

MARCH 23, 2021

CHINOOK SALMON COASTAL RELEASE: SANTA CRUZ WHARF 2021

CEQA: INITIAL STUDY AND NEGATIVE DECLARATION

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, FISHERIES BRANCH

Chinook Salmon Coastal Release Santa Cruz Wharf

Initial Study and Negative Declaration for Fall-Run Chinook Salmon Release in Monterey Harbor

Introduction

This document describes and evaluates the Chinook Salmon Coastal Release at Santa Cruz Wharf (Project). The Monterey Bay Salmon and Trout Project (MBSTP) is a membership-based nonprofit 501c3 organization dedicated to the recovery of native salmon and steelhead populations of the greater Monterey Bay region. Historically, MBSTP has been operating coastal salmon releases in Santa Cruz Harbor from the 1990's through 2002. MBSTP proposes to release 160,000 juvenile hatchery-origin (HO) Central Valley fall-run Chinook Salmon (CV FRCS) *Oncorhynchus tshawytscha* from Santa Cruz Wharf in 2021 and again in 2022. The 2021 and 2022 releases are the Project as described and evaluated in this Initial Study and Negative Declaration. The Project's objective is to increase the number of ocean Chinook Salmon landings in California, enhancing local sport and commercial fisheries. Released smolts would feed and grow along the coast and be available for harvest as adults in one to three years.

The Findings

California Department of Fish and Wildlife (CDFW) finds that the Project would not have a significant effect on the environment.

The completed Initial Study, attached to this negative declaration, documents the bases for this finding, and CDFW's determination that no significant effect on the environment would occur as a result of Project implementation, and there is no substantial evidence, in light of the whole record before CDFW, that the Project may have a significant effect on the environment (see Initial Study and environmental checklist). Therefore, a Negative Declaration has been prepared pursuant to the California Environmental Quality Act, Public Resource Code, section 21080, subdivision (c)(1).

The Initial Study concluded that the Project would have less than significant impacts to biological resources, greenhouse gas emissions, and public services. The Project would have no impacts to aesthetics, agriculture and forestry, air quality, cultural resources, energy, geology/soils, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire.

Basis of the Findings

This proposed Negative Declaration consists of the following:

- Project Description and Background Information for Fall-Run Chinook Salmon Coastal Release in Santa Cruz Wharf
- Initial Study Environmental Checklist
- Exhibit A: Statement of Work
- Exhibit B: Permits and Permit Waivers
- Exhibit C: Project Location
- Exhibit D: CNDDDB Elements Location and Report

Project Description and Background Information for Fall-Run Chinook Salmon Coastal Release in Monterey Harbor

Introduction

The Chinook Salmon Coastal Release Project at Santa Cruz Wharf is a project within the scope of the California Environmental Quality Act (CEQA) (Public Resource Code, § 21000, et seq.). CDFW is serving as lead agency for the Project because it has discretionary approval over the Project. CDFW would provide juvenile fish (smolts) necessary for Project implementation from the Mokelumne River Hatchery (MOK) and would deliver those fish to the Santa Cruz Wharf for their release by MBSTP. Delivery is anticipated in the middle of May depending on smolt growth and logistics. Their current project would entail having smolts delivered to the Santa Cruz Wharf with direct delivery to the ocean instead of providing an acclimation period. The Commercial Salmon Trollers Advisory Committee (CSTAC) and CDFW fund and support this Project. The costs of raising, marking, and tagging, and delivery of Central Valley fall-run Chinook Salmon (CV FR) smolts to Santa Cruz Wharf would be covered by the Commercial Salmon Trollers Enhancement and Restoration Program fund and a matching share contributed by CDFW. MBSTP would provide any additional funding needed for Project implementation. This initial study and negative declaration analyze the environmental impacts that may result from the implementation of the proposed Project.

Project Objective

The Project's objective is to enhance Central California's local sport and commercial fisheries. Released smolts will feed and grow along the coast and be available for harvest as adults in one to three years.

Background

Adult returns of CV FRCS have fluctuated over the past 30 years (CDFW 2018). Record high numbers occurred between 2000 and 2003 with an estimated 872,699 returning to the Central Valley (CV) during the 2002 spawning season. In contrast, between 2003 and 2009, returns declined significantly to record low levels. During the 2009 spawning season, an estimated 53,129 adults returned to the Central Valley. Return estimates increased slowly over the next few years and reached a high of 448,021 in 2013. However, California's recent drought significantly affected survival of juvenile salmon migrating to the ocean. In 2017, only 101,975 adults returned to the CV, although returns increased in 2018 and again in 2019. In addition to the drought, other factors such as loss of habitat, poor ocean conditions, low river flows, water diversions, pollution, and predation contributed to the population declines.

In an effort to improve survival to adulthood by avoiding the hazards associated with migration, CDFW transports portions of its hatchery-produced CV FRCS downstream and releases them into net pens in the Sacramento-San Joaquin Delta or San Pablo Bay for acclimation, or directly into the Bay. It has been found that hatchery fish released into both the Delta and San Pablo Bay, as well as coastal releases, have higher survival rates and higher recovery rates in ocean fisheries (Palmer-Zwahlen, et al., 2019, Leet, W.S. et al. 1986).

The MBSTP has conducted coastal net pen releases within Monterey Bay since 1992 and nearby harbors. Smolts were released from Santa Cruz Harbor using net pens for acclimation however, returning fish brought an influx of anglers to the harbor in 2014, leading to changes to acclimation methods. Beginning in 2009, 100% of fish released were adipose fin-clipped and Coded Wire Tag (CWT) with a unique tag

code. The first three years of CWT recovery data shows a consistent trend that coastal net pen releases have a higher recovery rate than in-basin (at the hatchery) releases, and this can mean better survival (Palmer-Zwahlen and Kormos 2015). Of the total California commercial harvest, Central Valley hatchery releases (including coastal releases) made up 65% of the total California commercial harvest depending on the major port area. However, in releases from net pens downstream of hatcheries, fish exhibited higher stray proportions than in-basin releases (Palmer-Zwahlen, et al. 2019).

“Homing” and “straying” are well-known behavioral traits in the ecology and life-history of Pacific Salmon (Quinn 2018). Homing may be defined as the instinctual ability of an adult Pacific Salmon to return to its natal stream to spawn. In contrast, straying may be defined as an adult migrating to a non-natal stream of origin. Studies have shown that salmon imprint as they migrate downstream and individuals that are released further downstream may show increased straying as compared to upriver releases (Quinn 2018, 127). Adult Chinook have been observed straying into several streams along the Central Coast as well as many San Francisco Bay streams for the past two decades, although historically these streams did not have native runs of Chinook Salmon (Neillands et al. 2015). In 2014, CDFW began annual observation monitoring for straying CV FRCS into a few Central Coast streams and received adipose fin-clipped Chinook Salmon heads from cooperating agencies and NGOs throughout the San Francisco Bay streams. CWT fish released in Monterey Bay area appear to enter in relatively small numbers into coastal and San Francisco Bay streams between their release point and the Sacramento-San Joaquin Delta when streams are accessible (Neillands et al. 2015, 2016, 2018 and 2019).

Project Location

The primary release method will be located at the Santa Cruz Wharf (36.958751°, -122.017397°) directly into the ocean.

