A loss of instream organic matter and related decomposition can also occur due to reduced or diverted flows. Any potential changes in nutrient transport or nutrient load caused by the Project should be evaluated to determine the nature and extent of potential impacts on fish and aquatic organisms.

The cumulative impacts of the Project should also be addressed. Cumulative impacts, for purposes of CEQA, are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (CEQA Guidelines, § 15355). Cumulative impacts should be analyzed and described in the EIR, including those affecting water quantity, water quality, fisheries and aquatic species, and related water resources management issues in the region. For example, EIR should identify and analyze the impacts on the San Francisquito Creek

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ecosystem of the proposed Project, when added to other closely related past, present, and reasonably foreseeable probable future projects.

ENVIRONMENTAL DATA

CEQA requires that information developed in EIR and negative declarations be incorporated into a database which may be used to prepare subsequent EIRs or to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subds. (d) & (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDDB. The CNDDDB online field survey form and other methods for submitting data can be found here: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The types of information reported to CNDDDB can be found here: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

CDFW anticipates that the proposed Project will have an impact on fish and/or wildlife and assessment of filing fees is necessary to defray the costs of CDFW's review under CEQA (Fish and G. Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency.

If you have any questions, please contact Will Kanz, Environmental Scientist, at Will.Kanz@wildlife.ca.gov, or Wesley Stokes, Senior Environmental Scientist (Supervisory), at Wesley.Stokes@wildlife.ca.gov.

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