

COASTAL CONSERVANCY

Staff Recommendation  
October 21, 2010

**SALT RIVER ECOSYSTEM RESTORATION PROJECT: FINAL DESIGN**

Project No. 10-024-01  
Project Manager: Michael Bowen

**RECOMMENDED ACTION:** Authorization to disburse up to \$300,000 to the Humboldt County Resource Conservation District to prepare final designs for the Salt River Ecosystem Restoration Project near Ferndale, Humboldt County.

**LOCATION:** Ferndale, Humboldt County

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

- Exhibit 1: Project Location, Site Map and Graphics
  - Exhibit 2: Salt River Ecosystem Restoration Project DEIR  
([http://humboldtrcd.org/news\\_\\_announcements](http://humboldtrcd.org/news__announcements))
  - Exhibit 3: March 8, 2007 Staff Recommendation
  - Exhibit 4: Project Letters
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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31111 and 31251-31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of an amount not to exceed three-hundred thousand dollars (\$300,000) to the Humboldt County Resource Conservation District (“RCD”) for the purpose of developing final designs for the Salt River Ecosystem Restoration Project subject to the condition that prior to the disbursement of funds, the RCD shall submit for the review and approval of the Executive Officer a workplan, including budget and schedule, and the names and qualifications of any subcontractors to be employed on the project, and a signing plan to acknowledge the Conservancy’s funding for these projects.”

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.

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2. The proposed authorization is consistent with the purposes and objectives of Chapter 6 of Division 21 of the Public Resources Code, regarding enhancement of coastal resources;
3. The project area has been identified in the Humboldt County Local Coastal Program as requiring public actions to resolve existing or potential resource protection problems."

**PROJECT SUMMARY:**

Staff recommends the Conservancy authorize the disbursement of up to \$300,000 to the Humboldt County Resource Conservation District ("RCD") to prepare final designs for the Salt River Ecosystem Restoration Project ("Project") near Ferndale, Humboldt County (See Project Location: Exhibit 1). The RCD is preparing to adopt a Draft Environmental Impact Report (DEIR: Exhibit 2) for the Project. The data and analysis necessary to complete the DEIR was collected and conducted under a prior Conservancy authorization to the County of Humboldt which worked with the RCD and others to help complete the DEIR (Staff Recommendation: Exhibit 3). Providing funds to complete final design will ensure that the RCD will be able to meet its targeted construction date of summer 2011. It also enables the RCD to draw upon construction funds already allocated by a variety of entities for project implementation. If final design is not completed by summer 2012, it is likely that most of the construction funds will be lost. The project is widely supported, and broadly funded (Exhibit 4).

The proposed project is comprised of four major components: wetland and upland restoration on the 444-acre Riverside Ranch property; erosion-reduction projects on private lands in the surrounding Wildcat Hills; excavation of a new Salt River channel, also on private lands; and long-term adaptive maintenance, management and continued enhancement of the restored project area. Completing the final engineering design for the restoration component of this project as proposed will ensure that the many benefits outlined in the DEIR, notably significant habitat restoration, and the improvement of agricultural productivity in the Ferndale area, will be achieved as scheduled.

The RCD has served as project lead for the Salt River Enhancement Project and is uniquely qualified and appropriate to complete final design in preparation for adoption of the DEIR, completion of the permitting process, and implementation of the proposed project beginning summer 2011.

**Site Description:** The Floodplain of the Eel River extending from the mouth up to the confluence of the Van Duzen River is known as the Eel River Delta. The Delta, located 13 miles south of the City of Eureka, covers approximately 33,000 acres, or 50 square miles (Exhibit 1). Elevations range from sea level at the river mouth to approximately 700 feet in upland areas near Table Bluff and the Wildcat Hills. Most of the delta lands are relatively flat. The Salt River, historically a tidal slough, is the lowermost tributary to the Eel River estuary. The Eel River estuary was once comprised of an intricate network of sloughs, side channels and open water, which, in combination with the tidal exchange and a substantial input of freshwater, provided a hospitable and ever-changing environment for a rich assemblage of aquatic species.

The Salt River Watershed can be divided into the upslope tributaries and the alluvial delta. The upslope tributaries drain the Wildcat Hills to the south of Ferndale. The steep slopes in the Wildcat Hills tributaries deliver sediment to the flat alluvial valley floors. Consequently, a series of broad alluvial fans are perched where the tributaries meet the valley floor. Historically, the

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streams likely meandered over and around these fans, prior to flowing out to the main Salt River channel. The valley floors of the upland tributaries have, in virtually every case, been converted to pasture, and the tributaries have in many cases been channelized. The Salt River alluvial delta, in contrast with the steep Wildcat tributaries, is characterized by its relatively flat channel slope; elevation of the delta ranges from 3 to 80 feet above mean sea level. Historically, the Salt River was largely influenced by the tide, and was referred to as the “principal slough” of the lower Eel. The historic permanent channel length of the Salt River was 13.4 miles. As such, the Salt River provided extensive and excellent juvenile nursery and rearing conditions for a variety of species, including such commercially important species as salmon, herring, sardine, and Dungeness crabs. This expansive estuarine setting contributed to the Eel River’s prolific salmon and steelhead population, estimated at the turn of the twentieth century to be approximately half a million adult fish.

The Eel River Estuary has been significantly altered in the last 150 years. By 1970, the estuary, inclusive of sloughs and side channels, was reduced by tens of thousands of acres to 2,200 acres, or 3.4 square miles. The reduction in estuarine size corresponds with the increase of agricultural land within the delta region, as salt marsh was converted to pasture. It also corresponds to a general decline in the quality and quantity of the estuarine environment, as well as to a marked reduction in the tidal prism of the estuary, probably in direct relation to the decrease in inundated area. This equates to a possible 60 percent reduction in overall tidal prism<sup>1</sup>.

Similarly, the Salt River watershed has been significantly impacted since land use changes accelerated in the late 19th century. The tributaries to the Salt River now contribute large quantities of sediment, associated with timber harvest, grazing practices, road building, and unstable geology. Sediment deposition in combination with individual attempts at channel modification is so severe that the upper portion of the Salt River at the confluence with Williams Creek has been blocked and diverted, resulting in a 42 percent reduction in the size of the Salt River basin; currently the lower Salt River only receives flows from Francis Creek, Reas Creek, and Smith Creek (see Exhibit 1). The upper portion of the Salt River, including Williams Creek, flows northeasterly through Perry Slough/Old River towards the Eel River. The main channel of the Salt River and the lower reaches of its tributaries have become entirely choked with sediment and willows and have lost nearly all hydraulic function upstream of the Reas Creek confluence. The sediment deposits have also significantly reduced channel size in the reach between Reas Creek and the river mouth at the Eel estuary, although tidal influence extends up the Salt River channel adjacent to Riverside Ranch to river mile 3.5 (near the Reas Creek confluence).

