COASTAL CONSERVANCY

Staff Recommendation
March 22, 2018

SALT RIVER ECOSYSTEM RESTORATION PROJECT: UPPER PROJECT REDESIGN AND IMPLEMENTATION

Project No.11-025-04
Project Manager: Michael Bowen

RECOMMENDED ACTION: Authorization to disburse up to $690,000 to the Humboldt County Resource Conservation District to redesign and prepare for implementation in 2018 and 2019 the final portions of the Salt River Ecosystem Restoration Project.

LOCATION: Ferndale, Humboldt County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: Staff Recommendations October 21, 2010, May 19, 2011, June 25, 2015

Exhibit 3: Scope of Work: Engineering Services

Exhibit 4: Project Letters

RESOLUTION AND FINDINGS:

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

"The State Coastal Conservancy hereby authorizes the disbursement of up to six hundred ninety thousand dollars ($690,000) to the Humboldt County Resource Conservation District ("RCD") to modify engineering drawings and prepare for implementation the final portions of the Salt River Ecosystem Restoration Project, subject to the following conditions:

1. Prior to the disbursement of funds, the RCD shall submit for review and approval by the Executive Officer of the Conservancy:
   a. An annual work program and budget for activities funded in each year.
   b. All contractors to be employed for the project.
   c. Evidence that all necessary permits, landowner access agreements and approvals have been obtained.

d. A signing plan for the project acknowledging Conservancy funding and acknowledging Proposition 1 to the extent practicable.

2. In carrying out the project, the RCD shall comply with all applicable conditions and mitigation and monitoring measures for the project that are identified in the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project, Appendix F,* and any conditions, mitigation or other measures required by any permit or approval for the project."

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 project is consistent with the current Project Selection Criteria and Guidelines.
2. The proposed authorization is consistent with the purposes and objectives of Chapter 6 of Division 21 of the Public Resources Code, regarding the enhancement of coastal resources.
3. The Conservancy independently reviewed the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project* (Final EIR), certified by the RCD on February 24, 2011, pursuant to the California Environmental Quality Act. At its May 19, 2011 meeting, the Conservancy found that the Salt River Ecosystem Restoration Project as originally designed 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 Salt River Ecosystem Restoration Project may have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382. The Salt River Ecosystem Restoration Project work to be funded pursuant to the current authorization remains largely consistent with the project as described in the Final EIR, with only minor engineering revisions and modifications that do not substantially change the project or project impacts, nor require further environmental analysis (see 14 Cal. Code Regs. §§ 15162, 15163, and 15164)."

PROJECT SUMMARY:

Staff recommends the Conservancy authorize disbursement of up to $690,000 to the Humboldt County Resource Conservation District ("RCD") to secure additional engineering services and prepare for implementation in 2018 the upper and final portions of the Salt River Ecosystem Restoration Project ("Project") in Ferndale, Humboldt County. HCRCD is requesting funds for topographic surveys across approximately 100 acres of pastureland; the installation and maintenance of a continuous streamflow and turbidity meter monitoring station on Williams Creek; landowner coordination funding intended to inform project development; hydraulic analysis and engineering to finalize the channel dimensions, profile and alignment; implementation project elements including excavation, sediment off-haul, and riparian installation; and performing effectiveness monitoring throughout the restored Salt River, such as fish and vegetation monitoring and geomorphic surveys.

Conservancy funding will enable the RCD to pursue these tasks in the context of revised engineering drawings for the final Project reach necessitated by the extensive flooding,

deposition of sediment and channel avulsion that occurred in the 2017 winter storms. These extreme conditions and their after-effects necessitated new surveys, hydraulic analysis and additional engineering work in order to ensure that future project performance adheres to the stated goals and objectives of the project. The work is described in detail in a scope of work for engineering services (Exhibit 3).

Preparing this revised study and design work now will ensure that the RCD is capable of utilizing its remaining and previously awarded construction funds timely, and consistent with prior environmental analysis and permitting, thereby completing the Project in 2019. The RCD's work continues to help the Ferndale agricultural community, and increasingly the residential community of Ferndale and surroundings, by addressing longstanding problems of flooding and providing substantial enhancement to the degraded natural resources of the area. This particular component of the Project is especially important to relieving flooding to the City of Ferndale, and the farms, dairies and homes near the Williams Creek-Salt River confluence.