If conditions or logistics prohibit release at the Santa Cruz Wharf, smolts will be released into a net barge in Santa Cruz Harbor (36.963907, -122.002198) followed by release to Monterey Bay as soon as is possible (no more than 24 hours after offload from hatchery trucks). This backup plan is not anticipated and approval from the California Coastal Commission would be required prior to implementation.

Schedule

CDFW would deliver 160,000 MOK CV FRCS smolts to Santa Cruz Wharf in spring of 2021 and again in 2022. The target time frame is the middle of May; however, exact dates and times would be scheduled as the time draws near and are dependent on fish size, growth rates, and environmental conditions at Santa Cruz Wharf and Monterey Bay.

Project Description

All Project fish would be evaluated by a CDFW Fish Health pathologist and certified to be disease-free prior to leaving the hatchery. Fish would also be marked with Coded-Wire Tags (CWT) and adipose fin-clipped at a 100% rate for both years of the Project (2021 and 2022) to allow for evaluation of the Project. All smolts would be transported from MOK to Santa Cruz Wharf in a single trip using 2-4 fish transport trucks. Trucks would be loaded, and fish transported according to MOK established standard operating procedures for transportation of salmon. Water in the trucks would be salted prior to adding fish at the hatchery.

MBSTP, in anticipation of fish delivery from MOK to the Santa Cruz Wharf, has secured necessary equipment and developed multiple release protocols to accommodate potential changing Monterey Bay conditions. MBSTP would release smolts from the trucks directly into Monterey Bay from Santa Cruz Wharf. MBSTP would provide both staffing and logistical support to facilitate release of fish at the Project location.

No active predator deterrent for marine mammals or seabirds is planned as part of the Project. Past predation events were attributed to net pen acclimation (Ben Harris, personal communication, December 9, 2019). Past enhancement program operations in Monterey Bay using net pens for acclimation have indicated that releases timed to coincide with a large outgoing tide have produced positive results by helping smolts avoid post-release predation and mortality. Releasing directly into the ocean without the use of net pens as well as dusk or night-time releases have also been proposed as a method for reducing post-release predation, particularly by seabirds. MBSTP would adapt schedule and release timing with CDFW and CSTAC to work within these optimal tidal and timing windows.

The Project would release 160,000 fish in 2021 and an additional 160,000 fish in 2022. The two-year total release from Santa Cruz Wharf would be 320,000. Combined with other releases in Monterey Bay, the total release to Monterey Bay from two locations would be 320,000 in 2021 and 160,000 fish or 320,000 fish in 2022 if the previously approved Chinook Salmon Coastal Release Project in Monterey Harbor continues at the current release rate. The goal of the Project is to enhance the ocean fishery.

This Project is contingent upon CDFW approval after completion of CEQA. Project result data would be acquired from CDFW landings, and existing carcass surveys, and existing monitoring programs.

Environmental Assessment

CDFW staff reviewed this project. It was determined that this Project would have less than significant impacts to Biological Resources, Greenhouse Gas Emissions, and Public Services at Santa Cruz Wharf and surrounding areas. Due to lack of net pen acclimation time, the Project does not anticipate adults to return in large numbers to Santa Cruz Wharf as has been seen in some previous coastal release projects. The Project complies with CDFW hatchery release policies. CDFW's California Natural Diversity Database (CNDDB) was reviewed to identify potential impacts to animals identified in the nine Quadrants in the surrounding area (Figure 2).

References

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CDFW. 2020. Grand Tab 2020.05.22, California Central Valley Chinook Population Database Report.

Leet, S. L., Green, R.E., and Ralph, D. 1986. Pen Rearing Pacific Salmon, *Oncorhynchus* spp., in San Francisco Bay. *Marine Fisheries Review*, 48(1), 24-31.

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Pomeroy, Caroline, and Michael Dalton. 2005. "Market Channels and Value Added to Fish Landed at Monterey Bay Area Ports." [https://vpn-2.ucsd.edu/+CSCO+0h756767633A2F2F62617976617279766F656E656C2E6A7679726C2E70627A++/store/10.1002/\(SICI\)1098-2795\(199707\)47:3%3C265::AID-MRD5%3E3.O.CO%0Ahttp://2-j/asset/5_ftp.pdf?v=1&t=hm6mtybv&s=2cbfe3a10c9934aceb9ac095cea9dbfe188d5520%0Apaper](https://vpn-2.ucsd.edu/+CSCO+0h756767633A2F2F62617976617279766F656E656C2E6A7679726C2E70627A++/store/10.1002/(SICI)1098-2795(199707)47:3%3C265::AID-MRD5%3E3.O.CO%0Ahttp://2-j/asset/5_ftp.pdf?v=1&t=hm6mtybv&s=2cbfe3a10c9934aceb9ac095cea9dbfe188d5520%0Apaper).

Initial Study Environmental Checklist: CEQA Appendix G

Project Title

Chinook Salmon Coastal Release at Santa Cruz Wharf

Lead Agency Name and Address

California Department of Fish and Wildlife
Fisheries Branch
P.O. Box 944209
Sacramento, CA 92444-2090

Contact Person and Phone Number

Ryon Kurth, Fisheries Branch
(916) 376-1723
Ryon.Kurth@wildlife.ca.gov

Project Location

Santa Cruz County
Santa Cruz Wharf (36.958751°, -122.017397°)

Project Sponsor's Name and Address

California Department of Fish and Wildlife
Fisheries Branch
P.O. Box 944209
Sacramento, CA 92444-2090

General Plan Designation

No land structures will be constructed with this project and any land use is for access only.

Zoning

Coastal

Description of Project

California Department of Fish and Wildlife's (CDFW) Mokelumne River Hatchery (MOK) would deliver 160,000 Central Valley fall-run Chinook Salmon (CV FRCS) smolts to the Project location for direct release (if possible) at the designated location on Santa Cruz Wharf in Monterey Bay in 2021 and again in 2022. MBSTP is implementing this Project. CDFW would deliver MOK CV FRCS smolts to Santa Cruz Wharf in mid-May of 2021 and 2022. Exact dates and times would be scheduled as the time draws near and are dependent on fish size, growth rates, and environmental conditions in Monterey Bay. All smolts would be transported in a single trip each year, using 2-4 fish transport trucks (dependent upon loading density/fish size). Water in transport trucks would be salted prior to on-loading fish to initiate smoltification and aid in acclimation to the marine environment. If conditions do not allow for discharge from transport trucks on Santa Cruz Wharf, smolts would be discharged into a net barge in Santa Cruz Harbor (36.963907°, -122.002198°) and be towed out and released to the ocean as soon as is safely possible, and no more than 24 hours from offload. The Project's objective is to enhance the commercial and recreational salmon ocean fishery.

Surrounding Land Uses and Setting

Santa Cruz Wharf is located on the north west end of Monterey Bay within the City of Santa Cruz. Santa Cruz Wharf is a more than 836-meter-long wharf that houses fish companies, dining, recreation, fishing, boating, and various public events.

