

COASTAL CONSERVANCY

Staff Recommendation  
January 21, 2021

**ELK RIVER RECOVERY: ESTUARY FEASIBILITY STUDY AND CONCEPTUAL DESIGN**

Project No. 20-035-01  
Project Manager: Julia Elkin

**RECOMMENDED ACTION:** Authorization to disburse up to \$400,000 to California Trout, Inc. to conduct planning activities for anadromous fish habitat enhancement and flood reduction in the lower Elk River Watershed, Humboldt County.

**LOCATION:** Elk River Watershed, Humboldt County

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EXHIBITS

- Exhibit 1: [Project Location Map](#)  
Exhibit 2: [Existing Site Conditions](#)  
Exhibit 3: [Project Letters](#)
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**RESOLUTION AND FINDINGS:**

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

“The State Coastal Conservancy hereby authorizes a grant of an amount not to exceed four hundred thousand dollars (\$400,000) to California Trout, Inc. (“the grantee”) to prepare a feasibility study and conceptual designs for anadromous fish habitat enhancement and flood reduction in the lower Elk River Watershed in Humboldt County.

Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.
2. The names and qualifications of any contractors to be retained in carrying out the project.
3. A plan for acknowledgement of Conservancy funding and Proposition 1 as the source of that funding.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resources protection.
  2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
  3. California Trout, Inc. is a nonprofit organization organized under section 501(c)(3) of the U.S. Internal Revenue Code.”
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**PROJECT SUMMARY:**

Staff recommends the Conservancy authorize a \$400,000 grant to California Trout, Inc. to prepare a feasibility study and conceptual designs for anadromous fish habitat enhancement and flood reduction in the lower Elk River Watershed in Humboldt County (Exhibit 1).

The North Coast Regional Water Quality Control Board and the US Environmental Protection Agency have placed the Elk River on the Clean Water Act Section 303(d) list as a sediment-impaired waterbody. The system’s high sediment load drives numerous adverse impacts to beneficial uses along the river-- including domestic water supplies, agricultural water supplies, endangered species habitat, and recreation—and results in nuisance conditions including exacerbated flooding events with associated loss of property access and use. In the lower reaches of the Elk River, nuisance flooding from winter storm flows has steadily increased over the past decade as the riverbed continues to aggrade in places and vegetation fills the river mainstem, reducing the river’s flow capacity. These issues are anticipated to worsen with climate change as the intensity of storm events is projected to increase.

Given the river’s placement on the 303(d) list, there are a Total Maximum Daily Load (TMDL) and associated Program of Implementation to re-establish the river's capacity to transport sediment loads and put the river on a trajectory toward the recovery of beneficial uses. This approach involves a three-pronged adaptive management strategy to address impaired beneficial uses along the river by: 1) development and adoption of regulatory Waste Discharge Requirements to address sediment loads originating in the upper Elk River; 2) development of a non-regulatory Elk River Recovery Assessment that analyzes the full river system; and 3) implementation of a non-regulatory Elk River Watershed Stewardship Program convening landowners and stakeholders to address impairments and aggradation in the lower Elk River.

Coastal Conservancy funding granted in 2013 supported the development of the Elk River Recovery Assessment. This extensive effort was completed in March 2019 and provided an in-depth analysis of existing conditions and projected future conditions under a range of possible management scenarios, including a no action pathway as well as sediment removal and active river channel restoration and rehabilitation.

The proposed project furthers the efforts of the Elk River Watershed Stewardship Program and builds immediately upon the Elk River Recovery Assessment. The proposed project will conduct baseline studies and subsequent conceptual design planning for the tidally influenced and estuarine reaches of the lower Elk River, where current impairments are negatively affecting critical coho salmon habitat opportunities and exacerbating winter flooding events (Exhibit 2). The conceptual designs developed under this project will explore options for winter flood flow routing and floodplain connectivity opportunities, protection of working ranching lands, and the restoration of estuarine and tidal marsh habitat for the benefits of listed salmonids. The proposed project will specifically produce a planning-level feasibility study and preliminary conceptual designs (approximately 10% design level) for a set of actions that may advance (in a later project) to further design and environmental review. Baseline studies conducted as part of this feasibility study and conceptual design work will include evaluations of fish habitat, groundwater, vegetation, cultural resources, and environmental constraints.

