COASTAL CONSERVANCY

Staff Recommendation
March 22, 2018

LOWER MATTOLE RIVER SALMON HABITAT ENHANCEMENT PROJECT

Project No. 14-016-02
Project Manager: Su Corbaley

RECOMMENDED ACTION: Authorization to disburse up to $478,367 to the Mattole Restoration Council for three planning or habitat restoration projects, including design and permitting for restoring Lower Bear Creek, excavation and restoration of historic channel in the middle slough and planting riparian vegetation, all for the purpose of improving salmonid habitat in the Mattole River estuary, Humboldt County.

LOCATION: Petrolia, Southern Humboldt County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: Habitat Restoration and Planning Project Locations

Exhibit 3: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251- 31270 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed four hundred seventy-eight thousand, three hundred sixty-seven dollars ($478,367) to the Mattole Restoration Council ("MRC"), a nonprofit organization, for three projects that will improve anadromous salmonid habitat within the Mattole Estuary. The three projects are: (a) preparation of plans, designs, engineering, permitting and other documentation needed for environmental evaluation of the restoration of Lower Bear Creek; (b) excavation and restoration of historic slough channel in the middle channel of the Estuary, between Camp Creek and Lower Bear Creek; and (c) planting of native riparian vegetation at various islands, floodplain terraces and bar apices in the lower Mattole River and Estuary. This authorization is subject to the following conditions:

1. Prior to the disbursement of any Conservancy funds for any of the three projects, the MRC shall submit for review and approval by the Executive Officer for that project a work

program, schedule, budget, and the names of any contractors to be used for the project; and shall provide evidence that all permits and approvals necessary to the project have been issued.

2. Conservancy funding shall be acknowledged in signage or other documentation appropriate to the projects, as approved by the Executive Officer of the Conservancy.
3. Prior to the disbursement of any Conservancy funds for any on-the-ground project work funded by the Conservancy, the MRC shall submit for review and approval by the Executive Officer, and shall subsequently enter into, an agreement or agreements with the owner of the project site, U.S. Department of the Interior, Bureau of Land Management, to allow access to the project site for that work and to protect the state's interest in that work."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report 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 projects are consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Mattole Restoration Council is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code."

PROJECT SUMMARY:

Staff recommends the Conservancy authorize the disbursement of up to $478,367 to the Mattole Restoration Council ("MRC") to implement resource enhancement measures and planning activities in and adjacent to the Mattole River estuary (Exhibit 1). The proposed authorization aims to address historic degradation of coho and Chinook salmon and steelhead trout habitat in the estuary by increasing the availability of deep and cool pools and slack water slough channels and increasing cover and habitat diversity throughout the estuary. Specifically, MRC will undertake three projects: (1) develop planning and environmental review documents, and complete engineering designs sufficient for environmental review for reconnecting Lower Bear Creek to its historic slough channels in the Mattole River estuary; (2) excavate and restore 500 feet of historic channel in the middle slough and install approximately 2,000 willow baffles on the banks of the slough terrace; and (3) plant 4,000 trees on floodplains and 5,000 large willow cuttings on channel islands to increase riparian forest and edge habitat diversity.

This work is being coordinated by a technical advisory team comprising MRC, the Mattole Salmon Group ("MSG"), California Department of Fish and Wildlife ("DFW"), the California Department of Water Resources, U.S. Department of Interior, Bureau of Land Management ("BLM"), National Marine Fisheries Service ("NOAA-NMFS"), and the U.S. Fish and Wildlife Service ("USFWS"). Americorp Watershed Stewards sponsored by the California Conservation Corps will be engaged for several tasks in the projects. BLM owns the land on which the habitat

improvement activities would occur. Excavation activities in the middle slough will be conducted according to plans and designs developed in part with an earlier Conservancy grant to Mattole Salmon Group. The Lower Bear Creek planning area is privately owned, and the landowner has indicated their willingness to participate in the planning process.

