

COASTAL CONSERVANCY

Staff Recommendation
April 18, 2013

EEL RIVER ESTUARY PRESERVE RESTORATION: DESIGN AND PERMITTING

Project No. 12-018-02
Project Manager: Michael Bowen

RECOMMENDED ACTION: Consideration and possible Conservancy authorization to disburse up to \$300,000 to California Trout, Inc. for tidal marsh restoration design and permit application at the Eel River Estuary Preserve in Humboldt County.

LOCATION: Ferndale, Humboldt County

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

[Exhibit 1: Project Location, Site Map and Graphics](#)

[Exhibit 2: Fisheries Restoration Grant Program Application](#)

Exhibit 3: Project Letters

RESOLUTION AND FINDINGS:

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

“The State Coastal Conservancy hereby authorizes disbursement of an amount not to exceed three-hundred thousand dollars (\$300,000) to California Trout, Inc. (“CalTrout”) for the purpose of developing final designs and permits for the Eel River Estuary Preserve Restoration Project. Prior to the disbursement of funds, CalTrout 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”

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 (Section 31251 et seq.), regarding enhancement of coastal resources;
3. California Trout, Inc. is a non-profit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

PROJECT SUMMARY:

Staff recommends the Conservancy authorize the disbursement of up to \$300,000 to California Trout, Inc. (“CalTrout”) to prepare complete designs, CEQA materials, and apply for permits for an envisioned Eel River Estuary Preserve Restoration Project (“Project”) near Ferndale, Humboldt County (See Project Location: Exhibit 1). CalTrout has secured \$700,233 in additional funds from the Department of Fish and Wildlife’s Fishery Restoration Grant Program to pursue this ambitious project (Exhibit 2).

The concept of helping to restore fish and wildlife habitat to the 1,100-acre Eel River Estuary Preserve in the Eel River Delta is equally appealing and challenging. Restoring fish passage to miles of tidal slough and upstream habitat could have profound benefits for the Eel River’s declined salmon populations, while also restoring hydraulic connectivity for the benefit of agricultural operations on this and surrounding properties. However, pursuing habitat restoration following 150 years of land reclamation and habitat degradation, while maintaining the area’s vibrant agricultural economy, is a challenging goal that will require extensive planning, analysis and close coordination with surrounding property owners. This proposed project will enable CalTrout to work together with the property owner The Wildlands Conservancy (TWC), surrounding landowners, a multitude of agencies and the Coastal Conservancy in developing a coherent restoration plan for the site.

Amongst the project goals requiring analysis and planning are: 1) maintenance and enhancement of agricultural productivity and ecological function within the lower Eel River Floodplain; 2) maintenance and enhancement of hydraulic connectivity, drainage and establishment of a flood protection corridor and bypass across the property to ; 3) dune enhancement to restore ecological services and flood protection from wave breach events; 4) enhancement of aquatic habitat for Pacific salmon and other species, and; 5) enhancement of habitat for migratory waterfowl.

CalTrout has developed the project proposal and assembled a uniquely qualified team of experts to complete final design in preparation for adoption of a Draft Environmental Impact Report, and development of all necessary permits to proceed with the project. A variety of agencies have expressed a strong interest in funding enhancement projects at the site. It is hoped that implementation of at least some of the more basic and lower cost elements of the project, such as dune stabilization and enhancement, could begin as early as Summer 2015.

Site Description: Located along the southern spit of the Eel River estuary in Humboldt County, the 1,100-acre Preserve comprises the former Connick Ranch, approximately 1,000 acres of reclaimed remnant tidal sloughs, tidal wetlands managed for agricultural production, and a strip of approximately 84 acres of coastal dunes about 3 miles long and 1-3 acres wide, formerly known as the “Palco Property.” TWC assembled the highly fragmented parcels with private funding at significant effort and expense, and is making this coastal gem publicly available for

recreational use, while maintaining agricultural use through leases. The Preserve extends from the mouth of the Eel River nearly to Centerville Beach, 3.5 miles to the south. (Exhibit 1).

The project site is part of the greater floodplain of the Eel River, and is at the mouth of the Eel River Delta, an area extending from the mouth up to the confluence of the Van Duzen River. 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 Eel River estuary, particularly the project area, 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 wildlife. Due to the depth and complexity of the channel network, the project area supported a significant commercial shipping industry capable of transporting much of the bounty of southern Humboldt County to faraway ports such as San Francisco.