In addition to excessive sediment load and deposition, historical land reclamation activities such as levee and tide gate construction have resulted in a substantial reduction in tidal influence in the Salt River channel. A small fraction of the original Salt River estuary complex is subject now to tidal exchange. This reduced tidal action has diminished channel scouring and exacerbated sediment deposition.

Historically, the Salt River functioned as a large and important component of the Eel River estuary. The Salt River channel, and its many sloughs and tributaries, functioned as important rearing habitat for estuarine species. They also provided a migration corridor for adult salmonids seeking spawning habitat in Salt River tributaries while providing rearing habitat for juveniles migrating downstream to the Eel River estuary. This was especially true for coastal cutthroat

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<sup>1</sup> The tidal prism is the quantity of water that flows in and out of an area with changes in tides.

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trout. However, declining fish passage and poor water quality conditions have contributed to drastic population declines of all species of salmonids that formerly used the Salt River and its tributaries. In addition, there has been a substantial loss of wetlands and habitat diversity throughout the Eel River estuary (CDFG 1974, 2005).

The hydrologic dysfunction of the Salt River also causes significant problems related to flooding, discharge of wastewater treatment plant effluent, and overall water quality. During the wet season, and due largely to the absence of a clearly defined channel, relatively small rain events cause the Salt River and the lower reaches of its tributaries to overflow their banks, resulting in frequent winter flood conditions. Hundreds of acres of dairy and grazing land have been impacted by flooding, and entire parcels have been taken out of agricultural production for extended periods. In the summer, surface water disappears in several channel reaches as water flows subsurface through the accumulated sediment. Road culverts have become severely plugged by sediment, with complete blockage in some cases.

Historically, flows within the Salt River were sufficient to provide for fish passage sediment transport, and the required dilution for discharge from the City of Ferndale wastewater treatment plant. However, sedimentation has reduced the receiving water flows to the point that the effluent violates water quality standards. The North Coast Regional Water Quality Control Board issued a Cease and Desist Order to the plant on May 15, 2003, and the Order is still in effect. To abate this Order, the City is now upgrading the plant. In addition, sediment deposition near the confluence of Francis Creek and the Salt River puts the wastewater treatment plant, even as upgraded, at risk of flooding. Impaired channel conditions prolong drainage of surrounding areas, thereby contributing to other water quality problems associated with flooding of agricultural facilities and rural residences. Conditions in the Salt River and its tributaries worsen with each storm event and the associated delivery and buildup of sediment.

**Project History:** The Coastal Conservancy's first involvement at the Salt River occurred in the late 1980s through a grant to the Humboldt County RCD to produce an enhancement plan for the area. That plan, developed by the Natural Resources Conservation Service was neither pursued nor implemented because it concluded that there were no cost-effective alternatives for a completely, self-maintaining system. The plan further concluded that maintenance of recommended restoration was infeasible. It was also evident that community resistance to ecological restoration of private property impeded the restoration. In any event, the project lost momentum.

Though enhancement progress was impeded, flooding problems mounted. As flooding and habitat conditions on the Salt River worsened, and as the wastewater treatment plant fell into a greater degree of non-compliance, Humboldt County, the City of Ferndale, and the RCD worked together to gain community support for a solution, and cooperated with the Conservancy, DFG, National Marine Fisheries Service, and the Coastal Commission on the present enhancement strategy. Furthermore, the ability to expand the project footprint to include Riverside Ranch has largely changed the dynamic of the project and rendered more enhancement options feasible.

An affiliation of interested parties known as the Salt River Advisory Group (SRAG) spent four years developing a conceptual enhancement plan for the entire Salt River watershed. This plan was funded by a 2003 Conservancy grant to the RCD, and was so well conceived that it enabled the RCD to apply for, and receive commitments of more than \$6 million in implementation funds

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from the State Water Resources Control Board’s Proposition 50 Integrated Water Resources Management Plans, and Consolidated Resources Management Plan grant programs. Further, utilizing the conceptual proposal developed by the SRAG, the California Department of Fish and Game applied for and received \$1 million from the United States Fish and Wildlife Service for the purpose of acquiring Riverside Ranch, a key property within the project footprint. The Coastal Conservancy also contributed to that acquisition, as did the Wildlife Conservation Board.

Following completion of the conceptual plan, the Conservancy provided a grant of \$300,000 to the County of Humboldt to help develop all materials necessary to complete an environmental compliance document and other materials necessary for permit applications. The County, in concert with the SRAG and other parties, developed all necessary materials. Conservancy staff assisted the RCD and the County by drafting significant portions of the Draft Environmental Impact Report. That document was released April 2010, and adoption by the RCD as lead agency is anticipated in November 2010. The State Lands Commission will likely serve as the Responsible Agency. The RCD is now preparing to retain a team of consultants to complete the final designs and engineering for the proposed project.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	\$300,000.00
<b>State Water Resource Control Board</b>	\$245,000.00
<b>North American Wetlands Conservation Act</b>	\$100,000.00
<b>Wildlife Conservation Board</b>	\$100,000.00
<b>Total Project Costs</b>	<b>\$745,000.00</b>

The anticipated source of Conservancy funds for this project is the fiscal year 2010/2011 appropriation to the Conservancy from the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Fund (Proposition 12). These funds are available for the acquisition, enhancement, restoration, protection and development of coastal resources north of the Gualala River in accordance with the Conservancy’s enabling legislation. (Public Resources Code § 5096.352(c)(2)). The grantee will produce final designs and associated information for project implementation, the approximate value of which will be at least \$745,000.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

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

Pursuant to §31251, the Conservancy may award grants to public agencies to enhance coastal resources. This project will facilitate the restoration of hydraulic connectivity between the upper and lower Salt River and restoration of hundreds of acres of salt marsh and freshwater habitat on the Riverside Ranch property and historic Salt River channel. Planning activities under this grant will benefit a variety of aquatic resources that are partly within and partly outside the coastal zone (Pub Res. Code § 31251.2).

Pursuant to §31252, the proposed project is consistent with the County of Humboldt’s Local Coastal Program, which includes policies in favor of public action (in particular, the County, working with property owners and state and federal agencies) to resolve resource protection

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problems in the Eel River area, as described in the “Consistency with Local Coastal Program Policies” section below.

Consistent with §31253, the amount of funding recommended for the proposed project is based on the total amount of funding available for coastal resource enhancement projects, the fiscal resources of the applicant and its project partners, and the urgency of the project relative to other eligible coastal resource enhancement projects.

Pursuant to Section 31111, the Conservancy “may fund and undertake plans and feasibility studies, and may award grants to public agencies and nonprofit organization” for the purposes of preserving coastal agricultural lands, restoring coastal habitat, providing public access to the coastline, and undertaking other functions prescribed in Division 21. Consistent with this section, the proposed project provides funds complete the planning work necessary for complete restoration and management planning to enhance wildlife habitat and coastal agriculture in the Salt River Basin.

**CONSISTENCY WITH CONSERVANCY’S 2007 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5 Objective A** the project will design a wetland restoration and stream corridor enhancement project. The current authorization will allow completion of the planning phases that will lead toward project implementation.