The overall Salt River Ecosystem Restoration Project comprises four components: wetland and upland restoration on the 440-acre Riverside Ranch property; erosion-reduction projects on private lands in the surrounding Wildcat Hills; excavation of a restored Salt River channel, also on private lands to improve habitat and flood conveyance, and long-term adaptive maintenance, management and continued enhancement of the restored project area through an approved adaptive management plan. Implementation of this expansive project was divided into several phases and field seasons (Exhibit 1). The phases are described in the March 24, 2016 staff recommendation (Exhibit 2).

The Project is guided by the best available science, and a rigorous mitigation monitoring and reporting program, as well as an Adaptive Management Plan, both of which ensure the measurement and reporting of project effectiveness and long-term sustainability. All of these materials and guidelines were incorporated into the 2011 EIR and permits issued for the project, and the proposed work remains consistent with those earlier environmental compliance documents.

The RCD is the California Environmental Quality Act (CEQA) lead agency and has served as the project lead for nearly 25 years. Its close relationship with the agricultural community has enabled it to advance a large, challenging, and at times controversial project in a fashion that has generated enthusiasm from the agricultural, environmental and regulatory communities. The RCD has encountered and overcome numerous impediments and threats to the completion of this project. Now, after years of effort, design and fundraising, the RCD has completed major components of the Project and is prepared to complete Project construction in 2019 following construction seasons in 2018 and 2019.

Site Description: The Project is located near Ferndale, Humboldt County (Exhibit 1). The area is extensively described in earlier staff recommendations (Exhibit 2). The area and Project, notably the flooding and ponding conditions prompting the Project, are also extensively analyzed in the Final Environmental Impact Report that was the subject of Conservancy findings on May 19, 2011 (Exhibit 2). Since the Conservancy first authorized implementation funds for this Project, four phases of implementation were completed and drainage and habitat conditions have improved markedly.

Project History: The Conservancy's commitment to the Project dates back to the late 1980s. At that time the Conservancy provided the then new RCD with its first grant to explore alternatives for alleviating flooding in the Ferndale area. That history is described in detail under the "project history" section of the staff recommendation for the final design, October 21, 2010 (Exhibit 2).

Since that time, the Conservancy has disbursed nearly $3.4 million towards advancing the Project, including feasibility studies, design work, engineering and hydrology, acquiring property, securing public access, and funding implementation. In addition, staff has dedicated years of staff time towards develop this multi-benefit project. Since the award of the final design grant and implementation grant the RCD has succeeded in bringing three major construction seasons to fruition, and achieved better than expected results for agricultural enhancement and ecosystem restoration.

The project area under consideration for this grant is one of extreme dysfunction that can only be ameliorated by proposed project actions. The Salt River, both upstream and downstream of the confluence with Williams Creek, has aggraded and plugged with sediment. In 1998, the "plug" forced the flows entering the Salt River from Williams Creek, Coffee Creek, and the unnamed tributaries, to flow east in the upstream direction. The "backwards" flow deprived the downstream Salt River channel reach of its natural flow regimes, instead forcing both Williams and Coffee Creek flows into Perry Slough, eventually reaching the Eel River via the Old River channel. The result was flooding and ponding of prime agricultural land, flooding of residential properties, and the seasonal closure of County roads. This flow pattern persisted for nearly 20 years; however, over the last two winters (15/16 and 16/17), Williams Creek again changed course, cutting a new path towards the Salt River, and in the process, now flooding and depositing substantial amounts of sediment on 66 acres of agricultural land within the SRERP footprint and adjacent to Highway 211. Perry Slough has also aggraded, greatly reducing the outlet for the Coffee Creek drainage, causing increased flooding and ponding that extends 2.5 miles upstream beyond the confluence of Coffee Creek and Salt River. These physical changes required significant redesign within this project reach, although not substantial changes to the basic project design approach.

The RCD applied for funding for Upper Project design revisions for the Project in Round seven of the Conservancy's Proposition 1 solicitation for 2017. The proposal was reviewed along with many other projects and it ranked highly in the review process. In that same grant round the Conservancy staff recommended implementation funds for a similar ecosystem restoration project at nearby Centerville Slough, thereby amplifying the hydrologic and biologic benefits of both projects. The Conservancy staff notified the RCD in September 2017 of its decision to recommend partial funding for final phases of the Project.