Monterey Bay is a 40-kilometer ocean bay which allows marine air at low levels to penetrate the interior Salinas Valley. The Santa Cruz and Gabilan mountain ranges dominate topography in the area nearest the Project site. The San Lorenzo and Pajaro Rivers as well as Scott Creek enter Monterey Bay from these mountain ranges. The San Lorenzo River flows into Monterey Bay approximately 500 meters from the release location. The Pajaro River, Elkhorn Slough and Salinas Rivers flow into Monterey Bay near Moss Landing, approximately 25 kilometers south of the Santa Cruz Wharf. The Salinas Valley and northern Santa Lucia Range are the prominent topography on the southern portion of Monterey Bay with the Salinas River as the major drainage system for this area. Monterey Bay is within the Monterey Bay National Marine Sanctuary, a federally protected marine area, established for the purpose of resource protection, research, education and public use. Commercial and recreational fishing are permitted within the sanctuary.

If conditions prohibit release at Santa Cruz Wharf, release will occur using a temporary net pen at Santa Cruz Harbor. Santa Cruz Harbor is fed by water from the Santa Cruz Mountains through the Arana Gulch and urban run off from Santa Cruz.

Ocean troll commercial salmon fishery began in Monterey Bay during the 1880s, continue through 2021, and contribute to local and state economies despite decrease in Chinook harvest in both commercial and recreational fisheries over time (California Department of Fish and Wildlife 2011; CDFG 2008; Pomeroy and Dalton 2005).

Approvals Needed from Other Public Agencies

The California Coastal Commission (CCC) determined a Coastal Development Permit was not necessary for this Project primary release location but would be required if net pens are required for release (Colin Bowser, California Coastal Commission, personal communication, March 5, 2021).

City of Santa Cruz

Tribal

Notification letters describing the Project were mailed to all federally recognized California tribes and California tribes specifically requesting to be notified for all CEQA projects on December 24, 2020. No tribes requested consultation.

Initial Study CEQA Appendix G (cont.): Environmental Factors, Determination, Evaluation of Environmental Impacts and Explanations

CEQA Guidelines Appendices

Association of Environmental Professionals 2021

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology /Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

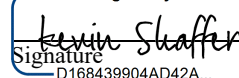
☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DocuSigned by:


Signature
D168439904AD42A...

3/24/2021

Date

Kevin Shaffer

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Less Than Significant	
Potentially Significant Impact	with Mitigation Incorporated	Less Than Significant Impact
		No Impact

II. AGRICULTURE AND FORESTRY

RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. BIOLOGICAL RESOURCES:				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
not available for the disposal of waste water?				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VIII. GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
excessive noise levels?				
XIV. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XV. PUBLIC SERVICES.				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
environment?				
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVIII. Tribal Cultural Resources. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS.				
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

I. Aesthetics a. – d.: No impact

Discussion: Any additional equipment or lighting that may be used for this Project (i.e. net barge, boat illumination) will be temporary and removed after use. There would be no other changes to scenic or urban landscapes.

II. Agriculture and Forestry Resources a. – e.: No impact

Discussion: Activities proposed by the Project would not occur in any Farmland Mapping and Monitoring Program designated farmland, or area zoned for agricultural use, nor would the Project affect other resources related to agriculture, farmland or forest land.

III. Air Quality a. – e.: No impact

Discussion: Any potential for air quality impacts would result from hatchery trucks and boats used for offloading the smolts. This is not an ongoing project and would not conflict with or obstruct implementation of any air quality control plan. Any diesel fuel odors when delivering fish would be temporary and would not adversely affect a substantial number of people. Significance criteria was established through Monterey Bay Air Resources District and adopted by the District Board of Directors on March 15, 2017. Project emissions generated by hatchery trucks any necessary 'tender' vessel and net barge are low enough to be accounted for in the District's projected Daily Emissions Inventory (David Frisbey, Monterey Bay Air Resources District, personal communication, November 22, 2019).

IV. Biological Resources a.: Less Than Significant Impact

Discussion: The Santa Cruz and Monterey Bay area quadrants examined for this study include: Ano Nuevo, Davenport, Santa Cruz, Soquel, Watsonville West, Moss Landing, Marina, Seaside and Monterey. The California Natural Diversity Database (CNDDB) Rare Find was used to report presence and status of all animals within these seven quadrants (Figure 2).

This Project would have less than significant impact on species identified as candidate, sensitive, or special status species.

Fishes

Based on a query of CNDDB Rare Find, this analysis considers whether any fish species that is documented to have occurred in the vicinity of the Project could be adversely affected by the presence of hatchery origin CV FRCS juveniles or returning adults.

The Project would result in less than significant impacts to California and federally threatened and endangered Central California Coast Evolutionarily Significant Unit Coho Salmon *Oncorhynchus kisutch* (CC Coho ESU), federally threatened Central California Coast Distinct Population Segment Steelhead (CCC Steelhead DPS) and South-Central Coast Steelhead (SCC Steelhead DPS) *Oncorhynchus mykiss*, California Coastal Chinook Salmon (CC Chinook ESU) *Oncorhynchus tshawytscha*, Longfin Smelt (*Spirinchus thaleichthys*), Eulachon (*Thaleichthys pacificus*), and Tidewater Goby (*Eucyclogobius newberryi*).

Possible impacts to these species include: 1) competition for resources with CC Coho ESU, CCC and SCC steelhead DPSs *Oncorhynchus mykiss*, and California Coastal Chinook Salmon (CC Chinook ESU) *Oncorhynchus tshawytscha*, 2) stock hybridization with CC Chinook ESU and CC Coho ESU, or 3) the

establishment of an out-of-basin spawning population for CV FRCS in coastal streams where the species does not naturally occur. It is unlikely that these three concerns would result in any significant effects, either directly or indirectly. The three potential impacts above are addressed in turn, below.

1. If CV FRCS adults stray into coastal streams, some competition for resources with salmonids native to the area may occur. Analysis is based on currently available monitoring data. Limited CDFW monitoring observations show that CV FRCS strays appear to occur only in select Coastal watershed and in limited numbers into three coastal streams within and nearby the Project area: Lagunitas Creek (Marin), Arana Gulch, and San Lorenzo River (Neillands et al. 2015, 2016, 2018 and 2019). Of these observations, only three CWT marked fish were recovered in Lagunitas Creek and later identified as returns from a Half Moon Bay net pen release. The remainder of the observations consisted of adipose fin-clipped live fish, carcasses, and redd counts that cannot be attributed to a particular release location. The mouth of Lagunitas Creek is connected all year, whereas the mouths of most coastal streams are blocked by sediment until fall rains begin and high flows flush open the mouth. This may be a reason that some CV FRCS have migrated into this stream to spawn. However, CV FRCS adults migrate earlier than Coho Salmon or steelhead, thus CV FRCS likely overlap for only a small window with adult Coho Salmon. Smolts have been present in rotary screw trap operations in Lagunitas Creek, however it is undetermined if smolts from survive to the ocean. The small releases of CV FRCS planned for 2021 and 2022 would likely not cause significant impacts through competition with listed anadromous stocks in coastal streams.

2. CV FRCS are genetically different from CC Chinook ESU which have a range from Russian River north to Redwood Creek in Humboldt County. The two are of the same species and genetic hybridization is possible. What keeps different populations genetically distinct is the tendency to migrate back to their natal streams (spatial), and the timing of those migrations (temporal). The genetic distinctiveness illustrated in Clemente et al. (2014) strongly suggests that Russian River and Eel River Chinook Salmon, both in the northern most range of CC Chinook ESU, are more similar to the CC Chinook ESU than the CV FRCS. In other words, if hybridization was occurring in the Russian or Eel Rivers, genetic samples would likely be more similar to CV FRCS. Video monitoring at Mirabel Dam on the Russian River has reported low numbers of adipose fin-clipped fish entering the basin.