The Mattole River watershed is located in coastal Humboldt and Mendocino counties, and supports three independent populations of federally-listed threatened salmonids: California Coastal (CC) Chinook salmon ("Chinook"), Southern Oregon Northern California Coast (SONCC) coho salmon ("coho"), and Northern California (NC) steelhead ("steelhead"). SONCC coho salmon are also listed at the state level. According to the DFW's North Coast Watershed Assessment Plan (NCWAP, 2003) for the Mattole 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. In 2011, coho were found only in the very upper extent of the main stem and 3 tributaries, and recent data suggests Chinook are becoming increasingly restricted to select areas of the middle main stem and a few tributaries. Extensive surveys in 2013/14 have found results similar to 2011. All juvenile Chinook, coho, and steelhead use the estuary for at least a brief time prior to ocean entry. 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.

Poor habitat conditions in the 250-acre estuary at the mouth of the Mattole River have persisted for many years. As flows decline in late spring, a sandbar closes off surface flow from the river to the Pacific Ocean, forming a lagoon, which persists until flows increase in the fall. Historically, the Mattole estuary/lagoon was notable for its deep, thermally-stratified pools and numerous functioning north and south bank slough channels that flushed sediments from the river and received marine water. These areas nourished and provided stable habitat for a variety of avian, terrestrial, and aquatic species, including all juvenile salmon and steelhead that rely on the estuary to feed and grow before out-migrating to the ocean. However, land disturbances from logging and road construction in the first half of the 20th century and extreme flooding in 1955 and 1964, left the estuary in generally poor condition as a mostly homogenous zone, characterized by warm water during the summer, nearly devoid of habitat cover and riparian vegetation, a lack of slackwater/slough and off-channel habitat, low levels of in stream wood, and overall low habitat complexity. Furthering the loss of process and function, the 1992 Cape Mendocino earthquakes significantly uplifted much of the slough channel areas causing a disconnect from the main stem river to the sloughs.

Restoring the natural estuarine processes and increasing habitat complexity in the estuary will expand the beneficial estuary habitat available to salmonids, providing improved 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. Recent low flows in drought years have found that spawning and rearing access may be limited to only the lower river. Thus, increasing complexity and restoring habitat in these areas is critical to salmonid survival.

The proposed Conservancy authorization would fund three projects: 1) planning and design activities for restoring slough function, 2) excavating and restoring historic slough channels, and 3) planting native riparian vegetation and reforesting coastal terraces.

1) Lower Bear Creek Restoration Plan and Designs

For this project, MRC will complete studies and analyses to develop engineering plans, designs and specifications, prepare permitting documentation and undertake environmental assessment as needed for environmental review of the restoration of Lower Bear Creek adjacent to the Mattole River estuary (Exhibit 2). This planning project will build on investments by DFW, USFWS, and NMFS of over $250,000 to study the hydraulic issues in and around Lower Bear Creek over the last several years. While the planning project will focus on hydrologically reconnecting flows from the stream to the estuary, an additional element will involve collecting data to conduct an upslope road assessment of sediment load that could impact restored habitats, creeks, and sloughs.

The planning project will evaluate options for re-routing Lower Bear Creek, installing two bridges to allow unimpeded flow where currently there are culverts, and restoring riparian and instream habitat. In addition to the substantial data collected in earlier studies, MRC will collect new site characterization data as a basis for designs including historical creek alignments, subsurface soil conditions, ground water and surface water inputs, current geomorphic function, analysis of long-term channel stability, sedimentation potential, and current and future land use within the focus area.

Following collection of site characterization data, analysis of conceptual opportunities and selection of the feasible alternative, MRC will develop final design and engineering plans.

MRC expects to complete the planning and permitting by the end of 2020.

2) Excavation and Restoration of Middle Slough Channel

For the second project, MRC will excavate 500 feet of historic slough channel. The new channel will connect 250 feet of existing channel restored by MRC/MSG in 2013/2014. The middle slough channel restoration area is located in the existing floodplain and associated channels located on the south side of the Mattole River estuary, extending upriver from Camp Creek at the BLM camp ground to Lower Bear Creek (Exhibit 2). The proposed project is consistent with the *Restoration Planning Study for Salmonid Off-Channel Habitat in the Mattole River Estuary*, prepared by MSG with a 2014 Conservancy grant, as well as recommendations set forth in the NCWAP Report (2003), and goals included in BLM's Mattole Estuary Restoration Plan 2012-2017 and the SONCC Recovery Plan, to restore the estuary, including restoration of the middle slough. The work will be carried out in accordance with engineering designs prepared (in part) with the 2014 Conservancy grant to MSG.