PROJECT FINANCING

Coastal Conservancy*	$690,000
Wildlife Conservation Board	$1,878,661
California Dept. of Fish and Wildlife	$175,974
NOAA Coastal Resilience	$20,000
Bear River (FWS Tribal Wildlife Grant)	$77,000
Ocean Protection Council Prop 1	$370,000
Total Project Costs	$3,211,635

*The Conservancy funds represented in this project budget do not include previous grants from the Conservancy for related property acquisition, planning, and construction. See Exhibit 2 for additional detail.

The expected source of Conservancy funds for this project is the fiscal year 2015/16 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 working to restore the Salt River watershed, historically a tidal slough of the Eel River fed by multiple tributary streams, the Project has and will continue to significantly improve ecological and hydraulic function, while also increasing the agricultural productivity of the surrounding dairy country by alleviating long-term flooding and ponding. The Project will help achieve the three Chapter 6 purposes identified above in that it will restore an historic channel that provided both aquatic habitat and hydraulic conveyance capacity, both of which were lost as the channel filled with sediment.

In accordance with Section 79707(b), which requires agencies to prioritize "projects that leverage private, federal, or local funding or produce the greatest public benefit", this project has leveraged extensive federal funding for past phases, including the purchase of Riverside Ranch and implementation there. Additionally, as a demonstration project of innovative adaptive management techniques intended to protect the function and maintain the performance of the

Project, the project satisfies Section 79707(e) which grants "special consideration" to "projects that employ new or innovative technology or practices."

The Upper Phase of the 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 would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, and remains consistent with this Chapter as described in the previous staff recommendations, Exhibits 2.

CONSISTENCY WITH CONSERVANCY'S 2018-2022 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S) AS REVISED NOVEMBER 30, 2017:

The Project was found consistent with earlier Strategic Plans, and remains consistent with the Conservancy's 2018 Strategic Plan in the following respects:

Consistent with **Goal 5, Objective B** of the Conservancy's 2018-2022 Strategic Plan, the Project will protect working lands by restoring hydraulic connectivity through channel restoration and habitat enhancement measures.

Consistent with **Goal 5, Objective C** the Project will preserve fish and wildlife corridors between core habitat areas along the coast and from coastal to inland habitat areas by restoring full hydraulic and biological connectivity between the Eel River estuary and the headwaters of Williams Creek, via a newly restored Salt River channel.

Consistent with **Goal 6, Objective B**, the completion of this Project will restore more than 1,000-acres of coastal habitat, including coastal wetlands and intertidal areas, stream corridors, and riparian zones.

Consistent with **Goal 6, Objective D**, the project will preserve and enhance coastal watersheds and floodplains within the lower Eel River, and in the Williams Creek-Salt River complex specifically, by reconnecting historic channels to the estuary and floodplain and providing for floodplain based habitat enhancement and sediment management for agricultural production.

Consistent with **Goal 6, Objective E**, the project will restore fish passage and fish habitat and ensure sufficient instream flow and favorable water temperatures by reconnecting Williams Creek to the Eel River Estuary via a re-excavated Salt River channel.

Consistent with **Goal 6, Objective G**, the project will significantly improve water quality in the Eel Estuary for the benefit of coastal and ocean resources by restoring floodplain, riparian and estuarine habitat capable of filtering flood flows.

Consistent with **Goal 7, Objective B**, the project will foster the long-term viability of coastal

working lands by providing habitat improvements that also increase drainage in highly productive pasture.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed 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. **Promotion and implementation of state plans and policies:** The Project is consistent with the following state plans and policies concerning restoration of riparian habitat and increasing natural production of the coastal salmon populations that depend upon that habitat for certain life history stages.

    a. The Project is consistent with the recommendations for planning, acquisition and habitat enhancement made in the report Natural Resources of the Eel River Delta, published by the California Department of Fish and Game in November 1974. Among other things, the report recommended higher levels of protection for the Delta's natural resources, restoration and floodplain enhancement efforts and acquisitions that would help advance ecosystem restoration –though they didn't use that expression—as a "highest and best use" of the Delta.