Hybridization with Coho Salmon has been documented although it is extremely rare (Chevassus 1979, cited in Bartley et al 1990). It is unlikely for this to occur in or near the Project area due to the difference in timing of the two migrations. CC Coho ESU return to spawn later than CV FRCS, usually late November to early February and peaking in December and January. Adult CV FRCS migrate in the late-summer and early-fall and spawn almost immediately (Moyle 2002). Recognition of the same species through olfactory senses is also thought to be an important mechanism maintaining reproductive isolation in salmonids (Lily 1982). It is unlikely that the releases planned for 2021 and 2022 would significantly impact listed anadromous stocks due to hybridization with CV FRCS in coastal streams.

3. Hatchery fish have been transported and released into the San Francisco Bay for decades and more specifically, MBSTP has conducted net pen smolt acclimation in the Santa Cruz Harbor since at least 2010 and no out-of-basin spawning (naturalized) population has been observed. Changes to release design, specifically removal of net pen acclimation time has reduced attraction of predators which lessens risks for native fishes in nearby drainages. It is very unlikely that releases planned for 2020 and 2021 would establish an out-of-basin spawning population of CV FRCS. Releases need to be a high

enough quantity of smolts to survive to adulthood for capture by fisheries without impacting other species. If the quantity of smolts released is too small, it will not have a positive impact on the fishery.

The Project would result in no impacts to federally threatened Eulachon. In California, Eulachon are historically found in the Klamath River as well as some smaller coastal rivers including the Mad River and Redwood Creek. The CNDDDB Soquel Quadrant details one Eulachon collected around 1911 near the mouth of Soquel Creek. This was a rare occurrence; it is unlikely for Eulachon to be present or adversely affected by the Project.

The Project would result in no impacts to federal and state protected Longfin Smelt. The CNDDDB finding in Moss Landing Quadrant describes specimens of this species collected offshore in 1890, 1980, and 1993. However, Longfin Smelt do not spawn in this area and these specimens may have been strays from the San Francisco/Bay Delta population. It is unlikely for Longfin Smelt to be present or adversely affected by the Project.

The Project would result in no impacts to federally endangered Tidewater Goby. Tidewater Goby is a small fish endemic to the California coast. Multiple occurrences in Santa Cruz Quadrant are shown in the CNDDDB. However, Tidewater Goby is found in shallow lagoons, brackish marshes and lower stream reaches. This is not the habitat selected by returning adult salmon for spawning grounds, and thus would not likely be adversely affected by the Project.

Birds, Amphibians, Reptiles, and Insects

Several special status birds occur in the Project area, including federally and state endangered California Ridgway's rail *Rallus obsoletus obsoletus*, state threatened bank swallow *Riparia riparia*, federally threatened California black rail *Laterallus jamaicensis coturniculus*, state threatened tricolored blackbird *Agelaius tricolor*, and federally threatened and state species of special concern western snowy plover *Charadrius alexandrinus nivosus*. The Project would occur on the developed Santa Cruz Wharf and given the short duration of the delivery there would be no potential for the Project to disrupt nesting, feeding, or other activities of these birds. In addition, any adult CV FRCS straying into coastal streams would be minimal and would not significantly affect these species.

Similarly, special status amphibians, reptiles, and insects have been documented to occur within the quadrants analyzed for this review, but the Project would not significantly impact these species.

Marine Mammals

Based on a query of CNDDDB Rare Find, this analysis considers whether any marine mammal that is documented to have occurred in the vicinity of the Project could be adversely affected by the presence of hatchery origin CV FRCS juveniles or returning adults. No listed marine mammals were listed in the CNDDDB for the quadrants selected. Federally delisted Northern Steller sea-lions *Eumetopias jubatus* were reported in Ano Nuevo and Monterey quadrants. The project will be releasing CV FRCS without holding net pens to reduce interactions with predators. Direct releases are not expected to attract sea-lions.

b. – f.: No impact

Discussion: The Project involves no changes to terrestrial habitats or wetlands and involves no activities that would impede movement within migratory corridors, or conflict with local ordinances or adopted conservation plans.

V. Cultural Resources a. – c.: No impact

Discussion: The Project does not include usage of historical or archaeological resources, nor does it include any ground modifying activity.

VI. Energy a. – b.: No impact

Discussion: The Project would be complete in a short amount of time and does not require local energy use or impact local energy plans. The extent of energy resources used would be hatchery trucks and boat fuel use covered in previous sections.

VII. Geology and Soils a. – f.: No impact

Discussion: The Project does not include any ground disturbing work.

VIII. Greenhouse Gas Emissions a.: Less Than Significant Impact

Discussion: The Project would emit greenhouse gases (GHG) due to the use of fuel to transport the Chinook Salmon smolts from MOK to Santa Cruz Wharf and the use of an on-the the-water boat to assist in the release of the smolts. Project emissions generated by hatchery trucks and the boat are accounted for in the Daily Emissions Inventory outlined on pages 20 and 21 of the 2012-2015 Air Quality Management Plan released by the Monterey Bay Air Resources District and adopted by the District Board of Directors on March 15, 2017. (David Frisbey, Monterey Bay Air Resources District, personal communication, November 22, 2019). The March 15, 2017 Air Quality Management Plan is still the current plan available from Monterey Bay Air Resources District.

b.: No impact

Discussion: The very low levels of GHG emissions from the Project will not conflict with plans for reducing GHG.

IX. Hazards and Hazardous Materials a. – g.: No impact

Discussion: The Project will not be transporting, located in areas with, or blocking hazards or hazardous materials.

X. Hydrology and Water Quality a. – e.: No impact

Discussion: Fish will be acclimated to saltwater in hatchery trucks and will not be fed on site. Any fecal matter produced on site will be minimal with direct release of smolts into the Monterey Bay. No local groundwater, existing drainage, tidal or river flow, or alteration of management plans would be affected or changed due to this Project and no pollutants will be released.

XI. Land Use and Planning a. – b.: No impact

Discussion: There is no land use change anticipated for this Project and if temporary net barges are needed dockside, they will be removed after use.

XXI. Mandatory Findings of Significance a. – c.: No impact

Discussion: The Project would not degrade the environment or species. Project smolts would grow into harvestable adults in the near ocean environment and be available to commercial and recreational fisheries. Unharvested adults may stray or return to MOK, but this would not impact habitat of other native species or substantially reduce the number of species or restrict the range of a rare or endangered plant or animal. Kormos and Palmer-Zwahlen (2015) explain that CWT data indicates net pen releases generally have a higher recovery rate than fish released in river, but conversely, they also exhibited higher stray rates. Available data have not shown that straying returning adults from past and current projects impact native fishes within coastal streams. Moreover, features of the Project, specifically direct release, without an acclimation period serve to reduce the potential for Project fish to stray into coastal streams and minimize any impact in the event straying occurs. Based on these Project elements and considered in light of available data and past and ongoing coastal release projects in the Monterey Bay, there is no evidence of a significant cumulative impact to native fishes due to straying from coastal releases, to which the Project would contribute.

