COASTAL CONSERVANCY

Staff Recommendation
April 18, 2013

ELK RIVER RECOVERY ASSESSMENT

Project No. 13-005-01
Project Manager: Joel Gerwein

RECOMMENDED ACTION: Authorization to disburse up to $100,000 to California Trout Inc. to conduct the Elk River Recovery Assessment to evaluate restoration approaches and develop an implementation framework to support the restoration of the Elk River watershed's natural biological and hydrological functions, Humboldt Bay, Humboldt County.

LOCATION: Humboldt Bay, Humboldt County

PROGRAM CATEGORY: Integrated Coastal and Marine Resources Protection

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EXHIBITS

RESOLUTION AND FINDINGS:

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

"The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed $100,000 (one hundred thousand dollars) to California Trout Inc. ("CalTrout") to conduct the Elk River Recovery Assessment, to evaluate restoration approaches and develop an implementation framework to support the restoration of natural biological and hydrological functions in the Elk River Watershed, subject to the condition that, prior to disbursement of any funds, CalTrout shall submit for the review and approval of the Conservancy's Executive Officer a work plan, schedule, budget, and the names of any contractors to be employed for preparation of the Recovery Assessment."

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 the purposes and objectives of 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 Project Selection Criteria and Guidelines.
3. CalTrout is a nonprofit organization existing under section 501(c)(3) of the Internal Revenue Service, and whose purposes are consistent with Division 21 of the Public Resources Code."

PROJECT SUMMARY:

Staff recommends Conservancy authorization to disburse up to $100,000 to CalTrout to prepare a Recovery Assessment ("Assessment") for the Elk River watershed of Humboldt Bay in Humboldt County (Exhibit 1). The Assessment will identify the desired geomorphic, sediment, hydrologic, water quality, and habitat conditions for the watershed, as defined by the project team, the North Coast Regional Water Quality Control Board ("Regional Water Board"), and a Technical Advisory Committee ("TAC") comprised of experts in fluvial geomorphology and river restoration from state and federal agencies such as the Regional Water Board, the Department of Fish and Wildlife, and Redwood National and State Parks, Humboldt State University, and consultants. The Assessment will recommend a suite of feasible implementation actions, supported by the appropriate modeling, data analyses, and peer review, which will place Elk River on a trajectory to recovery.

The Elk River watershed, located in the coastal temperate forest of Humboldt County, California, is the largest freshwater tributary to Humboldt Bay (Exhibit 1). Humboldt Bay provides important habitat for aquatic species and is an important economic resource for local communities, including port and marina facilities, recreation opportunities, and shellfish rearing operations.

The Elk River was included on California's 303(d) impaired waters list in 1998 on the basis of excessive sedimentation. A suite of natural and management-related factors in Elk River have degraded fish and wildlife habitat, domestic and agricultural water supplies, and recreational opportunities. Management activities, most notably extensive timber harvest activities in the upper watershed, accelerated sediment production from the naturally erosive landscape (Exhibit 2). Extensive timber harvesting and road building activities in 1986 followed by large storm events in 1995–1998 caused unprecedented discharges of sediment and organic debris and resulted in major geomorphic changes in the lower Elk River channel. Records indicate that channel conveyance capacity in the upper mainstem Elk River has been reduced by 60% since 1965, and the North Fork Elk River now overtops its banks an average of four times per year. More frequent flooding of roads, fields, fences, and homes continues to affect the livelihood of residents in the Elk River valley. The proposed Assessment will help identify actions that will restore the watershed and alleviate flooding.