Consistent with **Goal 6 Objective E** this project will assist the Conservancy to complete a plan to improve water quality to benefit coastal resources....” The final designs will assist with the imminent implementation of the enhancement project. Consistent with this goal, the designs will define a project that improves adjacent farmlands near Ferndale by alleviating chronic flooding problems there. Consistent with this section, the enhancement project is designed to foster the long-term viability of coastal agriculture in Humboldt County not only by reducing flooding of agricultural lands, but also by working with farmers and ranchers throughout the watershed to reduce the impacts of their operations on wildlife habitat and water quality.

**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 June 4, 2009, 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. **Support of the public:** This project is supported by the City of Ferndale, the County of Humboldt, Assemblyman Wesley Chesbro, Senator Patricia Wiggins, Congressman Mike Thompson, and others. Supporting agencies include the California Department of Fish and

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Game, the Wildlife Conservation Board, the United States Fish and Wildlife Service, the National Marine Fisheries Service, and others (Exhibit 4).

4. **Location:** The proposed project is located within the coastal zone in the Eel River Delta, near Ferndale, California.
5. **Need:** Construction of the project is planned to begin summer 2011. The RCD is now addressing comments to the DEIR, and hopes to adopt the document in November. Design refinements will assist with that process. However, permit applications and CEQA review have been made based upon a 30% design level. The project awaits final design and preparation for bid. Therefore, there is an urgent need for Conservancy funding to enable the RCD to complete final design and go to construction, thereby tapping the significant funding they have attracted for project implementation.
6. **Greater-than-local interest:** The Salt River Enhancement Project represents one of the most significant enhancement projects in northern California. Rare is the opportunity to restore hundreds of acres of tidal marsh and miles of historic channel at one time. The habitat benefits will accrue to Pacific salmon populations, migratory songbird populations, migratory waterfowl populations, and more. The benefits to the agricultural community of the Ferndale area will also be substantial, and significantly improve the economic outlook for this relatively depressed area. A vibrant estuarine ecosystem aside a thriving agricultural community benefits the entire State by providing ecosystem values, and high quality dairy products, both in a socially and environmentally sustainable fashion.
7. **Sea level rise vulnerability:**  
Tide heights and tidal datums increase over time with sea level rise. The National Ocean Survey (NOS) estimates a 4.73 millimeter per year sea level rise (equivalent to 1.55-feet in 100-years) at the Humboldt Bay gauge. However, The Pacific Institute predicts that mean sea level along the California coast will rise from 1.0-1.4 meters by the year 2100 (Pacific Institute 2009; IPCC, 2007; USACE, 2009).

With the exception of upslope erosion control activities, elevations in the project area range from sea level to 50-feet (the elevation at the upper extent of channel excavation). A variety of project features are incorporated to address anticipated sea level rise. First, setback berms at Riverside Ranch are designed with sufficient height to withstand sea level rise projections, and are designed with gently sloping faces so as to accommodate shifting vegetation types under a steadily rising sea level. Second, although the extent of tidal influence up the newly excavated Salt River channel will increase over time, the project will provide improved hydraulic connectivity, and better aquatic habitat—and drainage—regardless of sea level rise. Overall, the project design is fully expected to help the project area adapt to and even benefit ecologically from rising sea levels.

**Additional Criteria**

8. **Urgency:** As described under “Need” above, there is an urgent need for final design funding now. If the RCD does not complete the final designs quickly, it is probable that they will fail to meet their 2011 construction season. If they fail to meet the 2011 construction season, the largest proportion of implementation funding will revert, and the project will not proceed as planned. Furthermore, the flooding occurring in the area has reached an emergency level.

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Inaction will result in ill-advised and haphazard “solutions” to the problem, solutions that are localized, lacking in any appropriate context, and frequently unpermitted.

9. **Resolution of more than one issue:** The project seeks to resolve a myriad of issues. Key among them are: drainage problems on agricultural property; salt marsh habitat loss; freshwater channel/habitat in-filling; Aleutian cackling goose depredation on nearby properties; sediment erosion from upslope areas; non-compliance with discharge requirements from the Ferndale Sewage Treatment Plant, flooding of county infrastructure, and more.
10. **Leverage:** See the “Project Financing” section above.
11. **Conflict resolution:** As outlined in number 9, above, the hydraulic dysfunction of the Salt River has either triggered, or highlighted existing conflicts surrounding land use and management in the Ferndale area. The proposed project will help resolve most of these conflicts in a fashion that balances environmental restoration on a grand scale, with the enhancement of agricultural values in the Coastal Zone.
12. **Innovation:** Striking the balance described in “Conflict Resolution,” above, is a highly innovative approach. The approach has garnered tremendous social, technical, and financial support for the project.
13. **Readiness:** The RCD has proposed a challenging but feasible schedule for completing the project timely, providing final design continues promptly.
14. **Realization of prior Conservancy goals:** The Coastal Conservancy and the RCD have attempted to bring this project to fruition for nearly twenty years. Never before has the project advanced this far, and never before has sufficient funding been available for implementation. The Conservancy’s first major grant to the RCD enabled the RCD and the County to leverage millions of dollars in funding to implement a remarkable, multi-benefit project. SCC’s ensuing grant to the County (\$300,000), combined with the County’s strong technical leadership, translated the project from a concept to a very real project ready for permit applications and CEQA analysis. These developments enabled the RCD to attract yet more funding for implementation. Just as the Coastal Conservancy has provided the initial seed-money to bring this project to its current status, providing this final design grant will ensure that the Conservancy’s goals for this area will begin to be realized.
15. **Return to Conservancy:** See the “Project Financing” section above.
16. **Cooperation:** The project was developed cooperatively by a broad array of interests and individuals including local government representatives, regulatory review agencies, individual landowners, and project funders.
17. **Vulnerability from climate change impacts other than sea level rise:** The project site lies within a designated freshwater emergent wetland, and is surrounded by tidally-influenced slough channels. Climate change impacts will most likely be significant, though unforeseeable. One of the likely changes is to vegetation and wildlife communities. The project incorporates a number of design elements, such as gradual elevation changes, to accommodate shifting vegetation communities. Other benefits envisioned as a result of the project (public access, grazing, and possible additional wetland restoration) are not expected to be highly vulnerable to such impacts, should they occur.

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**18. Minimization of greenhouse gas emissions:** This is a planning grant and as such is not expected to produce significant greenhouse gas emissions. Design elements will include measures to avoid or minimize greenhouse gas emissions to the extent feasible and consistent with the project objectives. Preservation and restoration of the wetlands could serve to offset these and other emissions by acting as a carbon sink.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project will result in the development of final designs to address habitat restoration and agricultural preservation within the Coastal Zone generally, and within the jurisdiction of Humboldt County's Local Coastal Plan Eel River Area particularly.

