

COASTAL CONSERVANCY

Staff Recommendation

April 27, 2017

MID-KLAMATH FLOODPLAIN ENHANCEMENT PLAN

Project No.: 17-003-01

Project Manager: Michael Bowen

RECOMMENDED ACTION: Consideration and possible authorization to disburse up to \$65,582 to the Mid Klamath Watershed Council to prepare a restoration plan for floodplain habitat along a 70-mile reach of the Klamath River heavily impacted by historic mining, in Siskiyou County.

LOCATION: Mid-Klamath River, located between Happy Camp and Yreka, in Siskiyou County (Exhibit 1)

PROGRAM CATEGORY: Integrated Coastal and Marine Resource Protection

EXHIBITS

Exhibit 1: [Project Location Maps and Photos](#)

Exhibit 2: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Section 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to \$65,582 (sixty-five thousand five hundred eighty-two dollars) to the Mid Klamath Watershed Council (MKWC) to prepare a restoration plan for floodplain habitat within a 70-mile reach of the Klamath River, subject to the condition that prior to the disbursement of funds, MKWC shall submit for the review and approval of the Conservancy’s Executive Officer a work program including schedule and budget, and the names of any contractors it intends to use to complete the plan.”

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 authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resources protection.

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2. The Project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Mid Klamath Watershed Council is a nonprofit organization qualified under section 501(c)(3) of the U.S. Internal Revenue Code, whose purposes are consistent with Division 21 of the Public Resources Code.”

PROJECT SUMMARY:

Staff recommends the Conservancy disburse up to \$65,582 to the Mid-Klamath Watershed Council (MKWC) to prepare a restoration plan for floodplain habitat and floodplain-river connectivity along a 70-mile reach of the Klamath River extending from the Shasta River to Elk Creek in remote Siskiyou County. The project area encompasses the reach of the Klamath River most degraded by historic mining activities within the mainstem Klamath River.

MKWC will identify, assess and then prioritize suitable locations for restoration and enhancement of degraded floodplain areas along the mid-Klamath River. The restoration plan will include a preliminary mine-tailing remediation plan and conceptual restoration designs for reconnecting existing off-channel ponds (winter habitat) and enhancing thermal refuges (summer habitat). The completion of this project facilitate future site-by-site project implementation based on a prioritized ranking, and could allow for project area-wide permitting and environmental compliance.

This type of restoration, when implemented, will immediately improve habitat for species dependent upon healthy riparian forests. The projects will improve over-summering habitat for juvenile salmonids by providing suitable habitat for the growth of riparian vegetation, which in turn shades and cools water below. Over-wintering habitat will also be improved by providing side channels and low-velocity areas of the river where juvenile and adult fish can rest and grow during large storm events. Both habitat types are severely limited in the project area due to the historic mining practices that channelized the river and disconnected the river from the floodplain, leaving extensive mine-tailing deposits in the place of healthy riparian forests. By advancing this project, MKWC will help establish long-term resiliency from anticipated global warming impacts (i.e., increased summer water temperatures and winter flooding).

The Mid Klamath Watershed Council (MKWC) is a California nonprofit corporation, qualified under Internal Revenue Code Section 501(c)(3) as a charitable organization. It has been actively planning, coordinating and implementing restoration projects in the Mid Klamath subbasin since 2001. Focusing on projects that directly benefit anadromous fisheries resource, MKWC utilizes grant funding combined with community and stakeholder volunteers to implement practical, hands-on restoration projects while educating participants on restoration techniques and stewardship principles. MKWC is uniquely qualified to assess and restore habitat in this region.

Project History: A short but intensive gold rush in the Klamath River watershed during the nineteenth century resulted in extensive deposits of mine tailings throughout the region. In many instances, the use of hydraulic cannons or clamshell dredges along the river separated the river from the floodplain by creating tall boulder deposits, known as mine-tailings. Industrial mining continued through the 1950s, and small scale gold dredging continued until a recent decision by the State of California terminated the practice. The ill-effects of mining were compounded by approximately 70-years of intensive timber harvest and associated erosion throughout the basin.

