COASTAL CONSERVANCY

Staff Recommendation
November 30, 2023

MATTOLE ESTUARY LOWER BEAR CREEK HABITAT RESTORATION

Project No. 14-016-03
Project Managers: Su Corbaley and Lisa Ames

RECOMMENDED ACTION: Authorization to disburse up to $2,250,000 to the Mattole Salmon Group to reconnect Lower Bear Creek to the middle slough of the Mattole River Estuary, in part by elevating road infrastructure, to address critical habitat needs for endangered salmonids and improve resilience to climate change and sea level rise in Humboldt County, and adoption of findings under the California Environmental Quality Act.

LOCATION: Bear Creek and Lighthouse Road, 2 miles southwest of Petrolia, Humboldt County

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EXHIBITS

RESOLUTION AND FINDINGS

Staff recommends that the State Coastal Conservancy adopt the following resolution and findings.

Resolution:

The State Coastal Conservancy hereby authorizes a grant of an amount not to exceed two million, two hundred fifty thousand dollars ($2,250,000) to the Mattole Salmon Group (the "grantee") to reconnect Lower Bear Creek to the middle slough of the Mattole River Estuary, in part by elevating road infrastructure, to address critical habitat needs for endangered salmonids and improve resilience to climate change and sea level rise in Humboldt County (the "project").

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.

2. Names and qualifications of any contractors to be retained in carrying out the project.
3. A plan for acknowledgement of Conservancy.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain the project.

Findings:

Based on the accompanying staff recommendation and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 6 of Division 21 of the Public Resources Code, regarding enhancement of coastal resources.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria.
3. The Mattole Salmon Group is a nonprofit organization organized under section 501(c)(3) of the U.S. Internal Revenue Code.
4. The Conservancy has independently reviewed and considered the "Lower Bear Creek Habitat Enhancement Initial Study/Mitigated Negative Declaration" adopted by Humboldt County on January 6, 2023, pursuant to the California Environmental Quality Act ("CEQA") and attached to the accompanying staff recommendation as Exhibit 4. The Conservancy finds that the proposed project as designed and mitigated avoids, reduces, or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends the Conservancy authorize a $2,250,000 grant to the Mattole Salmon Group (MSG) to reconnect Lower Bear Creek to the middle slough of the Mattole River Estuary at its historical confluence, which will include elevating road infrastructure, to address critical habitat needs for endangered salmonids and improve resilience to climate change and sea level rise in Humboldt County (the "project") (see Exhibit 1). The proposed project will create valuable off-channel habitat for threatened salmonids, raise groundwater levels to increase cool water flowing into the Mattole estuary, and address urgent sea level rise adaptation needs by extending refugia and transitional zones in the middle slough. Additionally, the project will increase the safety and longevity of a local road as a thoroughfare for local residents and visitors to the Bureau of Land Management (BLM) campground at Mattole Beach and the northern end of the Lost Coast trail in the Kings Range National Conservation Area.

The Mattole River watershed is located about 200 miles north of San Francisco on California's Lost Coast. This area of the Pacific Ocean is recognized for its important coastal resources: the state has designated the area both an Area of Special Biological Significance and a Critical Coastal Area, while the federal government has designated the area a Marine Protected Area. The river is fed by 74 tributary streams and flows over 60 miles northwest to Petrolia and the Pacific Ocean. Historically, the Mattole River was abundant with native coho and Chinook salmon, and steelhead trout - three independent populations of federally-listed, threatened salmonids. The river system provided critical habitats for salmonids at all life stages such as cool water in the summer, slow water in the winter, and plenty of cover to avoid predation. In addition, the Mattole River estuary was rich in suitable rearing and holding habitat prior to ocean entry for juvenile salmonids. Lower Bear Creek, one of the lower river tributaries, supplied cold water inputs to the middle slough of the estuary and served as additional off-channel habitat. The route of the Mattole River and Lower Bear Creek across the floodplain would change with winter storm flows, creating the mosaic of side channels and wetlands comprising these rich habitats.