The project includes developing a set of landowner and regulatory agency supported restoration and enhancement concepts. The concepts will be developed in collaboration with landowners and agricultural operators in the project area as well as federal, state, and local agency partners to identify and assess resiliency and adaptation approaches that can protect and enhance prime agricultural lands consistent with habitat restoration, California Coastal Act policies, and Local Coastal Program requirements. Collaboration with landowners in the lower Elk River to arrive at landowner-supported restoration and enhancement concepts is critical to the success of future actions in the system, as the majority of opportunities in the lower Elk River for flood reduction and fish habitat enhancement involve private land holdings.

Planning work in the lower Elk River directly complements and builds upon the Martin Slough Enhancement Project and the Elk River Estuary Restoration Project with City of Eureka, both funded by the Coastal Conservancy. Both of these projects directly adjoin the proposed project planning area and reflect shared priorities of addressing flooding impacts in the system while enhancing habitat for coho salmon and other wetland and riverine restoration benefits (Exhibit 1). Collectively, these projects are increasing the resilience and health of the Elk River watershed.

**Site Description:** Located in the coastal temperate forest of Humboldt County, the Elk River is the largest freshwater tributary to Humboldt Bay. The Elk River estuary extends from the eastern central shore of Humboldt Bay at approximately River Mile 0 (RM 0.0) upstream to RM 4.7 which marks the approximate upstream extent of tidal influence. The upper portion of this reach between RM 4.7 and RM 3.2 is characterized as tidally influenced freshwater, and the lower reach below RM 3.2 is saline/brackish. As described above, alteration of the natural morphology and function of the Elk River estuary has significantly diminished the tidal prism and degraded the estuarine habitat. The remaining habitat is impaired by sediment aggradation and poor drainage.

The proposed project area consists of the lower Elk River, a tidally influenced channel confined by constructed levees adjoined by intertidal mudflats and seasonal wetlands, specifically the river reaches denoted MSR-1 and MSR-2. The project includes approximately 480 acres in this

lower mainstem Elk River area, bounded to the northwest by US 101, Elk River Road to the northeast, the valley wall to the southwest, and the Alexandre Dairy at the southeastern extent.

Numerous physical infrastructure elements exist within the project area, including two railroad grades, a high voltage power line, and extensive drainage infrastructure. These features disconnect the floodplain and impair migration into and out of sloughs and off-channel areas. 99 acres of the project area are owned and managed by CDFW as the Elk River Wildlife Area, while the remaining acreage is largely in agricultural production and owned by six private landowners. All of the private landowners have actively engaged with the Elk River Stewardship Program, led by California Trout, Inc., over the past year.

**Grantee Qualifications:** California Trout, Inc., a 501(c)(3) non-profit, is well qualified to serve as the grantee on this project. California Trout, Inc. staff have successfully led the Elk River Recovery Assessment and Recovery Framework and the Elk River Sediment Remediation Implementation Pilot Program, and currently coordinate the Elk River Watershed Stewardship Program—efforts that all inform this proposed next step in the Elk River Recovery effort.

California Trout, Inc. staff have successfully demonstrated the capacity to administer Coastal Conservancy grants on numerous occasions, including delivery of state-funded planning and implementation projects within the Humboldt Bay region.

#### **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 below.
- 2. Consistency with purposes of the funding source:** See the "Project Financing" section below.
- 3. Promotion and implementation of state plans and policies:** The project will help implement two priority actions identified in the 2014 *California Water Action Plan* (CWAP):  
  
Action 4: Protect and Restore Important Ecosystems. The project will implement this action by developing plans for restoring impaired ecosystem functions in the coastal Elk River watershed due to excess sediment loads, which will benefit fish and wildlife habitat.  
  