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MKWC was formed to address the ecological deterioration of the region, while also addressing the social dislocation caused by departing extractive industries. Extensive fisheries and habitat restoration work by the MKWC and its partners since 2001 led to the recognition for the need to increase and improve seasonal rearing habitats for juvenile salmonids along the mainstem Klamath River corridor. Success in this area was achieved by creation of off-channel ponds for over-wintering salmonids and enhancement of summer thermal refuges for over-summering salmonids. Recent projects include the construction of ten off-channel ponds. Monitoring of one of these ponds connected to the lower mile of Seiad Creek (May Pond) showed that 1,268 juvenile coho were utilizing the pond during a season.

As a result of this promising work, and recognizing the extent of damage inflicted upon the floodplain during gold mining operations, it is apparent that a comprehensive restoration approach is needed for the mid-Klamath River. MKWC has proposed a cost-effective, achievable restoration approach by prioritizing and phasing projects to allow for effective leveraging of limited grant funds.

MKWC obtained elevation data (LiDAR), maps and other data in order to develop grant proposals to fund initial planning and project development efforts. MKWC was selected for partial funding through the 2015 Fisheries Restoration Grant Program (FRGP), administered by the California Department of Fish and Wildlife (CDFW). The proposed Conservancy authorization would provide the necessary funding to complete the project.

PROJECT FINANCING

CA Department of Fish and Wildlife	\$195,395
State Coastal Conservancy	\$65,582

Estimated Total Project Budget **\$260,977**

The expected source of Conservancy funds for this project is the fiscal year 2016/17 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 identifies specific purposes of Chapter 6 and includes: protect and restore aquatic, wetland and migratory bird ecosystems, including fish and wildlife corridors; protect and restore coastal watersheds, including, but not limited to bays, marine estuaries, and nearshore ecosystems; and assist in the recovery of endangered, threatened or migratory species by improving watershed health, instream flows, fish passage and coastal or inland wetland restoration.

As required by Proposition 1, the proposed project provides multiple benefits. By restoring hydrologic connectivity between the river and its floodplain, the project, when implemented, will restore historic access to juvenile salmonid rearing habitat, help restore a healthy riparian forest that benefits many aquatic and terrestrial species. It is also notable that the Klamath salmon fishery is the basis of subsistence fisheries for the Yurok and Karuk Tribes. The project would

also improve water quality in a coastal watershed by creating the important shading and filtering function that healthy riparian zones provide.

The proposed project was selected 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 project meets each 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 report.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The project will be undertaken pursuant to Chapter 5.5 of the Conservancy's enabling legislation, Public Resource Code section 31220, as follows:

Pursuant to section 31220(b), the Conservancy may award grants to nonprofit organizations in order to improve and protect coastal, coastal watershed and marine water quality and habitat, and to protect and restore floodplains and other sensitive watershed lands, especially watershed lands draining to sensitive coastal or marine areas. As required by Section 31220(a), staff has consulted with the Northcoast Regional Water Quality Control Board about the project and established that the project will help enhance the beneficial uses, such as cold water fisheries, identified in the basin plan for the Mid Klamath. Finally, consistent with section 31220(c), the plan produced under the proposed project will identify criteria to be used to monitor and evaluate the restoration, once implemented.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOALS & OBJECTIVES, AS REVISED JUNE 25, 2015:

Consistent with **Goal 5, Objective C** of the Conservancy's 2013-2018 Strategic Plan, the project will develop a plan to preserve and enhance coastal watersheds and floodplains by restoring habitat function and hydrologic connectivity between the Mid-Klamath River and its floodplain.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The Project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 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 Project promotes and implements the following state plans and policies concerning restoration of riparian habitat

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and increasing natural production of the coastal salmon populations that depend upon that habitat for certain life history stages:

- a. The project carries out the recommendations prescribed in the *Mid Klamath Subbasin Fisheries Resource Recovery Plan* (MKSFRRP) last updated in 2014. That plan is the collaborative work product of MKWC, the Karuk Tribe and the U.S. Fish and Wildlife Service, and is often used in concert with a “Candidate Action Table” that was created in 2012. Its recommendations were also incorporated into State and federal recovery plans for anadromous fish species. The documents together identify and rank restoration actions for each Middle Klamath Tributary, and can offer guidance on how to prioritize restoration actions. The MKSFRRP analyzes watershed impacts not only by influential tributary but also on the scale of eight sub-watershed regions “based on landscape/ watershed contiguity, biogeography, and the specific land management circumstances distinct to each.” The Elk-Grider, Siskiyou and Western Marble Mountain Sub-basin sections of the MKSFRRP identify one or more of the following habitat issues: legacy mining impacts, thermal refugia and stream connectivity. Section 4.C.3 of the MKSFRRP identifies “mine tailing reclamation and revegetation” as a riparian and streambank restoration priority for the Mid Klamath. Likewise, the Candidate Action Table lists historic mining impacts to channel structure and riparian function as a limiting factor for threatened salmon.
- b. The *Steelhead Restoration and Management Plan for California*, authored by the California Department of Fish and Game in February 1996 notes the extensive perturbation to the watershed due to extractive industries such as logging and mining, and notes the loss of riparian vegetation that has resulted in elevated stream temperatures and the potential for large-scale mobilization of sediment s destabilized by storm events. Restoring the floodplain and riparian vegetation stands would reverse this degradation of the watershed and improve water quality in the region.
- c. More recently, the Project promotes the policies and objectives of the California Fish and Game issued *Recovery Strategy For California Coho Salmon* of February 2004 in that most sections pertaining to the Mid-Klamath recommend that restorationists “revegetate flood plain areas using native species.” (KR-UK-04, KR-HC-04, KR-SV-04), an activity only achievable in most cases by restoring the river to its natural floodplain.
- d. The project serves to implement the *Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon (Oncorhynchus kisutch)* (National Marine Fisheries Service 2014). Although a federal plan, the State of California is required under federal policy and federal funding requirements to assist in the implementation of the plan. The first passage describing “Stresses” to the coho population of the Mid-Klamath states that “(t)he The key limiting stresses for this population are impaired water

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quality and lack of floodplain and channel structure, as they have the greatest impact on the population's ability to produce sufficient spawners to support recovery....." (pg. 33-9). The report goes on to state that "(w)inter rearing occurs primarily in mainstem, confluence, and tributary habitats where backwaters, alcoves, off-channel ponds and wetlands have formed. Winter rearing habitat has been primarily impacted by past mining activities and construction of flood control levees in the mainstem and in many tributaries, which has led to the loss and degradation of floodplain and channel structure. The majority of winter habitat that does exist is small, has poor quality, and is poorly connected." (33-9).

The report prescribes the following recovery strategies and actions for the Middle Klamath:

- SONCC-MKR.2.2.4 Floodplain and Channel Structure, Reconnect the channel to the floodplain and to existing off-channel ponds, wetlands, side channels in any area that could benefit coho salmon;
 - SONCC-MKR.2.2.4.1 Assess instream flow conditions and side channel connectivity and develop a plan to obtain adequate flows for channel connectivity
 - SONCC-MKR.2.2.4.2 Mechanically alter side channels, off channel ponds and wetlands to achieve connectivity
 - SONCC-MKR.10.2.13 Water Quality,: reduce pollutants, remove pollutants
 - SONCC-MKR.10.2.13.1 Assess contamination from tailing piles and develop mining activities remediation plan
 - SONCC-MKR.10.2.13.2 Take necessary actions to ensure responsible parties remediate mine tailing piles, guided by the plan
- e. The project carries out the objectives of the *California Water Action Plan*, a collaborative effort of the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture. This plan was developed in 2014 to meet three broad objectives: more reliable water supplies, the restoration of species and habitat, and a more resilient, sustainably managed water resources system. It lays out the state's challenges, goals and actions needed to put California's water resources on a safer, more sustainable path. The plan identifies ten overarching strategies to protect our resources, include two particular to this project that the Conservancy funding will help implement: 4) *Protect and restore important ecosystems (restore coastal watersheds and strategic coastal estuaries to restore ecological health and nature system connectivity to benefit local water systems and help defend against sea level rise, eliminate barriers to fish migration)* and 7) *Increase flood protection (encourage flood projects that plan for climate change and achieve multiple benefits)*.