The County of Humboldt Local Coastal Program (LCP) Eel River Area outlines several policies that relate to the preservation and restoration of sensitive coastal habitat, and the Salt River in particular, including: Policy 3.28: "Minimize the risk to life and property in areas of high geologic, flood and fire hazard"; Policy 3.34: "The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas agricultural economy and conflicts shall be minimized between agricultural and urban land uses"; Policy 3.41: "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values"; Policy 3.41 1.a.(2): "The County shall continue to pursue opportunities to restore or enhance, if possible, in-stream flows"; Policy 3.41 F.6.a: ". . . long-term protection of riparian vegetation . . . should be provided. . . . To achieve these objectives, the County should work with property owners and affected State and Federal agencies"; Policy 3.41 G.7.: "Natural drainage courses . . . shall be retained and protected from development which would impede the natural drainage pattern or have a significant adverse effect on water quality or wildlife habitat."

As described in the DEIR, the proposed project adheres to the letter and spirit of the LCP guidelines.

**COMPLIANCE WITH CEQA:**

Preparation of the final designs involves only data gathering, planning, and feasibility analyses for possible future actions and is thus statutorily exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to 14 California Code of Regulations §15262. The designs will incorporate environmental considerations identified in connection with the DEIR under development for the project. The designs do not have a legally binding affect on future Conservancy activities or authorizations.

Staff will file a Notice of Exemption upon approval.

COASTAL CONSERVANCY

Staff Recommendation  
May 19, 2011

**SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION**

Project No.11-025-01  
Project Manager: Michael Bowen

**RECOMMENDED ACTION:** Authorization to accept and disburse \$1,000,000 from the U.S. Fish and Wildlife Service, and to disburse an additional \$1,000,000 of Conservancy funds to the Humboldt County Resource Conservation District to implement the Salt River Ecosystem Restoration Project.

**LOCATION:** Ferndale, Humboldt County

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

- Exhibit 1: Project Location and Site Map
  - Exhibit 2: Environmental Impact Report  
(<http://humboldtrcd.org/SaltRiverFinalEIR.pdf> )
  - Exhibit 3: Staff Recommendation: October 21, 2010
  - Exhibit 4: Project Letters
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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31104 and 31251 through 31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the acceptance and disbursement of one million dollars (\$1,000,000) from the U.S. Fish and Wildlife Service and the disbursement of an additional one million dollars (\$1,000,000) to the Humboldt County Resource Conservation District (“RCD”) to implement the first two phases 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. A work program, including final design plans and specifications, schedule and budget for construction
    - b. All contractors to be employed for the project
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- c. Evidence that all necessary permits and approvals have been obtained
  - d. A signing plan for the project acknowledging Conservancy and U.S. Fish & Wildlife Service funding.
2. The RCD shall insure compliance with and assist the Conservancy in complying with the grant terms of the U.S. Fish and Wildlife Service.
  3. 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 has independently reviewed the *Final Environmental Impact Report: Salt River Ecosystem Restoration Project*, certified by the RCD on February 24, 2011, pursuant to the California Environmental Quality Act, public comment to the FEIR, and the Mitigation Monitoring and Reporting Program developed to mitigate potentially significant environmental effects, and finds 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, as defined in 14 Cal. Code Regulations Section 15382."

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**PROJECT SUMMARY:**

Staff recommends authorization to accept and disburse \$1,000,000 from the U.S. Fish and Wildlife Service for the Salt River Ecosystem Restoration Project, and disburse an additional \$1,000,000 to the Humboldt County Resource Conservation District ("RCD") to implement the Salt River Ecosystem Restoration Project in Ferndale, Humboldt County. Provision of funding by the Conservancy will enable the grantee to commence construction by late summer 2011. Doing so will also help the Ferndale agricultural community address longstanding problems of flooding and provide substantial enhancement to the degraded natural resources of the area.

The project is comprised of 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 adaptive management plan. Implementation of this portion of the project is divided into two major phases.

The first phase, restoration of the Riverside Ranch property, is scheduled to commence in late summer, 2011 and continue into 2012. Phase one includes the Riverside Ranch restoration component of the project, as well as some channel excavation in the lower reaches of the Salt

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River corridor. Phase two, channel excavation and restoration, will commence in 2012, and likely continue to 2013. Phase Two includes realignment of Francis Creek with the Salt River and a substantial portion of the channel excavation and restoration extending from Riverside Ranch to nearly one mile above the confluence of Williams Creek and the Salt River. Phase two will comprise roughly seven miles of channel excavation and hauling of excavated material.

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. Now, after years of effort, design and fundraising, the RCD is nearing completion of the permitting process and is prepared to implement the project this summer.

**Site Description:** The project is located near Ferndale, Humboldt County (Exhibit 1). The area is extensively described in an earlier staff recommendation (Exhibit 3). The area and project, notably the flooding and ponding conditions prompting the proposed project, are also extensively analyzed in the Final Environmental Impact Report (Exhibit 2, pp. 2-1 through 2-64). Since the Board last reviewed this project, however, the flooding associated with the aggradation of the Salt River channel has increased significantly. This year's storm events have resulted in at least 800 acres of agricultural land flooding and ponding.

**Project History:** The Conservancy's commitment to the Salt River Ecosystem Restoration project dates back to the late 1980s. At that time the Conservancy provided its first grant to the RCD 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 3 and Exhibit 2, FEIR pp. 2-1 through 2-9).

Since the award of the final design grant, the RCD and the Conservancy have worked together to complete a project EIR, advance project design and permitting work, and raise additional funds for project implementation. The RCD Board adopted the final EIR and authorized RCD staff to proceed with the project on February 24, 2010. On March 28, 2011, the State Farm Bureau filed a petition challenging the CEQA analysis; however, they voluntarily withdrew their petition after the RCD, with the assistance of Conservancy staff, provided additional analysis of the agricultural benefits of the project.

Since the Conservancy Board's October authorization for final design funding, Conservancy staff's continued and extensive fundraising on behalf of this project includes staff's application for and receipt of \$1,000,000 in grant funds from the U.S. Fish and Wildlife Service's Coastal Wetlands Conservation Program. This application brought an additional \$1,000,000 to the project.

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**PROJECT FINANCING**

Coastal Conservancy*	\$1,000,000
United States Fish and Wildlife Service (NCWCP)	\$1,000,000
North American Wetlands Conservation Act	\$370,000
National Resources Conservation Service (WRP)	\$1,700,000
National Marine Fisheries Service	\$1,000,000
State Water Resources Control Board	\$6,500,000
Wildlife Conservation Board (pending)	\$1,500,000
California Department of Fish and Game (pending)	\$550,000
CalTrans (EEM)	\$300,000
City of Ferndale	<u>\$30,000</u>
<b>Total Project Costs</b>	<b>\$13,950,000</b>

\*The Conservancy funds represented in this project budget do not include previous grants from the Conservancy for related project acquisition and planning. See Exhibit 3 for additional detail.