Action 8: Increase Flood Protection. The CWAP calls for action to address flooding threats due to aging levee infrastructure and sea level rise due to climate change. The project will implement this action by planning for in stream, bank, and floodplain restoration projects that increase channel conveyance on the lower Elk River, reducing flooding impacts experienced in high flow storm events.

The project will address numerous goals of the *2004 California State Coho Recovery Plan*:

RW-SC-02: Where appropriate and feasible, reconfigure levees and channelized streams to benefit coho salmon.

EP-HU-02- Work with agencies and landowners to re-establish estuarine function (Level D, priority 5).

EP-HU-06g: Identify impacted reaches where a functioning flood plain could be re-established: a. Prioritize areas that are not naturally functioning for restoration potential; and b. Develop site specific project objectives to protect and restore naturally functioning channel and flood plain conditions where feasible.

4. **Support of the public:** The proposed project has significant public support, including the participation of numerous private landowners located in the project planning area and the Wiyot Tribe. Letters of support have been received from North Coast Regional Water Quality Control Board, Senator McGuire, Congressman Huffman, US Fish and Wildlife Service, and the Bureau of Land Management. Numerous additional public members and agencies engage with the project through the Elk River Technical Advisory Committee, including National Marine Fisheries Service, California Department of Fish and Wildlife, and North Coast Regional Land Trust. See Exhibit 3: Project letters.
5. **Location:** See the “Project Summary”.
6. **Need:** The project would not occur in a timely manner without Conservancy participation.
7. **Greater-than-local interest:** The project will further planning for flood reduction and fish habitat enhancement projects in the largest freshwater tributary to Humboldt Bay. The Elk River tributary of Humboldt Bay is critical to coho salmon recovery.
8. **Sea level rise vulnerability:** The lower reaches of the Elk River are tidal and thus vulnerable to sea-level rise. Project planning will incorporate sea level rise modeling for Humboldt Bay to identify and plan for projected impacts to existing land uses (both agricultural and natural resources) and physical infrastructure in the project planning area.

#### **Additional Criteria**

9. **Resolution of more than one issue:** The proposed project explores landscape opportunities for reducing flooding impacts, while restoring critical salmonid habitat and protecting agricultural lands in the lower Elk River.
10. **Leverage:** See the “Project Financing” section above.
11. **Readiness:** California Trout, Inc. is ready to commence the project upon receiving Coastal Conservancy and Wildlife Conservation Board funding.
12. **Realization of prior Conservancy goals:** See “Project History” above.
13. **Cooperation:** Landowner engagement through the Elk River Stewardship Program is foundational to the project approach, as design options generated under this project will be co-developed with lower Elk River landowners. Consultation with regional stakeholders and regulatory agencies is also central to the project approach and success.

14. **Vulnerability from climate change impacts other than sea level rise:** Climate change impacts to the lower Elk river may include changing rainfall distributions and increased peak flows. The proposed project will plan restoration designs that increase resiliency to these projected impacts by increasing flood conveyance capacity and designing intentional flow pathways.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$400,000</b>
Wildlife Conservation Board (pending)	\$310,000
<b>Project Total</b>	<b>\$710,000</b>

The anticipated source of funding for this project is an appropriation from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731).

Section 79732(a) states more specifically that these funds may be used to “implement watershed adaptation projects in order to reduce the impacts of climate change on California’s communities and ecosystems” and to “protect and restore aquatic, wetland, and migratory bird ecosystems.” Consistent with these provisions and the requirement of Proposition 1 to provide multiple benefits, the proposed project will plan for the restoration of the Elk River ecosystem to reduce legacy sediment pollution, improve salmonid habitat, and work with local landowners to explore possible solutions to climate change-exacerbated flooding of public infrastructure and private property within the Elk River watershed. The project’s planning efforts include an explicit focus on alleviating existing flooding impacts, to reduce economic damages currently incurred from flooding events.