Restoration of the Elk River watershed is extremely important to coho recovery. The Humboldt Bay coho population, is one of the 17 core populations identified in the Draft Southern Oregon Northern California Coast Coho Salmon Evolutionarily Significant Unit Recovery Plan (2012) as most likely to become viable most quickly. This core population is also at a high risk of extinction, with a rate of population decline exceeding ten percent. The highest stresses for the Humboldt Bay Tributaries coho salmon population include altered sediment supply, lack of

flood-plain and channel structure, impaired main-stem function, degraded riparian forest conditions, and impaired water quality, all factors that would be addressed in the Assessment. Concentrations and durations of suspended sediment levels during wet months in Elk River frequently exceed accepted thresholds for salmonid growth and, at times, survival. Sediment is considered to be the most important limiting factor for salmonids in Elk River.

The Assessment will first describe existing conditions and projected future conditions in the watershed in the absence of restoration. Next, it will identify potential restoration actions and project future conditions under those actions, compare alternative restoration actions, and develop a restoration strategy based on preferred actions. Tools and monitoring programs will be developed to analyze existing and future conditions with and without restoration actions. These tools will answer the following key questions:

1. What is the trajectory of sediment supply, transport, and storage in the channel network?
2. How will changes in channel morphology alter flow conveyance capacity in channels and on floodplains?
3. What will the ecological responses be to the potential trajectories in physical processes?

Third, the Assessment will include an implementation strategy that will describe regulatory compliance, engineering design, and potential funding scenarios. A second phase of the project is planned, which will involve conducting pilot implementation projects. Funding proposals have been submitted to the Department of Fish and Game and the Regional Water Quality Control Board to fund the second phase.

CalTrout is well qualified to conduct the Elk River Recovery Assessment. CalTrout is a non-profit founded in 1971 with the organizational capacity to be a viable project lead, has an excellent track record working with the Regional Water Quality Control Board, and has demonstrated the ability to work successfully with agencies and landowners.

Site Description: The Elk River watershed comprises an area of 33,840 acres and drains directly into Humboldt Bay, south of Eureka near Fields Landing. The Elk River watershed consists of approximately 1,444 streams totaling 329 miles, and is comprised of two primary branches, the North Fork and South Fork. Elevation ranges from 0-2,400 feet from mouth to ridgeline. The Elk River watershed is much steeper than other watersheds in Humboldt Bay. This combination of geology and slope makes preventing erosion a difficult task for timber and agriculture landowners.

The natural vegetation in Elk River is coniferous forest, dominated by coastal redwood. Douglas fir and tan oak naturally occur in association with redwood over large areas of the upper watershed. Other forest trees include grand fir, Sitka spruce, western red cedar, western hemlock, and red alder in riparian zones. Understory species include salal and evergreen huckleberry.

Land use and ownership within the watershed is diverse (Exhibit 1), but is predominantly commercial timberlands owned and managed primarily by the Humboldt Redwood Company, with a small area on the South Fork, owned by Green Diamond Resource Company. The Bureau of Land Management (BLM) owns and manages the upper South Fork Elk River as part of the 7,400 acre Headwaters Forest Reserve. Rural residential areas are found along Elk River Road, and higher density residential areas are in Ridgewood Heights and Humboldt Hill (Exhibit 1). Agricultural lands used primarily for dairy and beef cattle are located along the lower and middle

reaches of Elk River. The Elk River Wildlife Sanctuary, owned by the City of Eureka, and the Elk River Wildlife Area, owned by the California Department of Fish and Wildlife, are located at the mouth of the Elk River and together comprise nearly 400 acres.

Salmonids present in the Elk River watershed include coho salmon, chinook salmon, steelhead trout, anadromous (sea-run) cutthroat trout, and resident rainbow trout. All five species use the main stem of Elk River and many of its tributaries for adult and juvenile migration, rearing, and spawning.