This project will include the following elements: taking benchmark surveys for pre and post project monitoring and establishing excavation control elevations; clearing willow-vegetation to establish equipment access routes off the existing county-owned Lighthouse Road to the excavation site; removing and stockpiling top soil and vegetation and channel soil and the cobble / gravel layers; excavating the channel to design depth; installing large wood, if available at the project site (large wood will not be transported to the site); installing approximately 2,000 willow baffles on the banks on the slough terrace adjacent to the excavation site at BLM site, not

exceeding 2,000 linear feet; connecting the new channel with the existing middle channel. The excavated channel soil layer will be used in the adjacent willow baffle trenches. The stockpiled cobble/gravel will be scattered among the willow plantings.

Excavation work will require the use of one excavator to remove the soil to create the new channel and one dump truck to move the soil the short distance to the willow baffle planting sites. The vehicles will get to the site by travelling along Lighthouse Road to a few short access routes (created by vegetation clearing only, no road grading) to the excavation site and to the stockpile locations adjacent to the adjacent willow planting site.

One or two access routes may be maintained for possible maintenance in the first year or two, post project, for purposes of monitoring the work. Otherwise, all access routes will be decommissioned and revegetated with native cuttings.

The project approach is designed to prevent impacts to water quality and habitat in the existing slough and the Mattole River. No excavation work will occur in the existing river or slough channel. All work will occur during late summer low flows when the flood plain/excavation site would be its driest, large wood would be installed in the channel before flow is restored, and the new channel would remain disconnected from the existing slough until completion all of the work associated with the excavation is completed.

3) Native Riparian Vegetation Planting

In this project, MRC will plant 4,000 rooted (containerized) long-lived riparian tree species, and install trenched willow baffles from 5,000 large willow cuttings. The project will increase riparian forest habitat throughout a general project area of approximately 15 acres of stable floodplain terraces and increase riparian willow habitat throughout another general area of approximately 8 acres of intermediate elevation banks (lower than bank full).

A total of 4,000 riparian trees will be installed on BLM property (site BLM02 on Exhibit 2). Plants will be installed by hand using a planting shovel or hoedad, depending on plant size, and spacing will be appropriate to species. Mulching, hand watering from a temporary installed well and irrigation system, and shade installed where possible, will establish the plants. Cattle exclusion fencing will be installed as needed to protect the plants from grazing.

All container plants will be grown from seed collected in the lower Mattole River at sites with similar characteristics to planting sites. Containerized plants will be propagated the summer before planting; planting is expected to occur between November and March 2018 - 2019 Planting locations will be chosen based on distribution of species on reference sites. Tree species that will be installed include California black cottonwood, big-leaf maple, Oregon ash, Douglas-fir, and red alder.

Trenched willow baffle installation will take place at various islands, floodplain terraces and bar apices on BLM property (BLM02, BLM16 and other locations, if river conditions change) in the lower Mattole River and estuary. Willow baffles will be installed along approximately 7,000 linear feet of intermediate elevation islands and bar apices. These sites are partially vegetated with non-native annual grasses and forbs with some native shrubs but generally lack longer-lived shrub and tree species such as willow and California black cottonwood. Installation will occur during summer months and will be located at river's edge in the general area of the riparian

plantings described above (BLM02). Trenching and planting will not occur in the wetted channel. Thus activities will not result in erosion or sediment delivery to adjacent waterways. Willow baffle installation under this project will not exceed 5,000 feet.

Large willow cuttings ranging in size from 15 to 25 feet long and 1 to 4 inch diameter will be harvested from local populations of Pacific willow, arroyo willow, and red willow, transported to project sites and directly planted into excavated trenches on 1 foot centers. Disturbed areas will be restored by broadcast seeding with a riparian seed mix.

The planting sites will be maintained for the length of the Conservancy-MRC grant agreement.