Exhibit A: Statement of Work

Under the direction of the Grantor, the California Department of Fish and Wildlife (CDFW), and under the following conditions and terms, Monterey Bay Salmon and Trout Project (MBSTP) would fulfill the following:

1. MBSTP is responsible for releasing 160,000 Chinook Salmon smolts provided by the Mokelumne River Fish Hatchery in 2021 and 160,000 in 2022. CDFW would deliver fish to Santa Cruz Wharf or Santa Cruz Harbor. If Santa Cruz Harbor is used fish delivered to the net barge would be held no greater than 24 hours and if environmental conditions prevent release from Santa Cruz Wharf.

If a net barge is used, it will be towed and placed prior to arrival of hatchery fish. Hatchery fish will be delivered at the same time in 2-4 hatchery trucks. This project has been reviewed and accepted by California Coastal Commission, City of Santa Cruz, and Santa Cruz Port Commission.

2. MBSTP understands the availability of salmon for this project may be reduced based on availability. CDFW would mark and tag the fish with a coded-wire tag (CWT) and adipose fin clip. Salmon would be healthy and disease free when delivered to Santa Cruz Wharf (or Santa Cruz Harbor). All fish would be delivered, acclimated, and released within the same day with the exception alternative release methods in which they will be released no greater than 24 hours after delivery. Fish are scheduled to be delivered mid-May depending on fish size, growth rates, and environmental conditions in Monterey Bay.

3. MBSTP agrees to provide a written report on all fish releases to CDFW and Commercial Salmon Trollers Advisory Committee (CSTAC) by August 15, 2021 for the 2021 release and by August 15, 2022 for the 2022 release. The report will include the following information:

- Estimated number of fish, mortalities, and condition upon delivery
- Estimated number of fish mortalities and condition upon release
- Environmental conditions; water temperature, air temperature
- Estimated number and species of avian and marine predators present at release
- Location (latitude/longitude) of release site and time
- Duration of acclimation (hours, minutes)

4. MBSTP would provide a hard copy and an electronic copy of the final report in MS Word or PDF format.

5. MBSTP would obtain permits required by the Coastal Commission, local planners, and any other permits that may be needed to implement the project.

6. MBSTP would acknowledge the participation of the CDFW and Commercial Salmon Stamp on any signs, flyers, or other types of written communication or notice to advertise or explain the MBSTP Chinook Salmon Coastal Release Project in Santa Cruz.

Exhibit B: Permits and Permit Waivers

City of Santa Cruz Permit

AGREEMENT BETWEEN CITY OF SANTA CRUZ AND THE MONTEREY BAY SALMON & TROUT PROJECT, INC

This Agreement is entered into between the City of Santa Cruz ("City") and The Monterey Bay Salmon & Trout Project, Inc., a 501c3 Non-profit organization. ("Permittee") and is effective as of Dec. 20, 2019. City and Permittee are referred to individually as "Party", or collectively, as the "Parties".

WHEREAS Permittee, its employees, agents and/or volunteers (collectively, the "Permittees") are participating in a Monterey Bay Salmon & Trout Project ("Project") intending to once annually, release juvenile chinook salmon arriving in a California Department of Fish & Wildlife aerated transport vehicle via a flexible dispersal hose from the roadway of the Santa Cruz Wharf ("City Property") into the water of the adjacent Monterey Bay. Permittees will accompany an aerated live fish transport truck onto the City Property during evening hours, one time each year during the month of May for the express purpose of releasing up to 240,000 live juvenile chinook salmon into the Monterey Bay.

WHEREAS, City agrees to the Permittees' access and use of the City Property related to the Project.

NOW THEREFORE, in consideration of the mutual covenants and promises set forth in this Agreement and other valuable consideration, receipt of which is hereby acknowledged, the parties to this Agreement do hereby agree as follows:

1. RESPONSIBILITIES OF CITY:

- 1.1 City shall cooperate with Permittees in their access and use of City Property for the placement of Permittees' fish transport vehicle and Project-related dispersal equipment on City Property.
- 1.2 City shall at all times retain exclusive final authority over the use of City Property.

2. RESPONSIBILITIES OF UNIVERSITY/PERMITTEES:

2.1. Use of Property. Permittees shall keep the fish transport vehicle located in the roadway only and during times as specified by the City, and shall use City Property with care, keep the City Property in a clean and attractive condition, and shall comply with all applicable laws and City ordinances applicable to the above-referenced activity. Permittees shall not unreasonably interfere with the use of City Property by the City and/or the public.

2.2. As-Is Condition. Permittees acknowledge the uniqueness of the City Property and accept the current "AS-IS, IN ITS CURRENT CONDITION, WITH ALL FAULTS" condition of the City Property existing on the date of execution of this Agreement. Permittees acknowledges by their own independent investigation, that the City Property to be used is suitable for Permittees' intended use and neither City nor its agents or representatives have made

any representation or warranty as to the present or future suitability of the City Property for the conduct of Permittee's activities.

2.3. Indemnification on behalf of Permittees.

a) Monterey Bay Salmon & Trout Project, Inc. agrees to defend, indemnify, and hold harmless the City of Santa Cruz, its officials, officers, employees, agents and volunteers from and against any and all loss, damages, liability, claims, suits, costs and expenses (including reasonable attorneys' fees), for any injury or damages resulting from or in any way related to Permittees' activities as referenced in this Agreement, except for the sole negligence or willful misconduct of the City.

b) Monterey Bay Salmon & Trout Project, Inc. further agrees not to assert any claim against or sue City, its officers, employees, agents or volunteers for injury or damage allegedly to have been caused in whole or in part by Permittees' use of City Property, or any other activity undertaken by Permittees at or on City Property with or without City's permission.

c) Monterey Bay Salmon & Trout Project, Inc. agrees to require all individuals accessing City Property related to this Agreement to execute individual waiver forms approved by the City (attached here to as Exhibit A), in which said individuals agree not to assert any claims against or sue the City, its officials, officers, employees, agents or volunteers for injury or damage allegedly to have been caused in whole or in part by said individuals' use of City Property.

2.4. Loss or Damage to City Property. Monterey Bay Salmon & Trout Project, Inc. shall assume all liability, including any costs for repair as determined by City, in its sole discretion, for any damage or loss to City Property arising out of Permittees' activities, except for normal wear and tear, under this Agreement.

2.5. Insurance Requirements. Monterey Bay Salmon & Trout Project, Inc. Directors agrees to provide proof of its a certificate of insurance coverage naming the City of Santa Cruz, its officials, officers, employees, and volunteers, an additional insured on its General Liability Insurance policy, and which meets the City's insurance requirements as required in Exhibit B.

3. GENERAL PROVISIONS:

3.1. Governing Law: This Agreement shall be governed by the laws of the State of California.

3.2. Severability: In the event any portion of this Agreement is deemed to be unenforceable, or is in conflict with applicable law, the remainder of this Agreement shall be enforced and shall remain in full force and effect.

3.3. Entire Agreement: This Agreement sets forth the entire understanding of the parties, and each party acknowledges there were not other oral agreements, representations, warranties or statements of fact made prior to or at the time of the signing of this Agreement.

3.4 Modification: It is expressly understood and agreed that this Agreement may not be altered, amended, modified or otherwise changed in any respect whatsoever except by a writing duly executed by authorized representatives of the parties hereto.

3.5 Understanding and Interpretation: The parties acknowledge that each party has reviewed this Agreement and fully understand its terms and consequences. The parties also acknowledge that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.

3.6 Binding and No Assignment: This Agreement shall be binding upon the parties hereto and upon their respective officials, officers, directors, employees, agents, legal representatives, and successors. This Agreement is not assignable without the express written approval by the City.