The anticipated source of the Conservancy's own funds will be the fiscal year 2007/2008 appropriation from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). The project is appropriate for funding under this source as these funds are available for the acquisition, enhancement, restoration, protection and development of coastal resource in accordance with the Conservancy's enabling legislation. Projects that restore natural resources are given priority if they meet one or more of the criteria specified in Pub. Resources Code § 75071. The proposed restoration project satisfies the following specified criteria: (a) Landscape/Habitat Linkages, the project will help sustain a complex riparian system which supports several threatened and endangered species as detailed in the FIER, (b) Watershed Protection – the project will contribute to long-term protection of and improvement to the water and biological quality of Salt River and the near shore area of the Pacific Ocean; and (e) Non-State Matching Funds –as discussed above, the U.S. Fish and Wildlife, the National Resource Conservation Service and other funders will provide significant non-state matching funds.

The other funds provided under this authorization are from the USFWS National Coastal Wetlands Conservation grant awarded to the Conservancy specifically for the Salt River Ecosystem Restoration project. While some funding remains to be raised for the project the grantee is actively engaged in fundraising for the project and construction of the project will proceed in phases with independent utility, such that habitat and other improvements will be beneficial even in the event of delays in implementation of the full project.

**CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, and remains consistent with this Chapter as described in the previous staff recommendation, Exhibit 3.

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION*

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In addition, acceptance of the federal funds on behalf of the project is authorized by Public Resources Code, section 31104 which authorizes the Conservancy to accept federal grants and other financial support from public and private sources.

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

The project remains consistent with the current strategic plan goals and objectives as provided in Exhibit 3. However, the prior authorization related to planning activities, so a brief discussion of how this project comports with implementation goals and the Conservancy's climate change priorities is appropriate.

Consistent with **Goal 5 Objective B** the project will restore and enhance 808 acres of coastal habitat, including 334 acres of tidal salt and brackish marsh, 40 acres of mudflat/high marsh ecotone, 125 acres of riparian forest/scrub, 32 acres of freshwater wetland habitat, 76 acres of grassland, and more.

Consistent with **Goal 5 Objective C** the project will restore a once-significant terrestrial and aquatic wildlife corridor between inland habitat areas and the coast. Restoring 7.7 miles of the Salt River, including a significantly enhanced riparian corridor, will provide fish passage and terrestrial migration where it has not existed for decades.

Consistent with **Goal 6 Objective B** the project will significantly improve and restore aquatic and terrestrial habitat in the Eel River at the mouth of the Salt River, California's third largest coastal watershed.

Consistent with **Goal 6 Objective D**, the project will re-open and improve conditions within 7.7 miles of coastal slough and freshwater habitat, an area that is critically important for the rearing of coastal salmon populations.

Consistent with **Goal 6 Objective F** the project will significantly improve water quality in the Eel River estuary by protecting the Ferndale Wastewater Treatment Plant from flooding, and by ensuring that releases from the plant are not concentrated and undiluted in important rearing areas of the Eel estuary.

Consistent with **Goal 6 Objective G**, the project will provide a watershed-wide approach to sediment management in the lower Eel Delta, and in the Salt River watershed particularly. Sediment management figures prominently in this complex project, and is the essence of the proposed Adaptive Management Program described in the FEIR.

**Sea level rise vulnerability:** Planning for this project has considered potential impacts from sea level rise. For a focused discussion of these analyses, see FEIR 3.1-8 to 3.1-11, and 8-49 to 8-51 ("Responses to California State Lands Commission Response to Comment 2"). The anticipated life of the Salt River Ecosystem Restoration Project is 50 years. Based on sea-level rise estimates presented in the California State Lands Commission's 2009 sea level rise report, sea level is predicted to rise up to 0.60 meters (2.0-feet) by the year 2060. This equates to a sea level rise rate of 1.2 centimeters per year. .. A conceptual model of the project area in terms of delta plain base levels versus sea levels can be described as episodic tectonic events of rapid land subsidence followed by both gradual and rapid sediment accumulation associated with natural deltaic building processes from the Eel River and its tributaries (tidal wetland and flood deposits,

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION*

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respectively). These cycles of delta building have led to the accumulation of up to 10,000-feet of alluvium on and below the Eel River delta plain syncline, which will continue. In geologic terms, the impacts of sea-level rise may impart gradual changes, but will not likely significantly alter this large scale land-form generating process in such a tectonically active area.

**Vulnerability from climate change impacts other than sea level rise:** The project will restore ecosystem processes, such as sediment transport, channel migration, channel-floodplain interaction, and seasonal and long-term beach change to the Eel River and delta. It is anticipated that this will create a self-sustaining process that can adapt to changing local climate conditions. In addition, control of invasive species is an important project component that will enhance the resiliency of the Eel River ecosystem to disturbances related to climate change, such as increased potential for invasive species and wildfire. It is possible that the frequency of some moderate flow events may increase due to climate change. The project accommodates this change because it is designed to allow better hydraulic conveyance by connecting the channel to its natural floodplain and providing room for the channel morphology to evolve over time.

**Minimization of Greenhouse Gas Emissions:** Construction activities could have an impact due to the emissions from construction equipment. Short-term construction related GHG emissions were calculated for the project using the OFFROAD2007 and EMFAC 2007 components of the Urban Emissions model (URBEMIS2007, version 9.2.4). These analyses reveal that the primary GHG contributions from the Salt River Restoration Project are short term and temporary, resulting from the construction of the project. Because the construction-related emissions will be temporary, and the project is expected to be a net carbon sink, no mitigation is required. However, the Mitigation and Monitoring Plan requires contractors to: 1) minimize idling time to 5 minutes for all trucks; and 2) maintain properly tuned equipment

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project will result in the implementation of a project to 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.

As described in the FEIR, Exhibit 2, pp. 3.8-1 through 3.8-26, the proposed project adheres to the Humboldt LCP guidelines.

**COMPLIANCE WITH CEQA:**

The RCD prepared a Draft Environmental Impact Report (DEIR) for the project in association with the State Coastal Conservancy utilizing funds from the Conservancy's previous authorization. The DEIR for the proposed project was circulated by the RCD to the State Clearinghouse on April 7, 2010, posted on the project website, and made available to the public and responsible agencies. Comments were received from a variety of individuals and entities, and the DEIR was amended and reissued as a Final Environmental Impact Report (FEIR) February, 2011. The FEIR was received by the State Clearinghouse February 25, 2011.

The FEIR analyzed a range of restoration alternatives to meet the habitat restoration, drainage, water quality, and flood protection goals of the Salt River Ecosystem Restoration Project (project). The FEIR also discussed a range of other possible alternatives and components that have been rejected from further review. Alternatives reviewed include Alternative 2, which

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION*

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includes the Salt River channel and upland work, but not restoration of Riverside Ranch; Alternative 3, which includes restoration of Riverside Ranch and the adjacent lower portion of the Salt River, as well as upland restoration, but not the bulk of the Salt River channel restoration, and Alternative 4, which is the no project alternative.