The Mattole Restoration Council is a nonprofit organization existing under U.S. Internal Revenue Code section 501(c)(3), working for more than 30 years toward the recovery of salmonids population in the Mattole River. MRC is a member of the collaborative Mattole River and Range Partnership, an alliance of local nonprofit organizations working together to carry out enhancement activities in the Mattole watershed. MRC, together with project partner MSG, has completed restoration projects on BLM property, including but not limited to installing large wood, whole trees by helicopter, planting native vegetation, removing invasive vegetation, conducting education and outreach programs, and conducting fish monitoring and summertime fish rescues. MRC also has a good working relationship with private landowners in the watershed, including the owner of the property over which Lower Bear Creek crosses, and where planning activities will occur.

Site Description: The proposed projects generally take place in the lower 4 miles of the Mattole River, focused on the 250-acre estuary and the adjacent Lower Bear Creek watershed (Exhibit 1). The small town of Petrolia is located approximately 3 miles upriver from where the projects are located. There are no roads through or across the estuary; Lighthouse Road, out of Petrolia, traverses its southern edge before turning south toward Prosper Ridge. The property where slough excavation project and riparian tree and willow planting project will occur is owned by BLM (sites BLM16 and BLM02, respectively) and is mostly undeveloped, with a small environmental campsite nearby, and few homes within sight. The property on which Lower Bear Creek planning project will occur is privately-owned, and located on the south side of Lighthouse Road.

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. This area of the Pacific Ocean (Cape Mendocino) 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. These designations require that special attention and care must be taken to protect the coastal resources. DFW has listed the Mattole River as a habitat recovery unit in its Coho Salmon Recover Strategy (CA DFW, 2004) and an area necessary for maintaining critical habitat for coho salmon.

The estuary is the area through which all salmonids must pass on their way to or from the ocean. As discussed earlier, due to past land use and other events, the once dynamic and complex

estuary is choked and shallow, heavily denuded of significant vegetation, and is lacking in habitat diversity to provide salmonids with adequate temperature, depth, cover and summer and winter refuge for many young salmonids to survive to maturity.

While much work to reduce sediment load and change land use practices has been completed upstream and watershed healing has begun, the estuary remains degraded. Restoring function, now, will benefit from achievements elsewhere in the watershed and will serve to improve conditions for the survival and increase of salmonids populations.

Project History: The Mattole River watershed is a place where residents take a hands-on approach to conservation. In the late 1970s, local citizens began a long-term project to revive the Mattole River's declining salmon runs - initially working to directly address the decline through the use of small-scale fish propagation facilities called "hatch boxes." This early work led residents to undertake efforts to reduce stream sedimentation, protect old-growth forest, and educate neighbors about land management practices, and plant trees to improve riparian habitats.

In order to address upslope conditions that impact the health and condition of the estuary, the Conservancy has contributed to several projects throughout the watershed, including acquisitions, planning and restoration. Such acquisitions include: the 1997 acquisition by BLM of the old-growth Mill Creek Forest, protecting Mill Creek, the only coho stream in the lower watershed; the 2003 acquisition by the North Coast Regional Land Trust of 319 acres of recovering commercial timberland in the Mattole headwaters, connecting with adjacent California Department of Parks and Recreation lands; and the 2008 acquisition of a conservation easement on the 1200-acre Valley View Ranch in Petrolia.

Conservancy involvement in planning and restoration for the Mattole estuary began with a study of the estuary, *The Dynamics of Recovery* (Mattole Restoration Council, 1995), which determined the estuary had been significantly modified by sediment input. That report stated that restoration of historical estuary function would require controlling sediment inputs to the lower river. This led to the MRC's Good Roads, Clear Creeks Program, which is a long-term comprehensive program to reduce erosion and sedimentation through the removal or improvement of existing road systems, and treatment of other erosion sources such as landslides, throughout the watershed.

In 2003, the Conservancy funded the development of a watershed management plan that comprehensively outlined needs and objectives, and developed specific programs and projects, for restoring the health of the watershed and the functionality of the estuary, and thus the fish populations. The Conservancy's funding was in response to the publication in 2002 of the Mattole North Coast Watershed Assessment Program (NCWAP) Synthesis Report, prepared by DFW, which presented probable causes for, and also recommended correction to, the declining fish population.

In 2003 and 2004, the Conservancy authorized a total of $750,000 for Phase I of the Mattole River Enhancement Activities project. The bulk of the work during Phase I involved development of the watershed management plan, (incorporating NCWAP recommendations); erosion and sediment monitoring following road and habitat improvements; expanded community outreach and education for water conservation; coordination of technical committees to advise the planning efforts; fish population and trend monitoring; conservation easement planning; and local capacity building.