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- f. The *California State Wildlife Action Plan (2015 Update, authored by CDFW)* points out that the North Coast Klamath Mountain Province is known for its extensive river systems and the anadromous fish populations they support. These rivers, according to CDFW, support one-third of the state's Chinook salmon, most of the state's coho salmon and steelhead, and all of the coastal cutthroat trout. These populations have suffered significant declines. That is why one of the fourteen conservation targets for the Province is the "native aquatic species assemblages/communities of coastal watersheds." The project will benefit anadromous fish species including Chinook salmon, coho salmon and steelhead by addressing the habitat fragmentation that resulted from mining cited as a cause of major ecosystem degradation in this plan. This project can help achieve the conservation target pertaining to desired channel pattern and natural floodplain, established in 5.1-79 and repeated in 5.1-38 of the North Coast and Klamath Province Chapter of the California Wildlife Action plan. Specifically, Conservation Strategy 7 in this plan speaks to this outcome, and calls for cooperation with watershed councils to achieve it.
 - g. Finally, *California @ 50 Million: The Environmental Goals and Policy Report (2013 Draft, Governor's Office of Planning and Research)* Key Action #3 for the "Preserve and Steward State Lands and Natural Resources" section calls for building resilience in natural systems and specifically points out that wetlands "provide important carbon sequestration opportunities for the state." Riparian forests provide excellent opportunities to increase carbon sequestration levels.
3. **Support of the public:** The project is supported by the U.S. Forest Service, the Karuk Tribe, the Yurok Tribe, the California Department of Fish and Wildlife, NOAA, PacifiCorp, the Salmon River Watershed Council and others. (Exhibit 2).
 4. **Location:** The project is located along the Klamath River in Siskiyou County and the project will serve to protect and restore coastal and coastal watershed resources.
 5. **Need:** The salmon runs of the Klamath-Trinity River sustain three native American tribes (Yurok, Hoopa and Karuk) as well as important sport and commercial fisheries. Salmon recovery on the Klamath River is an established priority, and the restoration of floodplain habitat provides an extensive benefit for aquatic and terrestrial species in addition to salmon. However, limited funding is available to remediate the extensive mining damage of the past. Conservancy funding will play an important role in restoring sport, commercial and tribal subsistence fisheries along the Klamath river.
 6. **Greater-than-local interest:** This project is the initial phase of a comprehensive effort to restore connectivity between floodplains and rivers lost due to extensive mining activities of the nineteenth and twentieth centuries. By re-connecting and enhancing floodplain habitat and off-channel features, MKWC will improve riparian habitat, enhance salmon rearing and refuge habitat, and remediate abandoned mine sites and improve thermal conditions for aquatic resources of the Klamath River. MKWC seeks to ensure the Klamath River basin will be a long-term salmon stronghold for California.

7. **Sea level rise vulnerability:** The project planning area is located more than thirty miles inland from the coast and therefore is not vulnerable to sea level rise.

Additional Criteria

8. **Urgency:** This year the tribal, commercial and sport salmon fishery for Klamath River salmon will likely close due to low numbers of returning adults (escapement). These low returns are a likely result of low survival in the river during the prior several drought years, compounded by inhospitable water quality, particularly warm water conditions. Floodplain restoration in the mid-Klamath is one of the most important things that can be done to increase juvenile and adult survival in the Klamath in all years. Moreover, as the states of Oregon and California prepare for removal of four Klamath dams in 2020, it is vital that immediate steps be taken to assure the availability of high quality habitat for salmonids in the Middle and Lower Klamath Rivers. These reaches will be needed to sustain fish populations while the upper watershed is recovering from the after-effects of dam removal. Of greatest concern will be the release of high sediment loads detrimental to fish populations, and the need for aquatic species to have ready access to tributaries and floodplains that provide a safe haven from water and sediment releases.
9. **Resolution of more than one issue:** The communities of the Middle Klamath span the Humboldt-Siskiyou County border, two of the state's most impoverished and underemployed places, according to 2013 US Census Bureau statistics. The California Department of Water Resources mapping tool confirms this bleak assessment, labelling this geographic block as severely disadvantaged. MKWC has diligently built a restoration economy in the small town of Orleans, California. The non-profit organization employs 60-75 people and brings more than \$557,000 in watershed restoration contracts to the area annually. This project complements that model for economic revitalization by planning mine tailing remediation and riparian revegetation that could employ a dozen or more people in the future. Additionally, this project aims to restore salmon, a natural and cultural resource that, more than any other, determines the wealth and well-being of these rural communities.
10. **Leverage:** See the "Project Financing" section above.
11. **Innovation:** The Project provides an excellent opportunity to restore habitat in a highly degraded yet readily accessible area. The ecological benefits of floodplain ecology are becoming better recognized and appreciated in the pursuit of salmon recovery.
13. **Realization of prior Conservancy goals:** The Project builds on the Conservancy's development of feasibility and cost estimate studies pertaining to the proposed Klamath dam removal effort. Ensuring sufficient habitat downstream of the dams to accommodate aquatic species during the decommissioning of the dams is an essential part of the removal process.
15. **Cooperation:** As described under "Resolution of More Than One Issue," above, MKWC has been an integral part of rural Siskiyou County since MKWC's inception. Their partners include the Karuk Tribe, state and federal agencies, local government and private citizens.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The proposed project includes planning for sites located outside of the coastal zone, but will directly affect resources in at least three northern California counties, two of which have certified Local Coastal Programs (LCPs), and one of which lies outside of the coastal zone.