The Project alternatives were analyzed to determine which would be the environmentally superior alternative. Alternative 3 was analyzed and determined to provide substantial wetland enhancement benefits, but with limited channel improvements, fish passage, and flood control benefits, and with substantially reduced implementation impacts on biological resource and construction noise that would be associated with the channel excavation.

Significant and mitigable impacts were identified in analyses of: Hydrology, Water Quality and Geomorphology; Biological Resources – Terrestrial/Upland/Riparian; Biological Resources – Aquatic; Air Quality; Agricultural Resources; Cultural Resources; Transportation, and; Hazards and Hazardous Materials. A summary of those impacts and the mitigation is provided here. For a more complete discussion of these impacts, see the FEIR (Exhibit 2), especially the Mitigation Monitoring and Reporting Program (Exhibit 2, Appendix F, p. 5-1).

In summary, project objectives cannot be achieved without excavation and disturbance caused by the use of heavy equipment. This activity will have short and long term impacts on a number of resources. However, the existing environment in the Salt River has been degraded and lost by sediment filling. Equipment will disturb and reset this degraded habitat and at project completion, habitat will be improved due to restoration of channel capacity, channelization of flows and floodplain connectivity.

### **Hydrology and Water Quality Impacts**

#### **a. Long and Short Term Impacts due to Project Construction**

The project proposes to modify the existing hydrology of the Salt River through channel modification. The project will have potentially significant but mitigable impacts to water quality associated with construction and could degrade water quality in the Eel River delta, at the mouth of the Salt River, if tidal and wetland circulation does not function as planned; this also would be mitigable to a less than significant level through adaptive management. Prior to construction of the project, the RCD will develop a Storm Water Pollution Prevention Plan (SWPPP) that addresses construction related impacts to water quality. Dewatering restrictions, use of Best Management Practices, contractor training, berm monitoring, and many other measures will ensure adequate prevention of water quality and hydrology impacts due to project construction.

#### **b. Potential Water Quality Circulation Impacts**

Since the inundation of Riverside Ranch may result in areas of poor water quality circulation, the RCD will implement a water quality monitoring and maintenance plan that provides for ongoing monitoring and corrective measures as needed.

### **Biological Resources**

#### **a. Terrestrial/Upland and Riparian Impacts**

##### *Plants*

Plant species of concern or listed plants do not occur in the Project area, on existing ranch roads or on County roads. No adverse effects to plant species of concern or listed plants will occur.

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION*

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However the project would all result in the conversion of grasslands and seasonal wetlands, which provide habitat to some species, to tidal marsh, riparian forest and scrub, open water, and/or freshwater marsh. The land cover types that would be lost are common in the area, while the restored habitats are rare. Mitigation measures to address the impacts include seasonally appropriate excavation and replanting of vegetation, as well as establishment and use of a project-dedicated nursery for storage and replanting purposes.

*Terrestrial Wildlife*

Heavy equipment operation during the nesting season of birds could cause a disturbance or nesting failure. The nesting season for most birds in Humboldt County extends from March through July. The Project would be implemented in mid-July and later to minimize disturbance.

**b. Aquatic Impacts**

As with Hydrology and Water Quality, the most significant potential impacts to aquatic resources stem from decreased water quality due to construction/dredging activities. In addition construction activities are also likely to entrap fish, disturb benthic habitat and potentially create habitat beneficial to non-native species. The development of the SWPPP, pursuing construction during the dry season, planning for fish relocation, fencing of work areas, removing invasive plants and diversion of concentrated runoff from channel banks will help lower project impacts to a less than significant level. Detailed mitigation measure related to impacts to the tidewater goby, an endangered species potentially in the project area are identified in the Mitigation and Monitoring Plan (See FEIR, App. F, pp 8-9).

**Air Quality Impacts**

The project will necessitate extensive use of heavy equipment, thereby having significant impacts to air quality by increasing airborne dust and greenhouse gas emissions. However, the proposed marsh at Riverside ranch will also result in long-term improvements to air quality due to carbon sequestration. In order to ensure immediate-term compliance with the North Coast Air Quality Management District rules for particulates, mitigation measures for the project include numerous Best Management Practices and operational requirements.

**Agricultural Impacts:**

As explained extensively throughout the FEIR, the Project will provide benefits to agricultural resources and natural resources. By alleviating flooding in the project area on farm acreage that is either temporarily or permanently rendered un-farmable, the project will return to productivity a significant amount of productive acreage. By restoring productive farmland in the project area, the benefits accrue on-site, and in-kind.

The project's net agricultural benefits essentially are returning no fewer than 247 agricultural acres to production, likely more given the recent flooding of nearly 800 acres in the project area. When the impacts are further examined through the lens of increased productivity, the benefits are truly substantial. Conversion of some acreage at Riverside Ranch, a low productivity area of the Eel River Delta combined with the restoration of a functional Salt River channel, provides substantially increased benefits to agricultural productivity region.

Although approximately 273 acres of prime farmland will be taken out of production at Riverside Ranch, and 52-acres within the channel corridor, these impacts will be more than offset by increases in productivity within the project footprint and in surrounding areas. Despite

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: IMPLEMENTATION*

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the defined conversion of acreage, it is anticipated that no net loss of agricultural productivity will occur in the project area. This trend is due to the increased conveyance of water, diminished ponding of water on pasture, and increased productivity of non-flooded pasture resulting from the project.

**Cultural Resources**

Due to extensive earthmoving proposed for the project, the project has the potential to disturb archeological sites. The FEIR has detailed procedures for surveying, monitoring and a clear chain of notification has been established to ensure the protection of any cultural resources inadvertently discovered during the project implementation. A qualified archaeologist will evaluate any remains, and make appropriate recommendations.

**Transportation**

Construction activities are likely to increase traffic along local roads. In mitigation, final construction documents will contain a Traffic Control Plan designed to minimize the impact of heavy truck use upon the local road system will be adopted prior to project commencement.

**Hazards and Hazardous Materials.**

Creation of enhanced wetland can cause the potential increase in mosquito production and flooding. Best Management Practices and operational constraints designed to ensure adequate water flow and mosquito control of managed marshes will be adopted and implemented.

**Conclusion**

The RCD's Board reviewed and approved the FEIR, adopted the FEIR and adopted CEQA findings at its February 24, 2011 Board meeting. At that time they authorized staff to proceed with the project.

On March 28, 2011, the State Farm Bureau Federation (SFBF) filed a petition for writ mandamus on the grounds that the FEIR inadequately analyzed the agricultural impacts of the project and failed to identify adequate mitigation for those impacts. The RCD engaged in settlement discussions with the SFBF, providing them additional analysis (with the assistance of the Conservancy), and the SFBF withdrew their suit April 21, 2011.

Staff has independently reviewed the FEIS/FEIR, the public comment, and the Mitigation Monitoring and Reporting Program and concurs that there is no substantial evidence based upon the whole record that the project as mitigated will have a significant adverse effect on the environment. Staff therefore recommends that the Conservancy find 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, as defined in 14 Cal. Code Regulations Section 15382.