In 2005, the Conservancy authorized $433,000 to implement Phase II of the project. The bulk of the Phase II funding was used to complete the Upper Mattole River Watershed Rehabilitation Project, a road restoration project in the Mattole headwaters. Over 300 sites on public, industrial and private lands were treated, resulting in the stabilization of approximately 69,000 cubic yards of sediment, stream bank stabilization at 48 sites, 90,000 trees planted to enhance riparian conditions, 12 in-stream salmon enhancement structures, creek clean-up at 2 sites, and post-project maintenance. Other Phase II efforts included conducting preliminary environmental review for the Mattole River Watershed Management Plan (funded under Phase I), water conservation outreach to identify conservation opportunities, road sediment-load inventories, invasive plant removal and management, and fisheries monitoring for spawning and juvenile populations. Phase II work was completed in 2007.

In 2010, the Conservancy authorized $600,000 to implement Phase III of the Mattole River Watershed Enhancement Program. This work included riparian reforestation in the lower watershed, invasive plant eradication, and the stabilization of approximately 75,000 cubic yards of sediment. Riparian reforestation included planting 7,000 conifer seedlings, 6,000 hardwood seedlings, 3,000 brush plugs, and 5,000 perennial bunchgrass plugs, distribution of native grass, brush and tree seeds and seed balls and installation of live willow fencing along banks. Invasive plant removal work expanded on earlier Conservancy-funded projects and included hand removal of Japanese knotweed at seven sites.

In 2012, the Conservancy authorized $273,141 to Trout Unlimited to implement water conservation projects to restore flow to the upper 10.3 miles of the Mattole River Headwaters to benefit coho and steelhead trout in the summer and fall by constructing off-stream water storage tanks (50,000 gallons and 75,000 gallons) at two selected high-volume use locations – an elementary school and a multi-business complex. The landowners agreed to store water in the tanks during high flow winter/spring months for use as their exclusive water source during the critical dry months in fall when river flows drop creating a risk to fish survivorship. That project is expected to add, or "return to the river," a minimum of 1,000 gallons per day, which studies have shown would be adequate to benefit fish.

In 2014, the Conservancy authorized a grant of $200,000 to the Mattole Salmon Group to carry out estuary planning and restoration activities. Specifically, MSG prepared a planning document for phased restoration of the Mattole River estuary as well as final (100%) engineering plans and specifications for the slough excavation project proposed herein. Additionally, MSG and MRC installed – by helicopter – more than 200 large wood structures and whole uprooted mature trees (from a nearby prairie grasslands restoration project) into the mainstem estuary and at its banks, and planted more than 15,000 riparian trees and shrubs on isolated sandbars within the estuary.

PROJECT FINANCING

Coastal Conservancy	$478,367
California Department of Fish and Wildlife	$144,200
California Wildlife Conservation Board	$264,931
U.S. Department of Interior, Bureau of Land Management	$31,200
Project Total	**$918,698**

The expected source of Conservancy funds for the proposed authorization is the fiscal year 2017/18 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used "for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state" (Section 79731). Section 79732(a) identifies specific purposes of Chapter 6.

The Lower Bear Creek Restoration Plan and Designs project and the Excavation and Restoration of Middle Slough Channel project each will achieve several of these purposes, including the following: (4) protect and restore aquatic, wetland and migratory bird ecosystems including fish and wildlife corridors; (6) remove barriers to fish passage; (10) protect and restore coastal watersheds including but not limited to, bays, marine estuaries, and near shore ecosystems; and (12) assist in the recovery of endangered, threatened, or migratory species by improving watershed health, in-stream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.

The Native Riparian Vegetation Planting will also achieve several of these purposes, including: (4) protect and restore aquatic, wetland and migratory bird ecosystems including fish and wildlife corridors; (10) protect and restore coastal watersheds including but not limited to, bays, marine estuaries, and near shore ecosystems; and (12) assist in the recovery of endangered, threatened, or migratory species by improving watershed health, in-stream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.