Beginning with intensive timber harvest in the 1940s, anthropogenic land use changes combined with large flooding events redefined the geomorphology of the Mattole River and its estuary and reduced its capacity to transport sediment and support fish and other aquatic organisms. The natural channel migration in the floodplain ceased when Lighthouse Road, running along the south bank of the river, was established as a year-round thoroughfare for residents on Prosper Ridge and visitors to Mattole Beach. In the 1970s, landowners channelized Lower Bear Creek, disconnecting flow into the middle slough and redirecting it to meet the mainstem approximately 1,600 feet upstream, thereby eliminating a substantial cold-water source for the estuary and several thousand feet of winter rearing habitat in the lower river. In addition to providing little benefit for native fish and amphibians, this reconfiguration and confinement of Lower Bear Creek caused sediment aggradation, reduced channel capacity and increased flooding across Lighthouse Road. During a series of recent severe storms, Lower Bear Creek avulsed (abandoned) its artificial channel and started flowing east through a small wetland that drains through an undersized culvert under Lighthouse Road and into the adjacent river. Lighthouse Road has sustained significant damage and the ongoing flooding and erosion from each storm event threatens public safety and access for local residents and visitors to the Lost Coast (see photos in Exhibit 2).

Currently, the mouth of the middle slough is within the upstream extent of tidal influence. Rising seas are anticipated to extend tidal inundation further upriver during baseflow conditions, causing the lagoon levels to increase with sea level rise when the river mouth is open and closed. The rise is anticipated to increase water depths and tidal influence within the middle slough. At the projected 2050 increase of 2.5 feet – determined in State of California Sea Level Rise Guidance prepared by the Ocean Protection Council's Science Advisory Team – the elevated lagoon water level during closed-mouth periods will make the proposed restoration a potential cool water refugia from the warmer waters in the lagoon. Other effects of the rising levels in the estuary include raising local groundwater levels which, when combined with severe storms and large king tides characteristic of the area, will exacerbate flooding effects on Lighthouse Road.

Since the 1980s, community-led watershed restoration groups such as the MSG have been working to understand, restore and conserve the ecosystems of the Mattole River watershed with attention to the threatened coho, Chinook, and steelhead. Since 1997, the Conservancy has contributed to several projects throughout the watershed, including acquisitions, planning and restoration. Specific to estuarine restoration, California Department of Fish and Wildlife (DFW), US Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) have invested in studies of the hydraulic issues in and around Lower Bear Creek over the last several years. Building upon this work, the Conservancy funded the "Lower Mattole River Salmon Habitat Enhancement Project" in 2019, which included developing designs and preparing permitting and environmental assessments for restoring Lower Bear Creek.

The proposed project will restore the natural estuarine processes of Lower Bear Creek, increase habitat complexity in the estuary, and expand the beneficial estuary habitat available to salmonids and improve conditions for the fish to grow before migrating out to the ocean. Enhancing estuarine function will also provide a greater buffer for salmonid response to negative effects of climate change and irregular weather patterns. Recreating low velocity habitats will serve as an important refugia for salmonids as Mattole River lagoon levels increase and extend further up the middle slough with rising sea level. Recent low flows in drought years have limited spawning and rearing access to only the lower river. Thus, increasing complexity and restoring habitat in these areas is critical to salmonid survival. Restoration of Lower Bear Creek to its historic confluence with the estuary will require the elevation of Lighthouse Road and an adjacent driveway. In addition to facilitating habitat restoration, reconfiguring the road infrastructure will improve public safety and access and increase its resilience to climate change and sea level rise.

The proposed project will realign approximately 2,000 feet of Lower Bear Creek from its present alignment towards the west. The downstream 500 feet of this reach will be within residual backwater of the middle slough, providing low velocity slough habitat. An additional capture channel and a series of small alcoves will be excavated alongside the realigned Lower Bear Creek channel to collect bank overflow and reroute it back to the channel before crossing under the road. The project will also raise 1,500 feet of the current alignment of Lighthouse Road by 2-5 feet as well as relocating and raising 1,000 feet of an existing private drive 2-5 feet. The project will install a culvert crossing on Lighthouse Road and install a bridge crossing on the private driveway. The project will also excavate a sediment capture channel running parallel to Lighthouse Road and place a minimum of 27 pieces of large wood in the new channel for low-velocity freshwater habitat creation (see Exhibit 1 – Lower Bear Creek Realignment Map).

Site Description:

Bear Creek is a small tributary flowing into the Mattole River just upstream of the Mattole estuary in rural Humboldt County. It drains forested north-facing hillslopes and exits a steep inner gorge onto the historical floodplain of the Mattole River 500 feet south of the current location of Lighthouse Road. Lighthouse Road generally runs east to west along the south bank of the Mattole River from Mattole Road to the BLM campground at Mattole Beach, where the northern end of the Lost Coast trail is located. In addition to providing the only access to the federally managed beach access in the Kings Range National Conservation Area, several

residences along Prosper Ridge are accessed via Lighthouse Road, and a BLM campground, which was recently improved with Conservancy lower cost overnight accommodation funds (see Exhibit 1).