3.7 Counterparts: This Agreement may be signed in counterparts, and when each party has signed and delivered at least one such counterpart, each one shall be deemed an original and when taken together with other signed counterparts, shall constitute one Agreement, which shall be binding on and effective regarding all parties. Facsimile and scanned signatures have the same force and effect as original signatures.

By their signatures below, the parties herein acknowledge that they have read the terms of this Agreement, understand the terms thereof, and are authorized to enter into this Agreement on behalf of their respective entities.

CITY OF SANA CRUZ

THE MONTEREY BAY SALMON &
TROUT PROJECT, INC.

Exhibit C: Project Location



Figure 1 Juvenile Chinook release location at Santa Cruz Wharf. Images from Google Maps.

Exhibit D: CNDDDB Elements Location and Report

CNDDDB Quadrants Map

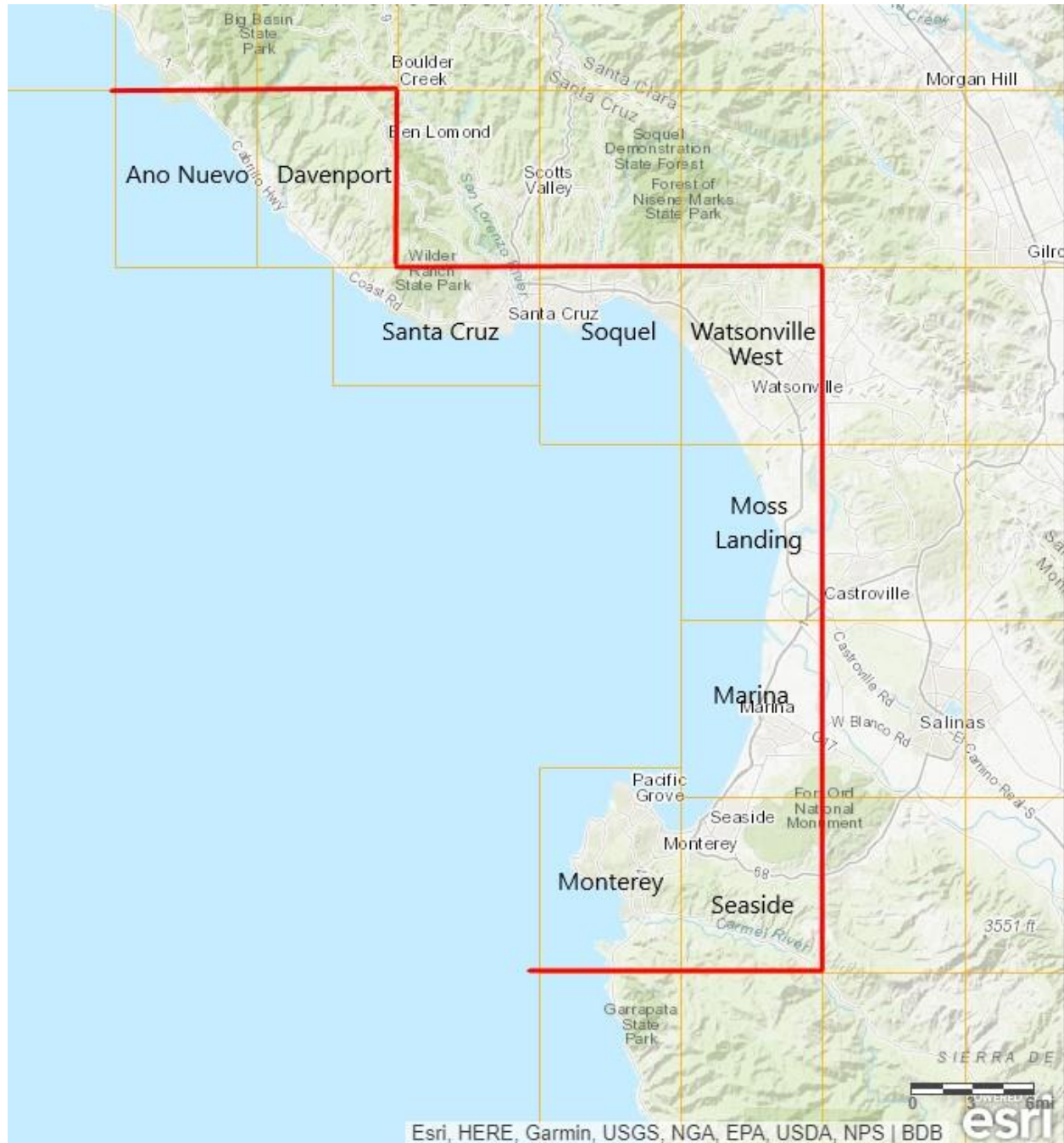


Figure 2 CNDDDB Quadrants included in elements review for the Project.

CNDDDB Elements Report



Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Ano Nuevo (3712213) OR Davenport (3712212) OR Marina (3612167) OR Monterey (3612158) OR Moss Landing (3612177) OR Santa Cruz (3612281) OR Seaside (3612157) OR Soquel (3612188) OR Watsonville West (3612187))

CNDDDB Query 1/21/2021 Run by Christina Parker

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon <i>Falco peregrinus anatum</i>	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Anderson's manzanita <i>Arctostaphylos andersonii</i>	PDERI04030	None	None	G2	S2	1B.2
angel's hair lichen <i>Ramalina thrausta</i>	NLLEC3S340	None	None	G5?	S2S3	2B.1
bank swallow <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
beach layia <i>Layia carnosa</i>	PDAST5N010	Endangered	Endangered	G2	S2	1B.1
Behrens' snail-eating beetle <i>Scaphinotus behrensi</i>	IICOL4L070	None	None	G2G4	S2S4	
Ben Lomond buckwheat <i>Eriogonum nudum var. decurrens</i>	PDPGN08492	None	None	G5T1	S1	1B.1
Ben Lomond spineflower <i>Chorizanthe pungens var. hartwegiana</i>	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	PDBOR01070	None	None	G3	S3	1B.2
black swift <i>Cypseloides niger</i>	ABNUA01010	None	None	G4	S2	SSC
Blasdale's bent grass <i>Agrostis blasdalei</i>	PMPOA04060	None	None	G2	S2	1B.2
Bonny Doon manzanita <i>Arctostaphylos silvicola</i>	PDERI041F0	None	None	G1	S1	1B.2
bristly sedge <i>Carex comosa</i>	PMCYP032Y0	None	None	G5	S2	2B.1
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
California brown pelican <i>Pelecanus occidentalis californicus</i>	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
California giant salamander <i>Dicamptodon ensatus</i>	AAAAH01020	None	None	G3	S2S3	SSC
California horned lark <i>Eremophila alpestris actia</i>	ABPAT02011	None	None	G5T4Q	S4	WL