As required by Proposition 1 and consistent with Section 79732(a), the proposed projects provide multiple benefits. The projects collectively will: restore natural processes and reconnect the creek channel and slough; provide off-channel habitat for rearing juvenile salmonids; expand and enhance habitat for non-salmonid species of concern (e.g., red-legged frog); assist in the restoration of a coastal watershed and estuary; continue to foster collaboration between agencies and the communities; and provide resilience against climate change-induced loss of anadromous fish rearing habitat. Finally, the projects advance previous Conservancy-funded planning efforts to restore anadromous habitats in the Mattole River watershed.

In accordance with Section 79707(b) that requires agencies to prioritize "projects that leverage private, federal, or local funding or produce the greatest public benefit", the projects leverage private, local and federal funds. MRC will provide in-kind staff services and materials, Humboldt County Planning Department will provide staff support toward the Lower Bear Creek planning effort, BLM is contributing both cash and staff time toward project implementation in the estuary, and a grant of federal Fish Restoration Grant Program funds from DFW is pending.

The projects were reviewed and subsequently recommended for funding through a competitive grant process under the Conservancy's *Proposition 1 Grant Program Guidelines* adopted in June 2015 (Prop 1 Guidelines) (See § 79706(a)). The proposed projects meet several of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this "Project Financing" section, the "Project Summary" section and in the "Consistency with Conservancy's Project Selection Criteria & Guidelines" section of this staff recommendation.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed projects would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, and Section 31111, as follows:

Under § 31251, the Conservancy may award grants to nonprofit organizations to enhance coastal resources that have suffered loss of natural and scenic values. The proposed projects will provide restoration design for hydraulic connectivity to historic slough channels, and enhance instream and riparian habitat that were degraded by sedimentation from past land use practices and catastrophic natural events.

Consistent with § 31252, the proposed projects are consistent with the County of Humboldt's Local Coastal Plan, South Coast Area Plan, as described in the "Consistency with Local Coastal Program Policies" section below.

Under § 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 projects is based on the total amount of funding available for coastal resource enhancement projects, the fiscal resources of the applicant and its project partners, the urgency of the restoration relative to other eligible coastal resource enhancement projects and other factors discussed in the Project Selection Criteria and Guidelines section, below.

Under § 31111, the Conservancy may award grants to nonprofit organizations to undertake plans and feasibility studies; the proposed projects will result in a planning document for the restoration of the Lower Bear Creek stream corridor connection to the main stem estuary.

CONSISTENCY WITH CONSERVANCY'S 2018 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

The Conservancy's 2018-2022 Strategic Plan includes as a major 5-year effort for the north coast to enhance biological diversity, improve water quality, habitat, and other natural resources within coastal watersheds, including the restoration of basic river processes such as barrier removal, floodplain connectivity and function.

Consistent with **Goal 6 Objective A** of the Conservancy's 2018-2022 Strategic Plan, the proposed planning project will develop a plan to restore and enhance the Bear Creek stream corridor.

Consistent with **Goal 6 Objective B** of the Conservancy's 2018-2022 Strategic Plan, the proposed estuary and riparian planting projects will restore and enhance coastal habitats, including the main stem south estuary and intertidal areas and associated coastal terraces.

Consistent with **Goal 6 Objective D** of the Conservancy's 2018-2022 Strategic Plan, the proposed riparian planting project will enhance coastal floodplains.

Consistent with **Goal 6 Objective E** of the Conservancy's 2018-2022 Strategic Plan, the proposed estuary enhancement project will improve fish habitat by providing in stream habitat and favorable water temperatures.

Consistent with **Goal 16A** of the Conservancy's 2018-2022 Strategic Plan, the proposed projects are located in an economically disadvantaged community. The project sites are listed as a Disadvantaged Community under the Disadvantaged Community Tracts, Tract ID Number

06023011200, with a population of 3,329, a total of 1,360 households, and a median household income of $46,731.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed projects to be implemented under this authorization are consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 4, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of state plans and policies:** The proposed projects to be implemented under this authorization are consistent with several state plans and policies, as follows.