    b. While it doesn't specifically address the Eel Delta, the *Steelhead Restoration and Management Plan for California* of February 1996 features the Eel River and underscores the importance of reversing watershed disturbance through restoration activities. Focusing primarily on the introduction of Pikeminnow to the Eel River, the study's author knew and could have noted that juvenile salmonids are safer from predation in the Delta due to the fact that Pikeminnow cannot tolerate the high salinity of the Delta during summer months. Therefore, the Delta provides a refuge for juvenile salmonids, and other species, in an altered system. Thus, the Project specifically addresses the issues raised in the Steelhead Plan through alternative and likely more feasible and successful means than the chemical treatments recommended in the plan. Finally, and thematically, the plan 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." This is certainly true in the highly reclaimed Delta where opportunities abound to support the growth and survival of juvenile salmonids and other marine and freshwater species.

    c. More recently, and more specifically, the Project is consistent with the California Fish and Game issued *Recovery Strategy For California Coho Salmon* of

February 2004 in that the highest priority recommendation of that plan relating to the Eel Delta is to "(e)ncourage the Salt River Local Implementation Plan to incorporate coho salmon-friendly measures, in cooperation with the agencies." Advised in the early stages of project development, the Humboldt RCD has since done so and developed the Project in a way that has yielded impressive results in the form of increased coho salmon abundance on the newly restored Riverside Ranch. Additionally, the plan recommends:"(i)n cooperation with agencies and landowners, plan to re-establish estuarine function, restore and maintain historical tidal areas, backwater channels and salt marsh" (ER-HU-12 pg. 8.27).

d. The Project is consistent with the *Final Recovery Plan for the Southern Oregon/Northern California Coast Evolutionarily Significant Unit of Coho Salmon* (*Oncorhynchus kisutch)* (National Marine Fisheries Service 2014). That report highlights the statewide importance of the Eel River population of Coho salmon and adds that "(t)he tributaries and estuary located within this population may serve as essential non-natal rearing habitats for all populations in the Eel River watershed" (SONCC 26-7). The report states that "(i)n the estuary, salt marsh was drained and riparian vegetation cleared to convert tidelands to pasture...Tideland reclamation and the construction of dikes and levees have changed the function of the estuary considerably. Slough and creek channels that once meandered throughout the delta are now confined by levees, sufficiently slowing flow to a point that many have become filled with sediment. Remnant slough channels are visible throughout the delta. The estuary and tidal prism have been reduced by over half of their original size (CDFG 2010b)." (SONCC p. 26-4). Top recommendations from the report include: 1) setback or remove dykes and levees; 2) restore salt marsh and tidal sloughs, and; 3) reconnect tidal channels and wetlands.

e. Finally, the Project is consistent with 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 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 can 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).*

3. **Consistency with purposes of the funding source:** See the "Project Financing" section above.

4. **Support of the public:** The Project enjoys widespread support as displayed in the many prior staff recommendations (Exhibit 4) and continued funding the Project attracts. Previous letters of support for the Project have come from such diverse groups as the Humboldt County Farm Bureau, Friends of the Eel River, the Salt River Watershed Council, U.S. Congressman Jared Huffman, State Senator Mike McGuire, Assemblyman Jim Wood, the County of Humboldt, and many resource agencies including the Department of Fish and Wildlife, NOAA Fisheries and others. Current letters of support have been received from Congressman Huffman, the County of Humboldt, the City of Ferndale and the Salt River Watershed Council (Exhibit 4).
5. **Location:** The Project site is within the coastal zone, and will benefit numerous coastal resources by providing coastal salmon populations with sufficient floodplain habitat to fulfill their life history patterns, and by improving the productivity of prime agricultural land in the coastal zone.
6. **Need:** Without this grant funding, the HCRCD will be unable to maintain its momentum and advance the Project for the 2018 construction season while also preparing all necessary design work for the 2019 construction season.
7. **Greater-than-local interest:** See Exhibit 4.
8. **Sea level rise vulnerability:** The estuarine enhancement component of the Project will experience sea level rise, but this phase will not be threatened. Moreover, restoring hydraulic conveyance within the watershed will help the habitat and community adapt well to sea level rise by restoring sediment deposition and accompanying elevation gains that render Delta areas so fertile. All project elements will be designed to withstand as much as possible projected sea level rise levels that would degrade active management and agricultural production in the area. The restored habitat areas face no imminent threat from increasingly saline conditions and would in fact provide increased estuarine habitat benefits under a significant sea level rise scenario.