The project was reviewed and recommended for funding through a competitive grant process under the Conservancy’s Proposition 1 Grant Program Guidelines adopted in June 2015 (“Prop 1 Guidelines”). (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in the “Project Summary” section and in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section of this report.

The State of California Wildlife Conservation Board is expected to consider a grant of \$310,000 for the project at its February 2021 board meeting through its 2020 Climate Adaptation and Resilience Program. This program is funded by the state’s Greenhouse Gas Reduction Fund as part of California Climate Investments.

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

The proposed project is undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resources Code (Section 31220), as follows:

Pursuant to Sections 31220(a) and 31220(b)(2), the Conservancy may undertake projects to protect and restore coastal habitats if the project “protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds.” Consistent with this section, the proposed project will facilitate planning for the restoration and enhancement of coastal watershed habitat for fish and wildlife, including listed species, in Humboldt Bay.

Pursuant to Section 31220(b)(4), the Conservancy may award grants to protect and restore coastal habitats if the project “contributes to the reestablishment of natural erosion and sediment cycles.” Consistent with this section, the proposed project will conduct studies necessary to address critical sedimentation issues within the Elk River watershed.

Pursuant to Section 31220(b)(6), the Conservancy may award grants to protect and restore coastal habitats if the project “restores coastal wetlands, riparian areas, floodplains, and other sensitive watershed lands.” Consistent with this section, the proposed project will facilitate planning for restoration of sensitive watershed lands in the Elk River watershed.

Pursuant to Section 31220(c), the project includes a monitoring and evaluation component in the form of baseline physical and biological data collection that can inform future monitoring efforts within the project area.

Consistent with this Section, Conservancy staff has consulted with the State Water Resources Control Board in the development of the project to ensure consistency with Chapter 3 (commencing with Section 30915) of Division 20.4 of the Public Resources Code.

**CONSISTENCY WITH CONSERVANCY’S [2018-2022 STRATEGIC PLAN](#) GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 6, Objective A** of the Conservancy’s 2018-2022 Strategic Plan, the proposed project will develop initial plans for the enhancement of coastal stream corridors and wetlands in the lower Elk River watershed.

Consistent with **Goal 6, Objective C** of the Conservancy’s 2018-2022 Strategic Plan, the proposed project will develop plans to preserve and enhance coastal watersheds and floodplains, including plans to improve fish passage for salmonids in the lower Elk River.

Consistent with **Goal 7, Objective A** of the Conservancy’s 2018-2022 Strategic Plan, the proposed project will work in partnership with private landowners to develop plans for projects that foster the long-term viability of coastal working lands, particularly in light of sea level rise impacts and exacerbated flooding impacts from climate-change intensified storm event runoff.

Consistent with **Goal 16, Objective A** of the Conservancy’s 2018-2022 Strategic Plan, the proposed project is located within a disadvantaged community.

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/STATE WATER QUALITY CONTROL PLAN:**

The proposed project is consistent with the Water Quality Control Plan for the North Coast (adopted by the Regional Water Quality Control Board North Coast Region in 1988 and last updated in 2018) in that it will plan for enhancement of wildlife habitat, habitat for rare, threatened and endangered species, and estuarine habitat in Humboldt Bay. The Water Quality Control Plan for the North Coast designates wildlife habitat, rare, threatened, and endangered species habitat, and estuarine habitat as beneficial uses of Humboldt Bay (Water Quality Control Plan for the North Coast, Table 2-1, pp. 2-8 to 2-12).

**CEQA COMPLIANCE:**

The proposed project is statutorily and categorically exempt from the provisions of the California Environmental Quality Act under 14 Cal Code of Regulations, Chapter 3, Sections 15262 and 15306 because the project will only involve basic data collection, resource evaluation activities, and preparation of feasibility and planning studies for possible future actions that have not been approved, adopted or funded. The project will consider environmental factors and will not result in disturbance to an environmental resource.

Upon approval of the project, Conservancy staff will file a Notice of Exemption.