Project History: In 2004, the Regional Water Quality Control Board (Regional Water Board) received a petition from 64 affected Elk River residents requesting cleanup (dredging) of the instream sediment deposits to abate nuisance flooding conditions and recover beneficial uses of water. The Regional Water Board evaluated the feasibility of sediment removal and determined that it would require a better understanding of current conditions, appropriate alternatives, and potential consequences. Through interviews and site visits with residents in the Elk River valley, the Regional Water Board and the Redwood Community Action Agency (RCAA) developed conceptual alternatives for restoring channel and floodplain function in the lower Elk River and identified landowners willing to participate in projects. A Technical Advisory Committee (TAC) of experts in fluvial processes and stream channel restoration was convened in July 2008 to guide discussions about technical analyses necessary to better understand the effectiveness and potential environmental consequences of conceptual restoration alternatives.

As a result of these recent planning efforts, the regulatory framework and associated monitoring programs are largely in place to quantify and reduce sediment production from the upper basin. Because of these advances, it is an appropriate time to expand the focus to better understand impacts in the lower basin and assess the potential to restore habitat and ecosystem function given different management scenarios in the upper basin and restoration actions in the lower basin. Efforts to date by both RCAA and the Regional Water Board have laid the groundwork for working with resource protection agencies, landowners, and professionals on an Elk River restoration planning and implementation effort that includes achieving consensus, cooperation, and cost-shares.

The Conservancy has supported restoration and public access in the Elk River watershed over the last ten years. The Conservancy granted $100,000 to RCAA in 2002 to prepare the Martin Slough Enhancement Plan, which was completed in 2005. In 2011, the Conservancy funded the acquisition of a key parcel at the mouth of Martin Slough, a tributary to the Elk River, and also provided a grant to the City of Eureka to construct a trail along the river where it enters Humboldt Bay.

CalTrout and the Regional Water Board asked Conservancy staff to be involved in Elk River restoration planning in 2011, and requested assistance with the Assessment in spring 2012. Conservancy staff has worked with CalTrout to develop the project since that time.

PROJECT FINANCING

Coastal Conservancy	$100,000
State Water Resources Control Board	$401,437

Humboldt Redwood Company	$72,010
Redwood Community Action Agency	$10,000
Project Total	**$583,447**

The anticipated source of funding for this project is the fiscal year 2010 appropriation from the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). Section 5096.825 of the Bond Act states that these funds may be spent for the protection, creation, and enhancement of flood protection corridors. Consistent with this provision, the project will assess the feasibility of reducing flooding in the Elk River Watershed through various restoration actions that will also benefit fish and wildlife habitat.

State Water Resources Control Board support for the project is expected to come from its Cleanup and Abatement Account. Humboldt Redwood Company is voluntarily donating funding for the Assessment, and RCAA is providing a portion of a grant received from the State Water Resources Control Board for community outreach and restoration planning in the watershed.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project is consistent with Chapter 5.5 of Division 21 of the California Public Resources Code, regarding Integrated Coastal and Marine Resources Protection.

Consistent with Section 31220(a), the project would award a grant to improve coastal water quality and habitat through sediment management and coastal watershed restoration. The Conservancy is consulting with the State Water Resources Control Board, which is also a funder of the proposed project (See Project Financing section, above).

Consistent with Section 31220(b), the project would contribute to reducing the contamination of waters within the coastal zone by reducing erosion and enhancing sediment transport, restoring fish and wildlife habitat within a coastal watershed, reducing threats to coastal fish and wildlife, and reducing unnatural erosion and sedimentation of a coastal watershed through contributing to the reestablishment of natural sediment cycles.

Consistent with Section 31220(c), the project would include a monitoring and evaluation component, and is consistent with a local watershed management plan and the water quality control plan adopted by the Regional Water Board. (See Consistency with Local Watershed Plan and State Water Quality Control Board Plan, below).

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

Consistent with **Goal 5, Objective A** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will develop a plan for the restoration and enhancement of coastal habitats, including coastal wetlands and stream corridors.