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
California linderiella <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
California red-legged frog <i>Rana draytonii</i>	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California Ridgway's rail <i>Rallus obsoletus obsoletus</i>	ABNME05011	Endangered	Endangered	G5T1	S1	FP
California tiger salamander <i>Ambystoma californiense</i>	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Carmel Valley bush-mallow <i>Malacothamnus palmeri</i> var. <i>involucratus</i>	PDMAL0Q0B1	None	None	G3T2Q	S2	1B.2
Carmel Valley malacothrix <i>Malacothrix saxatilis</i> var. <i>arachnoidea</i>	PDAST660C2	None	None	G5T2	S2	1B.2
Central Dune Scrub <i>Central Dune Scrub</i>	CTT21320CA	None	None	G2	S2.2	
Central Maritime Chaparral <i>Central Maritime Chaparral</i>	CTT37C20CA	None	None	G2	S2.2	
chaparral ragwort <i>Senecio aphanactis</i>	PDAST8H060	None	None	G3	S2	2B.2
Choris' popcornflower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	PDBOR0V061	None	None	G3T1Q	S1	1B.2
coast horned lizard <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G3G4	S3S4	SSC
Coast Range newt <i>Taricha torosa</i>	AAAAF02032	None	None	G4	S4	SSC
Coastal and Valley Freshwater Marsh <i>Coastal and Valley Freshwater Marsh</i>	CTT52410CA	None	None	G3	S2.1	
Coastal Brackish Marsh <i>Coastal Brackish Marsh</i>	CTT52200CA	None	None	G2	S2.1	
coastal dunes milk-vetch <i>Astragalus tener</i> var. <i>titi</i>	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
coho salmon - central California coast ESU <i>Oncorhynchus kisutch</i> pop. 4	AFCHA02034	Endangered	Endangered	G4	S2	
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Contra Costa goldfields <i>Lasthenia conjugens</i>	PDAST5L040	Endangered	None	G1	S1	1B.1
Cooper's hawk <i>Accipiter cooperii</i>	ABNKC12040	None	None	G5	S4	WL
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Dolloff Cave spider <i>Meta dolloff</i>	ILARA17010	None	None	G1	S1	



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dudley's lousewort <i>Pedicularis dudleyi</i>	PDSCR1K0D0	None	Rare	G2	S2	1B.2
Eastwood's goldenbush <i>Ericameria fasciculata</i>	PDAST3L080	None	None	G2	S2	1B.1
elongate copper moss <i>Mielichhoferia elongata</i>	NBMUS4Q022	None	None	G5	S3S4	4.3
Empire Cave amphipod <i>Stygobromus imperialis</i>	ICMAL05E30	None	None	G1	S1	
Empire Cave pseudoscorpion <i>Fissilicreagris imperialis</i>	ILARAE5010	None	None	G1	S1	
Empire Cave pseudoscorpion <i>Neochthonius imperialis</i>	ILARAD1010	None	None	G1	S1	
eulachon <i>Thaleichthys pacificus</i>	AFCHB04010	Threatened	None	G5	S2	
ferruginous hawk <i>Buteo regalis</i>	ABNKC19120	None	None	G4	S3S4	WL
foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050	None	Endangered	G3	S3	SSC
Fort Ord spineflower <i>Chorizanthe minutiflora</i>	PDPGN04100	None	None	G1	S1	1B.2
fragrant fritillary <i>Fritillaria liliacea</i>	PMLIL0V0C0	None	None	G2	S2	1B.2
Franciscan thistle <i>Cirsium andrewsii</i>	PDAST2E050	None	None	G3	S3	1B.2
globose dune beetle <i>Coelus globosus</i>	IICOL4A010	None	None	G1G2	S1S2	
Gowen cypress <i>Hesperocyparis goveniana</i>	PGCUP04031	Threatened	None	G1	S1	1B.2
great blue heron <i>Ardea herodias</i>	ABNGA04010	None	None	G5	S4	
Hickman's cinquefoil <i>Potentilla hickmanii</i>	PDROS1B370	Endangered	Endangered	G1	S1	1B.1
Hickman's onion <i>Allium hickmanii</i>	PMLIL02140	None	None	G2	S2	1B.2
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
Hooker's manzanita <i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>	PDERI040J1	None	None	G3T2	S2	1B.2
Hospital Canyon larkspur <i>Delphinium californicum</i> ssp. <i>interius</i>	PDRAN0B0A2	None	None	G3T3	S3	1B.2
Hutchinson's larkspur <i>Delphinium hutchinsoniae</i>	PDRAN0B0V0	None	None	G2	S2	1B.2



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Jolon clarkia <i>Clarkia jolonensis</i>	PDONA050L0	None	None	G2	S2	1B.2
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	PDROS0W043	None	None	G4T1?	S1?	1B.1
longfin smelt <i>Spirinchus thaleichthys</i>	AFCHB03010	Candidate	Threatened	G5	S1	
Mackenzie's Cave amphipod <i>Stygobromus mackenziei</i>	ICMAL05530	None	None	G1	S1	
maple-leaved checkerbloom <i>Sidalcea malachroides</i>	PDMAL110E0	None	None	G3	S3	4.2
marbled murrelet <i>Brachyramphus marmoratus</i>	ABNNN06010	Threatened	Endangered	G3G4	S2	
Maritime Coast Range Ponderosa Pine Forest <i>Maritime Coast Range Ponderosa Pine Forest</i>	CTT84132CA	None	None	G1	S1.1	
marsh microseris <i>Microseris paludosa</i>	PDAST6E0D0	None	None	G2	S2	1B.2
marsh sandwort <i>Arenaria paludicola</i>	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Menzies' wallflower <i>Erysimum menziesii</i>	PDBRA160R0	Endangered	Endangered	G1	S1	1B.1
mimic tryonia (=California brackishwater snail) <i>Tryonia imitator</i>	IMGASJ7040	None	None	G2	S2	
moestan blister beetle <i>Lytta moesta</i>	IICOL4C020	None	None	G2	S2	
monarch - California overwintering population <i>Danaus plexippus</i> pop. 1	IILEPP2012	None	None	G4T2T3	S2S3	
Monterey clover <i>Trifolium trichocalyx</i>	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
Monterey cypress <i>Hesperocyparis macrocarpa</i>	PGCUP04060	None	None	G1	S1	1B.2
Monterey Cypress Forest <i>Monterey Cypress Forest</i>	CTT83150CA	None	None	G1	S1.2	
Monterey gilia <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	PDPLM041P2	Endangered	Threatened	G3G4T2	S2	1B.2
Monterey hitch <i>Lavinia exilicauda harengus</i>	AFCJB19013	None	None	G4T2T4	S2S4	SSC
Monterey pine <i>Pinus radiata</i>	PGPIN040V0	None	None	G1	S1	1B.1
Monterey Pine Forest <i>Monterey Pine Forest</i>	CTT83130CA	None	None	G1	S1.1	
Monterey Pygmy Cypress Forest <i>Monterey Pygmy Cypress Forest</i>	CTT83162CA	None	None	G1	S1.1	