    - *California Water Action Plan* (California Natural Resources Agency, 2016) - The projects will promote and implement all three of the broader Plan goals: 1) more reliable water supplies that would result from reconnected flood plain recharging groundwater; 2) the restoration of important species and habitat; and 3) a more resilient, sustainably managed water resource system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades.
    - *California @ 50 Million: The Environmental Goals and Policy Report* (Governor's Office of Planning and Research, 2015) – The projects further the objectives of two of the five key principles identified in the report as necessary to achieving the state's long-term goals: steward and protect natural and working landscapes, and incorporate climate change adaptation into all planning and investment.
    - *CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan* (California Natural Resources Agency, 2014) – The projects implement or support the following recommended actions: improve habitat connectivity and protect climate refugia by restoring habitat that maximizes biodiversity and protects species from climate change impacts, and create and maintain partnerships that support biodiversity conservation in a changing climate by furthering the efforts of various public and private stakeholders prioritizing conservation within the Mattole.
    - *CA Wildlife Action Plan* (CDFW, 2015) – The projects benefit coho salmon, Chinook salmon, and steelhead, which are identified by the plan as "focal species of conservation strategies developed for conservation targets in the North Coast."
    - *California Essential Habitat Connectivity Strategy for Conserving a Connected California* (CDFW, 2010) – The projects will restore ecosystem function, including anadromous habitat connectivity, which the report identifies as a primary focus for this planning area.

- *Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon* (*Oncorhynchus kisutch*) (NMFS, 2014) and *Recovery Strategy for California Coho Salmon* (CDFW, 2004) – The projects will restore stream function and habitat quality of the Mattole River to provide connectivity to floodplain habitat, improve riparian habitat, and increase channel complexity. Specifically, with regard to goal outlined by NMFS for the Mattole, the Lower Bear Creek planning project will assess feasibility of long-term solutions to re-connect Lower Bear Creek to the mainstem Mattole River and, if feasible, develop plan to re-connect Lower Bear Creek to mainstem Mattole River.
- *Steelhead Restoration and Management Plan for California* (CDFW, 1996). The projects are consistent with the themes for habitat restoration identified in the plan, which specifically advises that "(h)abitat improvement projects should be focused on the many areas throughout the State where steelhead habitat is severely degraded and restoration work is sorely needed".

4. **Support of the public:** The proposed projects are supported by DFW, USFWS, BLM, and NOAA Fisheries, as evidenced by their technical collaboration and contributions to the project development. Further, state and local representatives support the projects (Exhibit 3).
5. **Location:** The proposed projects would be located within the coastal zone of Humboldt County.
6. **Need:** Conservancy funds are critical for implementation of the projects as they provide the non-federal match required for the DFW funding.
7. **Greater-than-local interest:** Efforts to restore and increase salmonid habitat have statewide significance. The restored stream and slough habitats will provide needed rearing grounds for coho and Chinook salmon and steelhead. Salmon is an anchor commercial, and recreational, industry for the state of California. People have come from far and wide to fish the Lost Coast area of California and the Mattole, which experienced historic fish runs in the thousands. With the decline in fish numbers, there has been a significant economic impact to the commercial and sport fishing industry. Restoring habitat in the Mattole will increase salmon populations along the coast, preserve the natural resources that draw people to visit this region of the state, and benefit the overall economic condition of the state of California.
8. **Sea level rise vulnerability:** The project sites are located at current sea level and thus could be impacted by anticipated sea level rise for the years 2050 through 2100. However, the projects are designed to stabilize an existing flood plain through riparian planting, and provide for future floodplain/slough reconnection to *allow* for tidal flow, thus improving salmonid use of the estuary by flooding more terrain and increasing off-channel habitat. Additionally, a rise of sea level may increase the tidal prism and related action of tides to flush accumulated fine sediments out of slough channels. The riparian planting at this site will utilize local willow cuttings and locally harvested tree seed stock that have the capacity to survive in partially saline waters.

Additional Criteria

9. **Urgency:** Like all salmonid populations statewide, the populations of the Mattole River are in dire need of protection and the efforts must be continued in order to restore and protect the salmonid habitat found in the Mattole and its coastal resources.

11. **Leverage:** Conservancy funding would leverage nearly $448,000 in federal and state funds for which MRC and MSG have recently applied.

14. **Readiness:** MSG has completed the engineering designs for the slough work and MRC is positioned to undertake the activities during 2018. MRC anticipates completing the habitat improvement work by 2019 and the planning work by spring 2020.