The Mattole River is listed under Section 303(d) of the federal Clean Water Act by the U.S. Environmental Protection Agency as an impaired water system due to excessive sediment and high temperatures. As a result of that listing, the California State Water Resources Control Board established Total Maximum Daily Load (TMDL) limits to reduce sediment and temperature in the Mattole River and improve the quality of the water that discharges to the sea. DFW has listed the Mattole River as a habitat recovery unit in its Coho Salmon Recovery Strategy (DFW, 2004) and an area necessary for maintaining critical habitat for coho salmon.

The Mattole River watershed supports three independent populations of federally-listed threatened salmonids: California Coastal Chinook salmon ("Chinook"), Southern Oregon Northern California Coast coho salmon ("coho"), and Northern California steelhead ("steelhead"). Coho are also listed as threatened at the state level. According to the DFW's North Coast Watershed Assessment Plan (NCWAP, 2003) for the river, in 1960 USFWS estimated populations for the three species at 2,000, 5,000, and 12,000, respectively. Surveys in recent years document significant declines in Chinook and coho, with live adult Chinook populations ranging from 75 to 150 and live adult coho in the teens. Distribution of coho and Chinook is also significantly reduced from estimated historic ranges, which for coho included the entire main stem and 33 tributaries, and for Chinook included the main stem and 27 tributaries. While always serving as a key habitat element by providing wintering and summertime habitat for young salmonids, the estuary now is vital for survival of the Mattole salmonid populations as their watershed-wide historic ranges have diminished.

Prior to anthropogenic alteration, Lower Bear Creek flowed freely to the west across the alluvial fan and through a wetland complex before draining into the Dogleg Pool at the upstream-most end of the Mattole middle slough. In the 1970s, the stream was channelized, disconnecting flow into the Dogleg Pool and redirecting it to meet the mainstem approximately 1,600 feet upstream of the estuary. If reconnected, it is the largest drainage that could provide a source of cold water to the Mattole River estuary.

The project area includes privately-owned tribal land owned by the Bear River Band of the Rohnerville Rancheria (BRB), roadway owned by Humboldt County, and federally lands managed by BLM; the total project area is 2.5 acres. As part of the project, MSG will obtain agreements with the landowners to secure the legal right to carry out the proposed project.

Grant Applicant Qualifications: MSG has worked toward the recovery of native Mattole River salmonids since 1980. In 2019, MSG was a member of the technical advisory team for the "Lower Mattole River Salmon Habitat Enhancement Project" funded by the Conservancy. The enhancement project included the planning, design, and development of environmental review documents for Lower Bear Creek restoration.

MSG has implemented dozens of habitat restoration projects in the Mattole watershed in partnership with state and federal funding agencies. Most recent implementation projects include the McGinnis Creek Habitat Improvement Project funded by DFW and completed in

2022, the Middle Slough Habitat Restoration Project – Phase 2 completed in 2021 and funded by DFW and the California Department of Water Resources, and the Indian Creek Sediment Reduction and Habitat Enhancement Project funded by DFW and completed in 2021. These projects were completed on schedule and within budget.

MSG will conduct California Rapid Assessment Method surveys: pre- and post- construction snorkel surveys, minnow trapping and placing/retrieving temperature loggers for a minimum of two years after the project is completed. The proposed restoration project is designed to be self-sustaining with a lifespan of 35+ years, and therefore, will not require regular maintenance. MSG will monitor the channel excavation and roadway for a minimum of two years after completion. Road construction and culvert installation on Lighthouse Road will be maintained by the Humboldt County Department of Public Works and the private driveway and the bridge crossing will be maintained by the BRB.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA:

The proposed project is consistent with the Conservancy's Project Selection Criteria, last updated on September 23, 2021, in the following respects:

Selection Criteria

1. **Extent to which the project helps the Conservancy accomplish the objectives in the Strategic Plan.**

See the "Consistency with Conservancy's Strategic Plan" section below.

2. **Project is a good investment of state resources.**

The proposed project is a good investment of state resources because (1) it will restore coastal wetlands in a manner that ensures it will keep pace with future sea level rise and contribute to meeting the state's anadromous fish habitat enhancement goals as required by the Governor's 30 x 30 Executive Order; (2) it will build upon previous state investments; and (3) it will help protect and enhance the biodiversity of habitats for state and federal threatened and sensitive species.