The Eel River estuary and the project area particularly have been significantly altered in the last 150 years. By 1900, much of the project area had been patented and reclaimed from tidal marsh for agricultural purposes. 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 corresponded 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, declining salmon populations, and a marked reduction in the tidal prism of the estuary. This equates to a possible 60 percent reduction in overall tidal prism¹ and a commensurate decrease in estuarine area over time.

Due to the reduction in hydraulic connectivity, tidal prism flooding and ponding has increased over time. As with the nearby Salt River, drainage of flood waters is impaired by diminishment of channel capacity. Unlike the Salt River, however, the project area experiences additional challenges in the form of dune breaches and tidal incursions. On the property to the south of the Preserve, approximately 200-acres of prime agricultural land has shifted to salt marsh as a result of tidal incursions and a now inadequate drainage network.

Project History: Following passage of the Swamp Lands Acts of 1849, 1850 and 1860, Reclamation of the Eel Delta for agricultural uses accelerated, particularly in the project area. Under these Acts, the federal government granted more than 2.19 million acres of “swamp and overflow lands” to California to “reclaim.” Wholesale patenting and reclamation of the salt marsh entailed diking, ditching and draining the marsh as rapidly as possible in order to promote settlement and agricultural productivity. On occasion, entire sloughs were blocked with dams or tidegates and the channels behind them were slowly filled.

The largest tidegate in Humboldt County is located on Cutoff Slough at the northeastern edge of the Property, directly across the Salt River from Riverside Ranch. This structure protects surrounding agricultural land from tidal flows and flooding from the Eel and Salt River drainages. It has also caused extensive and historic channel filling and aggradation behind it, and within the Salt River nearby. This well documented phenomenon was so adverse to shipping interests of the day that representatives of the shipping interests sued the tidegate owner,

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

ultimately prevailing at the State Supreme Court level in 1889. However, no remedy was immediately apparent, and the blockage of tidal sloughs continued apace.

The result of this trend has been near complete aggradation of the Salt River and significant aggradation of areas behind the Cutoff Slough Tidegate, diminished hydraulic conveyance throughout the Delta, increased flooding and ponding in the project area and generally degraded aquatic and terrestrial habitat. This flooding and ponding of water has been severe enough along the Salt River corridor that nearly 1,000 acres of prime agricultural soils have been adversely impacted, resulting in diminished productivity in the area. Flooding and ponding on and around the Preserve has resulted in continuous drainage maintenance challenges, reductions in agricultural productivity on pastures, and wave breach events that threaten to permanently remove hundreds of acres from agricultural production.

TWC acquired the property in 2005 with the intent of providing public access and pursuing resource enhancement projects. They have also made significant improvements to the property for the benefit of agricultural lessees, and it is their intent to keep the land in agricultural production.

As the Salt River Project reached construction readiness in 2011, TWC and the Coastal Conservancy met with adjacent property owners to explore areas of common interest, and determine if an enhancement project might benefit both parties while leveraging the success of the Salt River Project. A scope of work for possible work in and around the EREP was developed, though its progress was delayed in large part due to data processing needs associated with determining the elevations of the area and thus the feasibility of any proposed project.

As the preliminary analysis at the EREP progressed, and as all parties involved began to recognize the cost and complexity of any enhancement effort at the mouth of the Eel River, CalTrout began discussions with TWC and the Coastal Conservancy about the feasibility of pursuing a grant from the California Department of Fish and Wildlife. An application for funding was submitted, and an award for the project was announced in February 2013.

TWC has developed a public access plan for the Preserve, which is the subject of a separate grant proposal to the Conservancy. The Access Plan provides for rare hosted public access opportunities in the Eel River Delta. Among other features, the plan envisions a network of pedestrian trails, a kayak put-in, a visitor center, and nature study opportunities. In addition, TWC has conducted extensive outreach to the Ferndale business community and to local school districts to enable school groups to visit the site. As a result of TWC's support for a full-time ranger at the site, the access will generally be available daily during daylight hours. Special tours and nature walks will also be made available to the public periodically.

A key aspect of the proposed project is to restore hydrologic connectivity to the area in a manner that will improve drainage of agricultural properties and enhance aquatic and terrestrial habitats. Efforts to restore tidal prism that also increase transport of sediment within the system are a significant aspect of the Salt River Project.

The Coastal Conservancy has played a longstanding and pivotal role in enhancement efforts in the Eel River Delta. For more than twenty years, the Conservancy worked with the Humboldt County Resource Conservation District to bring the Salt River Ecosystem Restoration Project to fruition. Construction of that project began this Spring. The proposed project would complement the Salt River project and presumably restore more of this expansive estuarine setting and improving conditions for salmon and steelhead. TWC and CalTrout now seek the Conservancy's assistance in leveraging the earlier success of the Salt River Project in a fashion that will provide agricultural, natural resource, and recreational benefits to the area.