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:** The project enjoys broad public support (See Exhibit 3).
4. **Location:** The project is partly located within the coastal zones of Humboldt County and the City of Eureka. A portion of the watershed is located outside the coastal zone, but it provides critical habitat to maintain and restore coastal salmon and steelhead populations.
5. **Need:** The project will not occur without Conservancy funding.
6. **Greater-than-local interest:** The public trust value of California's salmon, steelhead, and coastal waterfowl populations warrant the enhancement of historically rich but degraded habitat areas, such as the Elk River watershed.
7. **Sea level rise vulnerability:** The Recovery Assessment will consider a range of sea level rise scenarios for the years 2050 and 2100 to assess sea level rise effects on various restoration approaches.

Additional Criteria

8. **Urgency:** The precarious status of salmonid populations make it urgent to move forward with restoration planning.
9. **Resolution of more than one issue**: The project will address both habitat degradation and chronic flooding problems.
10. **Leverage**: See the "Project Financing" section above.
11. **Conflict resolution**: Many environmentalists and resource managers trace sedimentation and resulting habitat degradation to historic and ongoing timber harvests. Restoration planning and implementation will help resolve the conflict between environmentalists and timber companies.
12. **Readiness**: CalTrout is currently working with a stakeholder team that is ready to conduct the Recovery Assessment.
13. **Realization of prior Conservancy goals**: See the "Project History" section, above.
14. **Return to Conservancy**: See the "Project Financing" section, above.

15. **Cooperation**: RCAA and Humboldt Redwood Company will both contribute funding to the project. Landowners and residents will participate as part of the Stakeholder Advisory Group.
16. **Vulnerability from climate change impacts other than sea level rise:** The Assessment will consider the potential for more intense and frequent storm events that could occur as a result of climate change.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Humboldt LCP cites Section 30231 of the Coastal Act, as follows: "The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored…" (Humboldt LCP, 3-48). Consistent with Section 30231, this project will plan for the restoration of coastal streams and wetlands in the Elk River watershed.

The project is consistent with the City of Eureka's 1997 General Plan Policy Document (GPPD), which was certified by the Coastal Commission as an update to the City's Local Coastal Plan in 1999. The GPPD states that the City "shall maintain and, where feasible, restore biological productivity and the quality of coastal waters, streams, wetlands, and estuaries…" (GPPD Section 6.A.1, pg. B-14). The project will facilitate the restoration of biological productivity in coastal streams and wetlands in the Elk River watershed.

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

The project is consistent with the 2005 Humboldt Bay Watershed Salmon and Steelhead Conservation Plan (SSCP). The project would further multiple goals and objectives of the SSCP for the Elk River watershed, including the following:

- Maintain and restore natural flow regimes and water retention capacity (SSCP, pg. 191).
- Conduct monitoring and other studies to determine how sediment loads affect habitat conditions (including long-term trends monitoring) (SSCP, pg. 179).
- Identify areas with degraded riparian habitat and insufficient large wood recruitment potential (SSCP, pg. 185).
- Specify the general types of restoration methods needed and estimate a cost for each (SSCP, pg. 185).
- Prioritize restoration list of degraded riparian habitats (SSCP, pg. 185).

The project is consistent with the North Coast Water Quality Plan (2011), prepared by the North Coast Water Quality Control Board. The plan specifies the following beneficial uses and water quality objectives for the Elk River watershed, part of the Eureka Plain Hydrologic Unit (HU): 1) wildlife habitat, 2) rare, threatened and endangered species habitat, and 3) estuarine habitat. This project will plan for the enhancement of the beneficial uses of the Eureka Plain HU.

COMPLIANCE WITH CEQA:

The proposed project is statutorily exempt from the California Environmental Quality Act (CEQA), pursuant to 14 California Code of Regulations Section 15262. Consistent with Section 15262, the project will only involve preparation of planning and permitting documents, and will consider environmental factors. The project is also categorically exempt under Section 15306 in that it consists of basic data collection and resource evaluation activities which will not result in a serious or major disturbance to an environmental resource. Upon approval, staff will file a Notice of Exemption for this project.