3. **Project includes a serious effort to engage tribes. Examples of tribal engagement include good faith, documented efforts to work with tribes traditionally and culturally affiliated to the project area.**

BRB is the California Native American tribe in the lower Mattole River Valley. A BRB Tribal member served on the board of the MSG for several years and was involved in the Board's decision-making process regarding the proposed project. In 2022, the BRB purchased the private parcel where most of the restoration work will occur. A Tribal Councilmember met with the MSG on the property to discuss the proposed project activities and the Tribe is in support of the project. A cultural resources investigation was completed in coordination with the BRB in 2021. No cultural resources were found within the project area, and a detailed protocol for inadvertent discovery of archaeological material was completed as part of the Mitigated Negative Declaration.

This project will add 2,000 feet of salmonid habitat along the north side of the Tribe's parcel, as well as reinforce approximately 1,000 feet of the Tribe's private driveway and install a bridge crossing over Lower Bear Creek. As part of the revegetation plan, the MSG will look to the BRB for guidance on culturally significant species to be used in revegetating the project site. The BRB will be engaged to assist with revegetation and post project monitoring with the MSG.

4. Project benefits will be sustainable or resilient over the project lifespan.

The proposed project was designed to meet the project objectives of managing sediment inputs from Lower Bear Creek and increasing salmonid habitat without impacting Lighthouse Road. The restoration will accommodate large loads of coarse sediment from the steep gorge upstream that come from episodic flood events and prevent Lower Bear Creek from avulsing the channel and flooding Lighthouse Road and the private driveway. At an estimated annual sedimentation rate of 400 yards/year (Section Basis of Design Report Section 2.8.6 Sediment Delivery Rates from Lower Bear Creek to Project Area), the fully aggraded condition is expected to be reached after 35 years. The proposed project also has a high resiliency to mainstem river flooding and lateral river migration.

Currently, the mouth of the middle slough is within the upstream extent of tidal influence. Rising seas are anticipated to extend tidal inundation further upriver during baseflow conditions, causing the lagoon levels to increase with sea level rise when the river mouth is open and closed. This rise is anticipated to increase water depths and tidal influence within the Middle Slough. At the projected 2050 increase of 2.5 feet – established in State of California Sea Level Rise Guidance prepared by the Ocean Protection Council's Science Advisory Team – the tidal influence would not extend into the Dogleg Pool but the elevated lagoon water level during closed-mouth periods may reach the Dogleg Pool, making this habitat a potential cool water refugia from the warmer waters in the lagoon. Other effects of the rising levels in the estuary include raising local groundwater levels that may feed into the Dogleg Pool. This increase in water levels, combined with severe storms and large king tides characteristic of the area will exacerbate flooding effects on Lighthouse Road, which currently floods when the Petrolia gauge reaches 28,000 cubic feet per second, which is less than a 2-year event.

To accommodate future aggradation across the western portion of the alluvial fan as well as sea level rise, the project will raise Lighthouse Road, and raise and realign the private driveway, both of which frequently become inundated from Lower Bear Creek flooding. Lighthouse Road will be raised from the intersection of the private driveway to the west for a length of 1,600 feet. At its highest, Lighthouse Road will be raised 5 feet and a new 23-foot x 11.5-foot (span x rise) arch culvert stream crossing will be installed. The new culvert is designed for aquatic organism passage and to accommodate Lower Bear Creek 100-year flow events with additional capacity to convey debris and sediment from the steep drainage.

5. Project delivers multiple benefits and significant positive impact.

The proposed project will 1) increase quantity and quality of habitat for endangered salmonids in the lower Mattole River; 2) address climate change and sea level rise concerns; 3) increase the safety and longevity of Lighthouse Road as a year-round thoroughfare for residents

downstream of Lower Bear Creek, and visitors to Mattole Beach, the public campground and the Lost Coast Trail; and 4) benefit a disadvantaged community.

6. Project planned with meaningful community engagement and broad community support.

The proposed project was developed to enhance habitat for aquatic species, and to improve the safety of Lighthouse Road for the local community and visitors of the Lost Coast. The MSG board consists of local community members who are engaged with the project as well as local consulting companies. This project intends to use local contractors to complete construction whenever feasible, and all biological surveys will be contracted out to local firms.