PROJECT FINANCING

Coastal Conservancy	\$300,000.00
California Department of Fish and Wildlife	\$700,233.00
Total Project Costs	\$1,000,233.00

A portion of the anticipated source of Conservancy funds for this project is the fiscal year 2007/2008 appropriation to the Conservancy from the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000, Public Resources Code § 5096.300 et sec (Proposition 12). These funds are available for projects that help to restore coastal salmon habitat. (Pub. Resources Code § 5096.352(d).)

The remainder of the funds for the proposed project is expected to come from the Conservancy's FY 2008/09 appropriation from the Habitat Conservation Fund (under the "California Wildlife Protection Act of 1990" – Proposition 117). The Conservancy is authorized to use Habitat Conservation Fund monies for the acquisition, restoration, or enhancement of aquatic habitats for spawning and rearing of anadromous salmonids and trout resources. (Fish & G. Code § 2786(e). As required by the Habitat Conservation Fund, it is contemplated that access will be provided to the extent that it does not interfere with habitat protections developed on the properties.

The 2008/09 appropriation to the Conservancy from the Habitat Conservation Fund was, in turn, derived from the "Disaster Preparedness and Flood Prevention Bond Act of 2006" (Proposition 1E), which may be used by the Conservancy for the protection, creation and enhancement of flood protection corridors through flood plain mapping and related activities. (Pub. Resources Code § 5096.825.) As discussed in the Project History Section, this property is located in the Salt River flood plain and is subject to repeated flooding that is only increasing with time. This project will assess flooding, complete an aerial elevation map (LiDAR survey), develop a numerical model that enables the project team to evaluate various hydrological scenarios compatible with achieving the project goals, and propose a suite of design alternatives to alleviate flooding and provide for habitat enhancement in the project area.

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 section 31251, the Conservancy may award grants to nonprofit organizations in order to enhance coastal resources. This project will design and seek permits for the restoration of hydraulic connectivity within the remnant Cutoff Slough system, as well as the restoration of many acres of salt marsh and freshwater habitat on the Preserve property. Planning activities under this grant will benefit a variety of natural resources within the coastal zone (Pub. Resources Code § 31251.2.).

Pursuant to section 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 problems in the Eel River area, as described in the "Consistency with Local Coastal Program Policies" section below.

Consistent with section 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.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 5 Objective A** the project will develop a plan and permits for the restoration and enhancement of coastal habitats. In this instance, the plan and associated permits will cover coastal wetland, aquatic habitat, stream and slough corridors, a dune complex, and shortgrass habitat suitable for migratory waterfowl and continued agricultural use. This authorization will allow completion of the planning phases that will lead directly to project implementation.

Consistent with **Goal 5 Objective C** the project will plan for the preservation and enhancement of a significant portion of the Eel River floodplain and the associated coastal watersheds.

Consistent with **Goal 5 Objective F** the proposed project will complete a plan to improve tidal exchange and enhance water quality in the historic sloughs and tidal channels of the Eel River Delta.

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 November 10, 2011, 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 Assemblyman Wesley Chesbro, Senator Noreen Evans, Congressman Jared Huffman, and others. Supporting agencies include the

California Department of Fish and Wildlife, the Coastal Commission, the United States Fish and Wildlife Service, the National Marine Fisheries Service, and others (Exhibit 3).

4. **Location:** The proposed project is located within the coastal zone in the Eel River Delta, near Ferndale, California.
5. **Need:** Habitat degradation in the Eel River Delta has contributed significantly to the decline of the Eel River's salmon populations. As upstream demands on water increase, the need for adequate estuarine habitat for rearing become even more pronounced. The project has received a significant grant from CDFW due to the recognition of the need for and opportunity to restore wildlife habitat in the Eel River Delta.
6. **Greater-than-local interest:** The Eel River Estuary Preserve now represents one of the most significant habitat enhancement opportunities in northern California. In addition to its stand-alone habitat benefits, it would leverage significantly the expansion of tidal prism in and resource and agricultural values of the ongoing Salt River Ecosystem Restoration Project. The habitat benefits will accrue to Pacific salmon populations, migratory songbird and waterfowl populations, and more. A vibrant estuarine ecosystem aside a thriving agricultural community benefits the entire State by providing ecosystem values, and high quality agricultural products, both in a socially and environmentally sustainable fashion.
7. **Sea level rise vulnerability:** The planning effort will take into account sea level rise vulnerability. It is known that the entire project area is low-lying and prone to inundation and flooding, and 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). The National Academy of Science reported in 2012 that for the Washington, Oregon, and California coast north of Cape Mendocino, sea level is projected to change between falling 4 centimeters to rising 23 centimeters by 2030, falling 3 centimeters to rising 48 centimeters by 2050, and rising between 10 to 143 centimeters by 2100. The NAS report also underscores the increased likelihood of greater damage to the coast from frequent storm surges and large waves. The project area, separated from the ocean by a narrow dune network, is highly susceptible to this increased risk. It is also notable that the project area lies in an area subject to dramatic levels of aggradation and seismic uplift, rendering challenging any effort to predict sea level rise vulnerability.