Upon approval staff will file a notice of determination.

COASTAL CONSERVANCY

Staff Recommendation  
June 25, 2015

**SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B**

Project No.11-025-02  
Project Manager: Michael Bowen

**RECOMMENDED ACTION:** Authorization to disburse up to \$200,000 to the Humboldt County Resource Conservation District to implement Phase 2B of the Salt River Ecosystem Restoration Project.

**LOCATION:** Ferndale, Humboldt County

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

- Exhibit 1: Project Location and Site Map
  - Exhibit 2: Staff Recommendation October 21, 2010
  - Exhibit 3: Staff Recommendation: May 19, 2011
  - Exhibit 4: Project Letters
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**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 two hundred thousand dollars (\$200,000) to the Humboldt County Resource Conservation District (“RCD”) to implement Phase 2B 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. A work program, including final design plans and specifications, schedule and budget for construction.
  - b. All contractors to be employed for the project.
  - c. Evidence that all necessary permits and approvals have been obtained.
  - d. A signing plan for the project acknowledging Conservancy funding.

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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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*, certified by the RCD on February 24, 2011, pursuant to the California Environmental Quality Act, public comment to the FEIR, and the Mitigation Monitoring and Reporting Program. At its May 19, 2011 meeting, 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, as defined in 14 Cal. Code Regulations Section 15382. The project remains consistent with the May 19, 2011 authorization.”

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**PROJECT SUMMARY:**

Staff recommends the Conservancy authorize disbursement of up to \$200,000 to the Humboldt County Resource Conservation District (“RCD”) to implement the Salt River Ecosystem Restoration Project Phase 2B in Ferndale, Humboldt County. Provision of funding by the Conservancy will enable the RCD to implement the project’s next phase of construction this summer. Doing so will also help the Ferndale agricultural community address longstanding problems of flooding and provide substantial enhancement to the degraded natural resources of the area. This particular component is especially important to relieving flooding to City, county and private infrastructure including the Ferndale Wastewater Treatment Plant, Port Kenyon Road, Port Kenyon Bridge and about 20 private residences along Port Kenyon Road.

The Salt River Ecosystem Restoration Project is comprised of 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 adaptive management plan. Implementation of this expansive project has been divided into several phases (Exhibit 1).

Phase 1, restoration of the Riverside Ranch property, concluded in 2013 at a cost of approximately \$8 million. Phase 1 included the Riverside Ranch estuary restoration component of the project, as well as some 2.5 miles of channel excavation in the lower reaches of the Salt River corridor. This restoration site has already yielded dramatic results, with remarkably high

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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biological response in the form of re-colonization by Coho salmon, Tidewater goby and numerous aquatic and terrestrial species.

Phase 2 of the project comprises roughly five miles of channel excavation, hauling of excavated material, fencing and re-vegetation. It begins at the boundary of the Riverside Ranch and will extend eventually nearly one mile above the confluence of Williams Creek and the Salt River. Accordingly, Phase Two work will span several years and involve sub-phases.

Phase 2A-2014, completed in 2014, involved channel excavation and restoration of approximately 1.5 miles of restored channel, floodplain and riparian habitat along the historic Salt River channel. Restoration work in 2014 also included realignment of Reas Creek and re-connection of the Meridian Road drainage just upstream of the Dillon Road Bridge. Phase 2A also included the restoration of the Toste Parcel, acquired through the assistance of the Coastal Conservancy, for provision of additional enhancement opportunities and future public access, and re-vegetation of the site. The 2014 construction season resulted in excavation of approximately 80,000 cubic yards of sediment which was hauled off and applied as an agronomic amendment to local dairy pastures in the area.

Phase 2B-2015, the subject of this proposed authorization, will continue work upstream of the 2A project toward Francis Creek. Specifically, the project includes the following elements:

- 1) Constructing approximately 2,000 linear feet of full channel and floodplain (~ 50,000 c/y of excavation) to improve drainage around Port Kenyon Road and construct related pilot channels to connect to the existing drainages along Port Kenyon road and around Ferndale's wastewater treatment facility.
- 2) Installing a rock grade control structure at the upstream extent of the project footprint.
- 3) Replacing the Francis Creek crossing on Port Kenyon Road with a concrete arch span.
- 4) Constructing pilot channels to convey Francis Creek water and sediment to a low area located within the NRCS floodplain easement (Lake Vevoda)
- 5) Constructing pilot channels (~11,000 c/y) to convey clean water from Lake Vevoda to the newly-constructed Salt River channel.

The segment of channel just below Francis Creek has the highest volume of sediment per linear foot in the total project area. This equates to high costs to excavate and haul. The 2,000 linear feet extending from the end of last year's work to a location well below Ferndale's wastewater treatment plant will generate approximately 50,000 cubic yards of sediment (More than ½ the sediment as last year in 1/3 of the distance) at a budgeted cost of \$15/cy.

Eventually, a total of 7.5 miles of Salt River channel will be restored; extending some five miles from Riverside Ranch to nearly one mile above the confluence of Williams Creek, an additional 3.5 miles from the stopping point in 2014.

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. Now, after years of effort, design and fundraising, the RCD has completed major components of the project and is prepared to continue construction this summer.

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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**Site Description:** The project is located near Ferndale, Humboldt County (Exhibit 1). The area is extensively described in an earlier staff recommendation (Exhibit 2). The area and project, notably the flooding and ponding conditions prompting the proposed project, are also extensively analyzed in the Final Environmental Impact Report that was reviewed by staff and for which findings were issued by the board May 19, 2011 (Exhibit 3). Since the Board last reviewed this project, however, two phases of implementation have been completed and drainage and habitat conditions have improved markedly.

**Project History:** The Conservancy’s commitment to the Salt River Ecosystem Restoration project dates back to the late 1980s. At that time the Conservancy provided its first grant to the RCD 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 \$2.5 million towards advancing this project, including feasibility studies, design work, engineering and hydrology, acquiring property, securing public access, and funding implementation. In addition, staff has dedicated months if not years to developing this multi-benefit project. Since the award of the final design grant and implementation grant (Exhibits 2 and 3) the RCD has succeeded in bringing two major construction seasons to fruition, and achieved better than expected results for agricultural enhancement and ecosystem restoration.

**PROJECT FINANCING**

Coastal Conservancy*	\$200,000
California Department of Fish and Wildlife (County FRGP)	\$458,930
California Department of Fish and Wildlife (RCD FRGP)	\$198,500
California Department of Water Resources	\$1,654,955
City of Ferndale	<u>\$76,000</u>
<b>Total Project Costs</b>	<b>\$2,588,385</b>

\*The Conservancy funds represented in this project budget do not include previous grants from the Conservancy for related project acquisition and planning. See Exhibit 3 for additional detail.