PROJECT FINANCING

Coastal Conservancy	**$2,250,000**
Wildlife Conservation Board (pending)	$4,102,000
Project Total	**$6,352,000**

Conservancy funding is anticipated to come from a Fiscal Year 2022/23 appropriation from the Greenhouse Gas Reduction Fund (GGRF) to the Conservancy for urgent sea level rise adaptation and coastal resilience needs (Budget Act of 2022, as amended by the Budget Act of 2023, SB 101, Chapter 12, Statutes of 2023). The Greenhouse Gas Reduction Fund Investment Plan and Communities Revitalization Act (Health and Safety Code (HSC) Sections 39710 – 39723) requires that GGRF funds be used to (1) facilitate the achievement of reductions of GHG emissions consistent with the Global Warming Solutions Act of 2006 (HSC Sections 38500 *et seq*), and (2) to the extent feasible, achieve other co-benefits, such as maximizing economic, environmental and public health benefits and directing investment to disadvantaged communities (HSC 39712(b)). The Global Warming Solutions Act of 2006 sets forth certain GGRF funding priorities (HSC Section 38590.1).

The California Air Resources Board ("CARB") has adopted guidelines that establish program goals that agencies must achieve with their GGRF funds. Consistent with the CARB 2018 Funding Guidelines, the proposed project will help the Conservancy meet its GGRF program goals because the project will:

- Facilitate GHG emission reductions (which includes carbon sequestration) and further the purposes of AB 32 and related statutes;
- Benefit Priority Populations (disadvantaged communities, low-income communities, or low-income households);
- Maximize economic, environmental, and public health co-benefits to the State; and
- Foster job creation and job training, wherever possible.

The proposed project will meet these objectives, including the reduction of GHG emissions, by restoring coastal estuarine habitat, one of the most efficient carbon sequestration ecosystems in the world. In addition, the transitional habitats created by the project and the elevation of infrastructure will provide urgent sea level rise adaptation, which is an environmental benefit to

the State. The project also benefits the local tribal community by enhancing access to their property and fosters job creation by engaging tribal members in revegetation and post project monitoring work. The project will also support the disadvantaged community of the lower Mattole River area by providing opportunities during construction of the project for the local workforce.

The County of Humboldt Department of Public Works has committed $50,000 of in-kind services to the project for plan review, specification preparation, assistance with bid process, construction inspection, soil compaction testing, and concrete testing, and the Bureau of Land Management has committed to an in-kind contribution of $10,100 for assistance with bid support, contractor selection, construction management and site monitoring.

Unless specifically identified as "Required Match," the other sources of funding and in-kind contributions described above are estimates. The Conservancy does not typically require matching funds or in-kind services, nor does it require documentation of expenditures from other funders or of in-kind services. Typical grant conditions require grantees to provide any funds needed to complete a project.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270 as follows:

Under Section 31251, the Conservancy may award grants to nonprofit organizations to enhance coastal resources that have suffered loss of natural and scenic values. The proposed project will restore hydraulic connectivity to a historic slough channel and enhance instream and riparian habitat that were degraded by sedimentation from past land use practices and catastrophic natural events.

Consistent with Section 31252, the proposed project is consistent with the following sections of the County of Humboldt's Local Coastal Plan (LCP), South Coast Area Plan:

- Section 3.41.A.1.b and 3.41.A.1.g of the LCP identify environmentally sensitive areas, respectively, as river and riparian habitat, and critical habitats for rare or endangered species on state or federal lists. The project will occur in and enhance the river and riparian habitat of the Mattole estuary to benefit the listed species Chinook and coho salmon and steelhead trout that inhabit and spawn in the Mattole River.
- Section 3.41.E.2 of the LCP identifies the Mattole River as a significant coastal stream and incorporates by reference Section 30231 of the Coastal Act regarding maintaining the biological productivity and the quality of coastal streams. The project will restore significant habitat for Chinook and coho salmon and steelhead trout.

Under Section 31253, the Conservancy may provide up to the total cost of any resource enhancement project. Consistent with that section, the amount of funding recommended for the proposed project is based on the total amount of funding available for coastal resource enhancement projects, the fiscal resources of the applicant and its project partners, and the urgency of the restoration relative to other eligible coastal resource enhancement project.

CONSISTENCY WITH CONSERVANCY'S 2023-2027 STRATEGIC PLAN:

Consistent with **Goal 1.1, Commit Funding to Benefit Systemically Excluded Communities,** the proposed project will commit state funding to benefit a historically excluded tribe.