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Monterey shrew <i>Sorex ornatus salarius</i>	AMABA01105	None	None	G5T1T2	S1S2	SSC
Monterey spineflower <i>Chorizanthe pungens</i> var. <i>pungens</i>	PDPGN040M2	Threatened	None	G2T2	S2	1B.2
North Central Coast Drainage Sacramento Sucker/Roach River <i>North Central Coast Drainage Sacramento Sucker/Roach River</i>	CARA2623CA	None	None	GNR	SNR	
North Central Coast Short-Run Coho Stream <i>North Central Coast Short-Run Coho Stream</i>	CARA2632CA	None	None	GNR	SNR	
Northern Bishop Pine Forest <i>Northern Bishop Pine Forest</i>	CTT83121CA	None	None	G2	S2.2	
Northern California legless lizard <i>Anniella pulchra</i>	ARACC01020	None	None	G3	S3	SSC
Northern Coastal Salt Marsh <i>Northern Coastal Salt Marsh</i>	CTT52110CA	None	None	G3	S3.2	
northern curly-leaved monardella <i>Monardella sinuata</i> ssp. <i>nigrescens</i>	PDLAM18162	None	None	G3T2	S2	1B.2
Northern Interior Cypress Forest <i>Northern Interior Cypress Forest</i>	CTT83220CA	None	None	G2	S2.2	
Northern Maritime Chaparral <i>Northern Maritime Chaparral</i>	CTT37C10CA	None	None	G1	S1.2	
obscure bumble bee <i>Bombus caliginosus</i>	IIHYM24380	None	None	G4?	S1S2	
Ohlone manzanita <i>Arctostaphylos ohloneana</i>	PDERI042Y0	None	None	G1	S1	1B.1
Ohlone tiger beetle <i>Cicindela ohlone</i>	IICOL026L0	Endangered	None	G1	S1	
Pacific Grove clover <i>Trifolium polyodon</i>	PDFAB402H0	None	Rare	G1	S1	1B.1
Pajaro manzanita <i>Arctostaphylos pajaroensis</i>	PDERI04100	None	None	G1	S1	1B.1
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
perennial goldfields <i>Lasthenia californica</i> ssp. <i>macrantha</i>	PDAST5L0C5	None	None	G3T2	S2	1B.2
pine rose <i>Rosa pinetorum</i>	PDROS1J0W0	None	None	G2	S2	1B.2
pink Johnny-nip <i>Castilleja ambigua</i> var. <i>insalutata</i>	PDSCR0D403	None	None	G4T2	S2	1B.1
Point Reyes horkelia <i>Horkelia marinensis</i>	PDROS0W0B0	None	None	G2	S2	1B.2
robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1



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Salinas harvest mouse <i>Reithrodontomys megalotis distichlis</i>	AMAFF02032	None	None	G5T1	S1	
saline clover <i>Trifolium hydrophilum</i>	PDFAB400R5	None	None	G2	S2	1B.2
saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	ABPBX1201A	None	None	G5T3	S3	SSC
San Francisco campion <i>Silene verecunda ssp. verecunda</i>	PDCAR0U213	None	None	G5T1	S1	1B.2
San Francisco collinsia <i>Collinsia multicolor</i>	PDSCR0H0B0	None	None	G2	S2	1B.2
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	AMAFF08082	None	None	G5T2T3	S2S3	SSC
San Francisco gartersnake <i>Thamnophis sirtalis tetrataenia</i>	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
San Francisco popcornflower <i>Plagiobothrys diffusus</i>	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
sand-loving wallflower <i>Erysimum ammodendrum</i>	PDBRA16010	None	None	G2	S2	1B.2
sandmat manzanita <i>Arctostaphylos pumila</i>	PDERI04180	None	None	G1	S1	1B.2
sandy beach tiger beetle <i>Cicindela hirticollis gravida</i>	IICOL02101	None	None	G5T2	S2	
Santa Cruz black salamander <i>Aneides niger</i>	AAAAD01070	None	None	G3	S3	SSC
Santa Cruz clover <i>Trifolium buckwestiorum</i>	PDFAB402W0	None	None	G2	S2	1B.1
Santa Cruz cypress <i>Hesperocyparis abramsiana var. abramsiana</i>	PGCUP04081	Threatened	Endangered	G1T1	S1	1B.2
Santa Cruz kangaroo rat <i>Dipodomys venustus venustus</i>	AMAFD03042	None	None	G4T1	S1	
Santa Cruz long-toed salamander <i>Ambystoma macrodactylum croceum</i>	AAAAA01082	Endangered	Endangered	G5T1T2	S1S2	FP
Santa Cruz microseris <i>Stebbinsoseris decipiens</i>	PDAST6E050	None	None	G2	S2	1B.2
Santa Cruz Mountains beardtongue <i>Penstemon rattanii var. kleei</i>	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Santa Cruz Mountains pussypaws <i>Calyptidium parryi var. hesseae</i>	PDPOR09052	None	None	G3G4T2	S2	1B.1
Santa Cruz tarplant <i>Holocarpha macradenia</i>	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Santa Cruz wallflower <i>Erysimum teretifolium</i>	PDBRA160N0	Endangered	Endangered	G1	S1	1B.1



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Schreiber's manzanita <i>Arctostaphylos glutinosa</i>	PDERI040G0	None	None	G1	S1	1B.2
seaside bird's-beak <i>Cordylanthus rigidus ssp. littoralis</i>	PDSCR0J0P2	None	Endangered	G5T2	S2	1B.1
short-eared owl <i>Asio flammeus</i>	ABNSB13040	None	None	G5	S3	SSC
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	PMPOT03091	None	None	G5T5	S2S3	2B.2
Smith's blue butterfly <i>Euphilotes enoptes smithi</i>	IILEPG2026	Endangered	None	G5T1T2	S1	
steelhead - central California coast DPS <i>Oncorhynchus mykiss irideus pop. 8</i>	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
steelhead - south-central California coast DPS <i>Oncorhynchus mykiss irideus pop. 9</i>	AFCHA0209H	Threatened	None	G5T2Q	S2	
Steller (=northern) sea-lion <i>Eumetopias jubatus</i>	AMAJC03010	Delisted	None	G3	S2	
stinkbells <i>Fritillaria agrestis</i>	PMLIL0V010	None	None	G3	S3	4.2
tear drop moss <i>Dacryophyllum falcifolium</i>	NBMUS8Z010	None	None	G2	S2	1B.3
Tidestrom's lupine <i>Lupinus tidestromii</i>	PDFAB2B3Y0	Endangered	Endangered	G1	S1	1B.1
tidewater goby <i>Eucyclogobius newberryi</i>	AFCQN04010	Endangered	None	G3	S3	
Toro manzanita <i>Arctostaphylos montereyensis</i>	PDERI040R0	None	None	G2?	S2?	1B.2
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	AMACC08010	None	None	G3G4	S2	SSC
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
twisted horsehair lichen <i>Bryoria spiralifera</i>	NLTEST5460	None	None	G1G2	S1S2	1B.1
Valley Needlegrass Grassland <i>Valley Needlegrass Grassland</i>	CTT42110CA	None	None	G3	S3.1	
western bumble bee <i>Bombus occidentalis</i>	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western pearlshell <i>Margaritifera falcata</i>	IMBIV27020	None	None	G4G5	S1S2	
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover <i>Charadrius alexandrinus nivosus</i>	ABNNB03031	Threatened	None	G3T3	S2S3	SSC



Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
white-flowered rein orchid <i>Piperia candida</i>	PMORC1X050	None	None	G3	S3	1B.2
white-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
woodland woollythreads <i>Monolopia gracilens</i>	PDAST6G010	None	None	G3	S3	1B.2
Yadon's rein orchid <i>Piperia yadonii</i>	PMORC1X070	Endangered	None	G1	S1	1B.1
yellow rail <i>Coturnicops noveboracensis</i>	ABNME01010	None	None	G4	S1S2	SSC
Zayante band-winged grasshopper <i>Trimerotropis infantilis</i>	IIORT36030	Endangered	None	G1	S1	

Record Count: 151