Additional Criteria

9. **Urgency:** Flooding and sediment deposition continues to occur on a regular basis above the completed reach of the Project area. The project design assumes a sediment transport capacity based on the completion of the project and inclusion of Williams Creek flows into the Salt River in order to mobilize and transport sediment efficiently. In the meantime, and prior to project completion, residents are negatively impacted with every rain event, as are City and County infrastructure. In at least one instance, a local resident has taken matters into his own hands and constructed a large berm that redirects much of the area flow out away from the drainage and onto surrounding lands in a different drainage. This independent, unproductive and unpermitted manipulation of the watershed is what the Project seeks to avoid through a timely completion. Conservancy assistance will help ensure that the RCD and Salt River Watershed Council can achieve another successful construction season this year, as planned.
10. **Resolution of more than one issue**: See Exhibit 2.
11. **Leverage**: See the "Project Financing" section above.

12. **Conflict resolution**: See Exhibit 2.
13. **Readiness**: Having successfully completed three major construction seasons, the Humboldt RCD has demonstrated its ability and desire to continue the project timely and successfully.
14. **Realization of prior Conservancy goals**: "See "Project History" above."
15. **Cooperation**: In addition to stretching the Humboldt RCD and helping it grow into the steward of a sizeable public works project, the Project has enabled the Salt River Watershed Council to form and evolve from a relatively informal idea to a formal group that intends to take over the long-term management of the Project once completed. This is an extraordinary undertaking since it involves integrating CEQA and permitting requirements with the existing Adaptive Management Plan and maintaining channel and ecological functions with traditional agricultural tools and approaches. This unique partnership between the agricultural and regulatory communities now serves as a model for protecting and enhancing agriculture in the coastal zone while also providing for the enhancement of natural resources there
16. **Vulnerability from climate change impacts other than sea level rise:** According to modeling projections that forecast temperature change and other impacts associated with climate change, Humboldt County is one of the rare areas where major habitat disruptions resulting from climate change are not anticipated. Relative to other areas of the state and nation, the Project is not as vulnerable to climate change effects.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Project will enhance habitat and agricultural productivity within the Coastal Zone generally, and within the jurisdiction of Humboldt County's Local Coastal Plan Eel River Area particularly. This is described at length in the attached October 21, 2010 staff recommendation (Exhibit 2).

COMPLIANCE WITH CEQA:

The proposed authorization is to fund minor design revisions and continued implementation of earlier analyzed and designed work in the upper Salt River and Williams Creek confluence area described in the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project* (Final EIR), certified by the RCD on February 24, 2011 (2011 EIR). As discussed under Project History, above, additional survey work and hydraulic analysis needed to ensure design compliance with earlier analysis were necessitated by heavy debris deposits associated with the high rainfall and flows during the 2016-17 winter. The sediments deposits altered the elevations within a nearly 100-acre pasture enough to compel the RCD's design team to seek additional survey work and adjustment of the proposed channel slope. The RCD and design team anticipates no design changes to either the channel corridor or to the proposed cross sections for the new channel. Thus, none of the proposed work results in substantial changes to the project design, nor to any new environmental impacts not considered in the 2011 EIR.

Channel design methodology for the project is guided by the attempt to optimize and balance concurrently three factors; 1) habitat function; sediment routing, and; hydraulic conveyance

capacity. This methodology is embedded in the 2011 EIR, the accompanying Basis of Design Report, the accompanying Adaptive Management Plan and all accompanying permits. The proposed channel is within a series of heavily grazed pastures. Minor changes to location, depth or even sinuousity do not constitute a substantial change to the project purpose, goal or objectives, and the changes do not substantively differ from the project alternative analyzed in the 2011 EIR for the project. At its May 19, 2011 meeting, the Conservancy independently reviewed the 2011 EIR, which addresses the environmental effects of the Project. (see Exhibit 2). The Conservancy found that the Project as designed 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. There have been no changes since May 19, 2011 that trigger the need for additional CEQA review of the Project. Accordingly, no further environmental documentation is required under CEQA.

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