Consistent with **Goal 1.3, Support Systemically Excluded Communities,** the proposed project will support a tribal community by enhancing access to their property and engaging tribal members in revegetation and post project monitoring work. The proposed project will also support the disadvantaged community of the lower Mattole River area by providing opportunities during construction of the project for the local workforce.

Consistent with **Goal 3.2, Restore or Enhance Habitats,** the proposed project will restore 2.5 acres of critical estuarine habitat to benefit threatened salmonids in the Mattole River estuary.

Consistent with **Goal 4.1, Sea Level Rise Adaptation**, the proposed project will increase resilience of the natural and built environment of the lower Mattole River and estuary to sea level rise and other climate change impacts.

CEQA COMPLIANCE:

Staff has independently evaluated the "Lower Bear Creek Habitat Enhancement Project Initial Study/Mitigated Negative Declaration" (IS/MND) and Mitigation Monitoring and Reporting Program (MMRP) adopted by Humboldt County on January 6, 2023, and concurs that the there is no substantial evidence that the proposed project will have a significant effect on the environment.

The IS/MND identified potential environmental impacts to air quality, energy, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water, and wildfire. These resources were analyzed and with implementation of the required mitigation measures summarized below, impacts would be less than significant.

Air Quality and Energy

The construction activities associated with the project - such as vehicle traffic, excavation, and grading - will generate particulate matter with an aerodynamic diameter smaller than or equal to 10 microns (PM10). During the construction periods, the contractor will implement the following Best Management Practices (BMPs) (*Mitigation Measure AQ-1*) during construction to comply with North Coast Unified Air Quality Management District Rule 104 Section D, Fugitive Dust Emissions:

- Any surfaces with exposed soil (e.g., staging areas, access roads, graded surfaces, excavation sites) will be watered at least once per day or as needed for dust suppression; construction vehicles will not exceed speeds of 15 miles per hour on unpaved roads; and construction vehicles will work to minimize idling times of all vehicles and machinery.

Implementing *Mitigation Measure AQ-1* will reduce the potential for impacts related to PM10 and will not conflict with State and Federal air quality plans. The impact will be reduced to none

with this mitigation in place. In addition, implementing AQ-1 will avoid construction inefficiencies, so that the potential for significant impacts as a result of wasteful, inefficient or unnecessary consumption of energy is reduced to less than significant.

Biological Resources

If present in the project area, during construction activities, special status wildlife could be injured or killed due to vegetation clearing or excavation, resulting in a potentially significant impact. The project site was evaluated for habitat conditions for terrestrial and aquatic wildlife species on four occasions from 21st of June through the 16th of August 2020. A total of 27 animal species of conservation concern were identified in the California National Diversity Database query; a complete list of these species is provided in the Wildlife Assessment (Slauson 2021). With the appropriate mitigation measures in place, the impact would be reduced to less than significant.

Implementing the mitigation measures outlined in *BIO-1: Protect Migratory, Special Status and Nesting Birds* and summarized below will reduce the project impact on special status birds to less than significant:

- There will be no night work or artificial lighting in the project area.
- If vegetation removal or construction work occurs during nesting season adjacent to suitable nesting habitat, a qualified ornithologist shall conduct pre-construction surveys and flag a buffer around each nest discovered. Construction activities shall avoid nest sites until nesting activity has ceased. The buffer size will be determined on a case-by-case basis in consultation with DFW and, if applicable, with USFWS. Buffers will be established to mitigate (1) noise and human disturbance levels expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.
- The qualified ornithologist shall monitor all active nests at least once per week to determine whether birds are being disturbed and implement adaptive measures to reduce disturbance if discovered. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

Implementing measures outlined in *Mitigation Measure BIO-2: Protect Special Status Amphibians and Reptiles* and summarized below will reduce the project impact on special status amphibians and reptiles to less than significant:

- Contractors will minimize the potential for sediment runoff into Bear Creek and the Mattole River from on-site erosion by implementing BMPs related to sediment runoff. At the close of construction any disturbed areas will be revegetated with native plants and mulched.
- A qualified biologist will survey any portion of the wetted channel that falls within the project footprint prior to the start of disturbance activities to detect and relocate amphibians and reptiles of conservation concern. The biologist will move any fish or amphibians that may be in work sites to suitable habitat outside of the project footprint. The frequency of the need to re-survey will depend on survey results, duration of disturbance activities, weather conditions post-survey that may influence amphibian movement, and the timing of foothill yellow-legged frog movements into Bear creek from the lower Mattole River.