15. **Realization of prior Conservancy goals:** The projects will further the Conservancy's goals established under the watershed enhancement program to improve overall watershed health to increase viable habitat and increase salmonid populations.

17. **Cooperation:** As discussed earlier, there are many organizations and agencies participating in the projects to address the restoration needs in the watershed.

18. **Vulnerability from climate change impacts other than sea level rise:** Increases in weather events and overall temperature are expected to stress many of the aquatic ecosystems in the Mattole watershed. Streambank stabilization, riparian habitat restoration, and increasing available floodplain functionality will result in denser canopy and deeper pools that will help counteract the effects of climate change.

19. **Minimization of greenhouse gas emissions:** The projects are designed to minimize fuel usage and emissions generated by restoration activities involving heavy equipment, by using local contractors with local equipment to minimize transportation, using local materials to reduce transportation costs, by limiting idling times during construction, and by enhancing carbon storage. Riparian trees planted will increase carbon storage and ultimately, implementation of the estuary sough planning and designs will lead to increased carbon storage from riparian plantings and protection.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Humboldt County Local Coastal Plan, South Coast Area Plan (LCP) discusses land use for this region of Humboldt County; below are the sections relevant to the project.

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 projects will occur in and enhance the river and riparian habitat of the Mattole estuary to benefit the listed species Chinook, coho and steelhead trout 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. Implementing these projects will enable MSG to restore significant habitat for Chinook and coho and steelhead salmon.

COMPLIANCE WITH CEQA:

Staff has determined that the proposed actions are exempt from the California Environmental Quality Act (CEQA) under Title 14 of the California Code of Regulations, sections 15262, 15304, 15306, and 15333.

The proposed authorization would improve the health and function of the Mattole estuary to benefit its coastal resources by creating habitat critical to threatened and endangered salmonid species.

The three proposed Conservancy projects will include (1) planning and design for future implementation, (2) excavation in the middle slough estuary, and (3) riparian reforestation. Specifically, the proposed projects collectively will:

- Help to restore aquatic functions by planning for future channel restoration that would reestablish flow of Bear Creek in its natural channel to improve and maintain flow to the main stem estuary.
- Restore habitat and improve existing habitat values, thereby benefiting species listed as threatened or endangered under the federal and state Endangered Species Acts.
- Increase acreage of tidal habitats with beneficial effects on associated species.
- Improve functions and values of existing tidal habitats with beneficial effects on associated species.
- Enhance functions and values of coastal terraces with beneficial impacts on associated species.
- Enhance riparian woodland habitats.

The Lower Bear Creek Restoration Plan and Designs project (Project 1) is statutorily exempt under section 15262, which exempts feasibility or planning studies for possible future actions that have not been approved or funded. It is also categorically exempt under section 15306, which applies to data-collection and resource-evaluation activities. In addition, as required, the planning process will include environmental assessment and consideration of environmental factors.

The Excavation and Restoration of Middle Slough Channel project (Project 2) is categorically exempt under section 15333, which exempts habitat-restoration projects not exceeding five acres in size, to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife. The excavation will create 500 feet of new channel. The work will involve dredging a new 500-foot channel, opening (via willow-vegetation removal) associated necessary ingress and egress routes to the excavation site and temporary onsite retention of excavated top soils for use onsite for revegetating disturbed areas and the installation of 2,000 linear feet of trenched willow baffles. Cumulatively, the middle slough excavation project will affect approximately 4.5 acres and will create an additional 500 feet of backwater slough that will improve fish habitat. As discussed in the Project Description section, above, these activities meet the additional conditions of this exemption, in that there would be no significant adverse impact on endangered, rare or threatened species or their habitat pursuant to Section 15065 (mandatory findings of significance); there are no hazardous materials at or around the site; and the project will not result in significant impacts when viewed in connection with the effects of past, present, or probable future projects.

For the Native Riparian Vegetation Planting project (Project 3), Section 15304 exempts minor alterations in the condition of land, water, and vegetation, including minor trenching and

backfilling where the surface is restored. As described above, this project includes digging holes to plant native riparian vegetation, and planting 5,000 feet of trenched willow baffles that will be backfilled with the soils removed.

Staff will file Notices of Exemption upon approval.