Funding for the proposed project is expected to come from the Conservancy’s FY 2011/12 appropriation from the Habitat Conservation Fund (“HCF”) (under the “California Wildlife Protection Act of 1990” – Proposition 117). The Conservancy is authorized to use HCF monies for the acquisition, restoration, or enhancement of riparian habitat. (Fish & Game Code 2786(f)).

The 2011-12 appropriation of HCF funds was derived from the sale of bonds from the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). Proposition 1E authorizes the use of these funds for the purposes of carrying out disaster preparedness and flood prevention projects (Section 5096.820 of the Public Resources Code). Section 5096.825 of the Public Resources Code states that these funds may be spent for the protection, creation, and enhancement of flood protection corridors through various actions, including the acquisition of interests in real property to enhance flood protection corridors while preserving agriculture

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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(subsection (a)); the construction of new levees (subsection (b)); the setting back of existing levees (subsection (c)); the flood proofing of structures (subsection (d)); and the provision of incentives for maintaining agricultural use of property in flood plains (subsection (e)). Consistent with the overall purposes of Section 5096.825, the project will restore the historic channel and flood plain of the Salt River thus increasing the flood carrying capacity and improving the hydraulic function of the Salt River. Earlier phases of construction have already resulted in a return of such conveyance to conditions of at least fifty years ago. Consistent with subsection (a), the project helps the State reestablish jurisdiction over former tidelands while preserving agriculture. Consistent with subsection (b), the project provides increased elevation along river banks that function as improved levees. Consistent with subsection (c), the project removes informal levees. Consistent with subsection (d), the project provides flood proofing for the wastewater treatment facility and various roads and dairies. Consistent with subsection (e), the project enhances agricultural productivity in the local floodplain.

Section 5096.820(b) stipulates that Proposition 1E funds should be expended on projects that secure the maximum feasible amounts of non-state matching funds. Consistent with this requirement, the grantee has attracted \$76,000 from the City of Ferndale, a significant contribution from a City whose population is 1,362. While some funding remains to be raised for future phases of the project the grantee is actively engaged in fundraising for the project and construction of the project will proceed in phases with independent utility, such that habitat and other improvements will be beneficial even in the event of delays in implementation of the full project.

**CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270, and remains consistent with this Chapter as described in the previous staff recommendations, Exhibits 2 & 3.

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

The project was found consistent with earlier Strategic Plans, and remains consistent with the Conservancy's 2013-2018 Strategic Plan in the following respects:

Consistent with **Goal 4, Objective B** the proposed project will protect working lands through a project and associated landowner access agreements that restore hydraulic connectivity throughout the Salt River, thereby improving habitat while also alleviating nuisance flooding and ponding that adversely impact agricultural production in the area.

Consistent with **Goal 4, Objective C**, the project will protect, preserve and restore nearly 1,000 acres of fish and wildlife corridors between core habitat areas along the coast and from coastal to inland habitat areas by restoring aquatic habitat function along the Salt River and its tributaries.

Consistent with **Goal 5 Objective B** the project as a whole will restore and enhance 808 acres of coastal habitat, including 334 acres of tidal salt and brackish marsh, 40 acres of mudflat/high marsh ecotone, 125 acres of riparian forest/scrub, 32 acres of freshwater wetland habitat, 76 acres of grassland, and more.

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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Consistent with **Goal 5 Objective D** the project as a whole will restore a once-significant terrestrial and aquatic wildlife corridor between inland habitat areas and the coast. Restoring 7.7 miles of the Salt River, including a significantly enhanced riparian corridor, will provide fish passage and terrestrial migration where it has not existed for decades. This phase in particular will complete .38 miles of that distance.

Consistent with **Goal 5, Objective G**, the project will improve water quality to benefit coastal and ocean resources by reducing erosion, aggradation and the threat of episodic delivery of vast sediment supplies into coastal rivers. Aging culverts are notorious for failing during significant storm events, delivering substantial sediment pulses adverse to fishery resources in the process. The proposed project will prevent that outcome by ensuring that the active stream channel and accompanying sediment load are matched.

Consistent with **Goal 6 Objective B** the project will significantly improve and enhance hundreds of acres of potentially verdant pasture by reducing flooding and ponding associated with the current hydraulic dysfunction of the Salt River.

**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 proposed 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 proposed 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

*SALT RIVER ECOSYSTEM RESTORATION PROJECT: PHASE 2B*

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- 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 proposed 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 proposed 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 proposed project in a way that has yielded impressive results in the form of increased coho salmon abundance on newly restored Riverside Ranch. Additionally, the plan recommends that “(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

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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 proposed project enjoys the support of the Humboldt County Farm Bureau, Friends of the Eel River, the Salt River Watershed Council, U.S. Congressman Jared Huffman, State Senator Mike McGwire, Assemblyman Jim Wood, the County of Humboldt, and many resource agencies including the Department of Fish and Wildlife, NOAA Fisheries and others. (See Exhibits 2-4).
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.
6. **Need:** Without grant funding, the HCRCD will be unable to maintain its momentum and advance the project this construction season.
7. **Greater-than-local interest:** See Exhibits 2-3.
8. **Sea level rise vulnerability:** The floodplain enhancement component of the project will experience sea level rise, but the phase funded with this authorization will not be threatened. Moreover, restoring hydraulic conveyance within the watershed will help the habitat and community adapt well to sea level rise. All project elements will be designed so as to withstand projected sea level rise levels that would impair access 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 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. Residents are negatively impacted with every rain event, as are City and County infrastructure. Without Conservancy funding, there is a risk that improvements may not get constructed this year. HCRCD is preparing to release bids for this year's work in mid-May. The RCD will include a contingency in their bid package that reflects funding uncertainties, but they hope for sufficient, reliable funds to cover this season's expected construction costs. The largest funding contract covering work for this season is with Department of Water Resources (DWR). There has been an internal issue at DWR that has slowed reimbursement and retention payments owed for construction completed last season. Additionally, there are currently insufficient funds to cover ancillary

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costs for construction management and inspection and Labor Compliance. Conservancy assistance will help bridge these gaps and ensure that the RCD, having gone to bid, can go to construction this season, as planned.

10. **Resolution of more than one issue:** See Exhibits 2-3.
11. **Leverage:** See the “Project Financing” section above.
12. **Conflict resolution:** See Exhibits 2-3.
13. **Readiness:** Having successfully completed two 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:** The project has enabled the Salt River Watershed Council to 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 will hopefully serve 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 proposed project is not as vulnerable to climate change effects.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project will result in the implementation of a project to 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.

As described in the FEIR, pp. 3.8-1 through 3.8-26, the proposed project adheres to the Humboldt LCP guidelines.

**COMPLIANCE WITH CEQA:**

The project activities proposed for funding under this authorization, including the potential environmental impacts and required mitigation measures, remain unchanged from those approved by the Conservancy at its May 19, 2011 meeting (see Exhibit 3). The proposed authorization remains consistent with the CEQA findings adopted by the Conservancy at that meeting. No further environmental documentation is required under CEQA.