Implementing the mitigation measures outlined in *Mitigation Measure BIO-3: Protect Special Status Fish Species* and summarized below will reduce the potentially significant impacts on special status fish to less than significant:

- MSG will initiate a formal consultation with NMFS Section 7 of the Endangered Species Act.
- Contractor shall thoroughly clean heavy equipment and routinely inspect for oil and fuel leaks that will be in the stream channel. Contractor will develop and implement site-specific BMPs to minimize the risk of hazardous material contamination. No project activities will allow the use of pesticides, herbicides, or rodenticides.
- Instream construction will be limited to June 15 – October 31 to avoid working during wet season conditions. This specific timeframe will allow time for young-of-the-year salmonids to be mobile and decrease their risk to injury, allow downstream migration of smolts to be completed prior to channel disturbance and avoid construction during the rainy season when adult salmonids are entering freshwater to spawn. Construction activities will cease before October 31 with the presence of rain.
- A qualified biologist or project partner will implement a fish screen capable of precluding movement of aquatic amphibians, fish and reptiles into the active areas of excavation or soil disturbance in the Bear Creek channel and follow the Fish Screening Criteria for Salmonids (NMFS 1997), National Oceanic and Atmospheric Administration Restoration Center/Army Corps of Engineers (USACE) programmatic biological opinion requirements.

The project is restorative by design and by incorporating *Mitigation Measure BIO-4: Protect S3 Vegetation Association*, and *Mitigation Measure BIO-5, Protect One and Three Parameter Wetland Habitat* will ensure the protection of riparian vegetation and wetland habitat and improve/increase the amount of available riparian and wetland habitat. Implementing the outlined measures will reduce the impact to less than significant. Once established, revegetation efforts will result in an increase in area and quality of riparian cover in the project area and will ensure that any potential impacts to wetlands are reduced to less than significant.

- Prior to construction activities, the project will obtain all required permits and a thorough dewatering plan will be developed by the MSG and the contractor and presented to regulatory agencies for review and acceptance.
- Staging and stockpiling areas will be at least 100 feet from any existing wetlands, and appropriate erosion control BMPs (silt fences, fiber rolls) will be installed between the staging areas and work zones.
- Project contractor will ensure that the minimum amount of vegetation will be cleared in order to carry out project activities such as staging and road building; avoid the spread or introduction of invasive plants; avoid refueling of equipment within 100 feet of any wetland area; and not utilize herbicide in or around the project area.
- Disturbed areas will be fully restored upon completion of construction. Cleared areas will be revegetated with native species and wetland areas disturbed by project activities will be thoroughly revegetated and mulched upon project completion.
- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., USACE, Regional Board, and DFW) shall be implemented and completed pursuant to established criteria and/or schedules.

Cultural Resources

A Cultural Resource Investigation Report was conducted for the Project in May 2021 and yielded no previously recorded or newly documented archaeological sites within the project area. Although no archaeological resources were observed, in order to provide protection for archaeological resources that may be inadvertently discovered during the course of construction, the IS/MND included mitigation measures in case of discovery. Implementation of *Mitigation Measure CR-1: Inadvertent Discovery of Archaeological Material* and *Mitigation* and *Measure CR-2: Inadvertent Discovery of Human Remains* would reduce the potential impacts to a less-than-significant level during construction because a plan would be implemented to address discovery of unanticipated cultural resources and to preserve and/or record those resources consistent with appropriate laws and requirements.

Geology and Soils

In its current configuration, lower Bear Creek is causing substantial erosion on the north side of Lighthouse Road where flows spill over the road due to an obstructed culvert. Completion of the project would stabilize Lighthouse Road and result in a decrease in bank erosion into the mainstem Mattole. Project activities include vegetation clearing, grading and excavation, all which involve heavy machinery and could be potential sources of soil erosion or loss of topsoil. Implementation of the following *Mitigation Measure GEO-1: Erosion Control* will ensure that any construction related erosion is reduced to less than significant:

- Construction will occur in late summer when flows are at their lowest and chances of precipitation are minimal; heavy machinery will not be excessively operated in wetted channels; stockpiling and staging areas will be isolated from the project area by using silt fences, mulching and straw bales; and disturbed areas will be revegetated with native plants and mulched to prevent loss of topsoil.