Project features that might decrease vulnerability to all of these factors could include restored dune height to protect low lying areas from high waves at Centerville Beach, and tidal slough hydrological connection that promotes hydraulic function including tidal fluctuation and drainage. Another possible element may be sloped setback berms to protect prime agricultural areas and enable gradual colonization of new habitats by shifting species. Although the extent of tidal influence up any newly restored channels will increase over time as a direct result of rising sea levels, 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 benefit ecologically from rising sea levels, and economically despite rising sea levels.

Additional Criteria

8. **Urgency:** The aquatic habitat of the southern Eel Delta has been in decline for more than a century, and Pacific salmon populations are at critically low levels. Moreover, a significant cost-savings can be achieved by pursuing planning and enhancement opportunities at the Eel River Preserve while data and analyses from the Salt River Project remain current.
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; resolution of regulatory challenges associated with maintaining existing drainage networks, and; sediment erosion from upslope areas.
10. **Leverage:** See the “Project Financing” section above.
11. **Conflict resolution:** As outlined in Criterion 9, above, the hydraulic dysfunction of the area has either triggered, or highlighted existing conflicts surrounding land use and management in the Ferndale area. The proposed project will help resolve these conflicts in a fashion that balances environmental restoration on a grand scale, with the enhancement of agricultural production 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 attempts such as this in the Eel Delta.
13. **Readiness:** CalTrout has proposed a challenging but feasible schedule for implementing the project timely, providing final design continues promptly.
14. **Realization of prior Conservancy goals:** The Coastal Conservancy has for more than twenty years sought opportunities to balance agricultural productivity and resource enhancement in the Eel River Delta. Never before has the opportunity advanced this far, never before has the opportunity to access this enhancement site been available, and never before has sufficient funding been available for design work to realize an enhancement vision for the area. This design grant will ensure that the Conservancy’s goals for this area will be realized, and a variety of entities have expressed keen interest in funding enhancement implementation in this area when that possibility is 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 will evaluate 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.

18. Minimization of greenhouse gas emissions: This is a planning grant and 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 County of Humboldt Local Coastal Program (LCP) Eel River Area Plan (ERAP) was certified by the Coastal Commission in 1982 and last updated in 1995. The ERAP outlines numerous policies pertaining to the preservation and restoration of sensitive coastal habitat, but it also includes strong provisions in support of agriculture. All of these policies will influence the development of the proposed project which will result in the development of final designs to address agricultural preservation and habitat restoration within the Coastal Zone generally, and within the jurisdiction of Humboldt County's ERAP area, particularly.

There is significant fear within Ferndale's agricultural community that enhancement efforts at the EREP will result in wholesale conversion of prime agricultural lands to non-agricultural uses. However, section 30242 of the Coastal Act limits conversion of agricultural land to non-agricultural uses. Conversion to non-agricultural uses is allowed only where agriculture is either infeasible, or where such conversion would preserve prime agriculture elsewhere and be compatible with continued agricultural use on surrounding lands. (Pub. Resources Code § 30242.) Ultimately, Section 30242 controls the overall design approach of the proposed project.

Moreover, the project area is located primarily in transitional agricultural lands, where development and conversion is even more strongly restricted in favor of maintaining prime agricultural productivity. Thus, per the guidelines of ERAP Section 3.41 C, it is essential that the project be developed to adhere to the principal uses in agriculture exclusive designation, notably the production of food, fiber or plants.

With regard to the protection and enhancement of natural resources, Section 3.34 B states that management for watershed and fish and wildlife is a compatible use with agriculture. The proposed project would clearly seek to manage the area for fish and wildlife as an incidental use, in addition to management for agriculture as a principal use.

In addition to the above guidelines, it is worthwhile noting the following policies that are highly compatible with the proposed project. 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."

In all respects, the proposed project will adhere 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 a DEIR to be developed once a suitable range of project alternatives are defined.

Staff will file a Notice of Exemption upon approval.