When implemented, these projects will enhance anadromous fish habitat and potentially lead to further enhancement of water quality in the Klamath River basin. The aquatic resources and habitat quality of stream channels within and outside of the coastal zone boundaries are inextricably linked. For example, the anadromous fish populations that spend part of their life history within the coastal zone reside for extended periods outside of the coastal zone, and therefore depend upon clean fresh water to survive and propagate upstream.

The proposed authorization is consistent with the two certified LCPs as follows:

Del Norte County

This authorization is consistent with the relevant portions of the Del Norte County Local Coastal Program (LCP), which was certified by the Coastal Commission on October 12, 1983.

It is due to the diversity in life history patterns of anadromous fish species that the Del Norte LCP acknowledges the importance of coastal streams and riparian vegetation systems as Sensitive Coastal Habitat, necessary to both the aquatic life and the quality of water courses. Under the LCP, Chapter VI, the following provisions are made:

“The County shall maintain all existing species of fish, wildlife, and vegetation for their economic, intrinsic and ecological values as well as providing adequate protection of rare and endangered species.” (App., p. 55)

“The County should establish riparian corridors along local streams, creeks, and sloughs to maintain their aesthetic appeal, wildlife habitat, control of erosion.” (App., p. 56)

“The County encourages programs (e.g., fish hatcheries, habitat rehabilitation) designed to improve the quality of coastal fisheries and other marine resources.” (App., p. 57)

“All surface and subsurface waters shall be maintained at the highest level of quality to insure the safety of public health and the biological productivity of coastal waters.” (App., p. 58)

Therefore, this project’s goal of improving anadromous fish habitat by improving water quality in the Klamath River, and ultimately providing access to historic habitat, thereby maintaining and enhancing the aquatic resources of the county, is consistent with the LCP.

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Humboldt County

The authorization is consistent with the relevant portions of the Humboldt County General Plan Volume II, North Coast Area Plan of the Humboldt County Local Coastal Program (LCP), which was partially certified by the Coastal Commission on January 12, 1982, and amended thereafter on various occasions, and which states:

“Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.” (LCP, 3-40 (a))

“Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.” (LCP, 3-40(b))

“Marine resources shall be maintained, enhanced, and, where feasible, restored. Special consideration shall be given to areas and species of special biological or economic significance.” (LCP, Chap. 3, p. 27, Section G)

“The biological productivity and the quality of coastal waters, streams, and wetlands...appropriate to maintain optimum populations of marine organisms...shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff...and minimizing alteration of natural streams.” (LCP, Chap. 3, p. 27, Section G)

Because the proposed authorization will help prepare projects designed to restore natural geomorphologic processes and open up previously unavailable habitat, the proposed authorization is entirely consistent with the LCP policies stated above.

COMPLIANCE WITH CEQA:

The proposed project is statutorily and categorically exempt from the California Environmental Quality Act (CEQA) pursuant to 14 Cal. Code Regs. Sections 15262 and 15306, respectively. Section 15262 provides that feasibility and planning studies for possible future actions that have not yet been approved or funded are exempt from the requirement to prepare an environmental document although environmental factors must be considered. Section 15306 provides a categorical exemption for basic data collection and resource evaluation activities that do not result in serious disturbance to an environmental resource. The proposed project qualifies for these exemptions because it consists of resource evaluation, information collection, and planning, for restoration projects that have not yet been approved or funded. Upon approval, staff will file a Notice of Exemption.