Hazards and Hazardous Materials

Project activities require the use of heavy machinery to accomplish grading, excavation, and transportation of materials and pose a risk for fuel spills. A potentially significant impact could result from an accidental spill, especially in proximity to a wetland or waterway. This potential impact is addressed under *Mitigation Measure BIO-5* which specifies that equipment shall not be refueled within 100 feet of any perennial wetlands or waterways. With the incorporation of *Mitigation Measure BIO-5*, any potential impact related to streams and wetlands from an accidental spill would be reduced to less than significant.

Hydrology and Water Quality

Construction activities including vegetation clearing, excavation and grading will increase the amount of disturbed sediment in the project area that may be mobilized by wind or rain. Construction will occur in or adjacent to the wetted channel and will temporarily increase turbidity in the channel and increase the potential for chemicals or hazardous materials to be leaked into the watercourse. Based on this information and understanding the requirements set forth by the Clean Water Act the project has the potential to impact water quality.

Project operations will obtain coverage under State Water Resources Control Board Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. In compliance with the National Pollutant Discharge Elimination System requirements, a Notice of Intent would be prepared and submitted to the North Coastal Regional Water Board prior to undertaking construction, providing notification and intent to comply with the State of California Construction General Permit (CGP). In addition, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared for pollution prevention and control prior to initiating site construction activities. The SWPPP will outline BMPs that address erosion and sediment control, off-site tracking control, wind erosion, non-stormwater management control, and waste management and pollution control. This will include a sampling and monitoring program that meets the requirements of the CGP to ensure effectiveness.

Project construction will occur during the dry season (June 1 – November 1) when flows are at their lowest, however there will likely be a need for dewatering in the project area. Specific dewatering methodology will be outlined in a Dewatering and Diversion Plan submitted to DFW and NMFS at least 30 days prior to construction. At the close of construction, all dams and other infrastructure will be removed. Any fish relocation that must occur during the dewatering process will be done by a qualified biologist in accordance with DFW protocols, project regulatory approvals, and *Mitigation Measures BIO-2, BIO-3, BIO-5* and *GEO-1.* Upon completion, the project will not result in an increased amount of erosion or other threats to water quality. On the contrary, the project will stabilize Lighthouse Road and decrease the amount of erosion currently occurring. Implementing *Mitigation Measures BIO-2, BIO-3, BIO-5* and *GEO-1* will reduce the potentially significant impacts on water quality to less than significant.

The project would add less than 0.5 acres of impervious surfaces to the project area through the repair of Lighthouse Road and construction of a new driveway. The project will install a new

culvert and off-channel habitat to buffer erosion of Lighthouse Road and the private drive during storm events. Erosion and sediment prevention would be implemented during construction to avoid impacts to water quality, including those related to siltation. The project would be required to adhere to BMPs and conditions to be included in a SWPPP and Clean Water Act Section 401 and 404 permits, including *Mitigation Measure GEO-1*, to prevent erosion-related impacts during construction. Substantial on- or off-site erosion and siltation would not result, and the potential construction-related impact with regard to erosion and siltation would be less than significant. The Project would install riprap and live willows at discharge sites, therefore, with *Mitigation Measure GEO-1* the operational impact would also be less than significant.

Wildfire

The vegetated portions of the project area could be susceptible to wildfire during project construction or operation, as a result of accidental ignition. The project area is located within a State Responsibility Area rated as a very high Fire Hazard Severity Zone (CAL FIRE 2007). Therefore, the following mitigation measures will be implemented to reduce the potential risk of wildfire and potential exposure of pollutants to less than significant:

Mitigation Measure FIRE-1: Minimize Risks of Wildfire

- During construction, all hazardous materials and construction equipment would be appropriately used and stored pursuant to applicable regulations; during operation, the project would not house any pollutants within the project area that may be released if a wildfire occurred; firefighting equipment (bulldozer, excavator, fire extinguishers, and hand tools) will be on site during construction; and contractor shall ensure that vehicles and machinery are not parked in tall grass or any other location where heat from the exhaust system could ignite a fire.

With implementation of the required mitigation measures, impacts to air quality, energy, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water, and wildfire would be less than significant. Staff therefore recommends that the Conservancy find that the project as mitigated avoids, reduces or mitigates the possible significant environmental effects to a level of less-than-significant and that there is no substantial evidence that the project will have a significant effect on the environment as that term is defined by Title 14 California Code of Regulations Section 15382.

Upon approval of the project, Conservancy staff will file a Notice of Determination.