

COASTAL CONSERVANCY

Staff Recommendation
November 30, 2017

LOWER CHADD CREEK FISH PASSAGE PROJECT

Project No. 17-028-01
Project Manager: Michael Bowen

RECOMMENDED ACTION: Authorization to disburse up to \$194,958 to the Eel River Watershed Group to improve anadromous fish passage by removing an undersized 12-inch diameter culvert and installing a 20 ft. wide x 40 ft. long simple span bridge on lower Chadd Creek, tributary to the South Fork Eel River, near Holmes Road in Humboldt County.

LOCATION: Holmes Road at Highway 254 (Avenue of the Giants), Eel River watershed, Humboldt County.

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

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

Exhibit 2: [Project Letters](#)

RESOLUTION AND FINDINGS:

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

“The State Coastal Conservancy hereby authorizes the disbursement of up to one hundred ninety four thousand nine hundred fifty eight dollars (\$194,958) to the Eel River Watershed Improvement Group (ERWIG), a nonprofit organization, to implement the Lower Chadd Creek Barrier Removal project to enhance habitat for anadromous fish on that tributary to the Eel River in Humboldt County, subject to the following conditions:

1. Prior to the disbursement of funds for the project, ERWIG shall submit for review and approval by the Executive Officer of the Conservancy:
 - a. A work program including a schedule and budget for the project;
 - b. The names and qualifications of all contractors to be retained for the project;
 - c. Documentation that access to the project site has been obtained for carrying out the project, including for future monitoring and maintenance of the project; and
 - d. Documentation that all necessary permits and approvals have been obtained.

2. Prior to commencement of work on the Lower Chadd Creek Fish Passage Project, ERWIG shall enter into and record an agreement with the Conservancy and the owner of the project site pursuant to Public Resources Code Section 31116(c) sufficient to protect the public interest and provide for maintenance of 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 resource enhancement.
 3. The ERWIG 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.”
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PROJECT SUMMARY:

Staff recommends disbursement of up to one hundred ninety four thousand nine hundred fifty eight dollars (\$194,958) to the Eel River Watershed Improvement Group (ERWIG), a nonprofit organization, to implement the Lower Chadd Creek Barrier Removal project to provide increased access to, and enhance habitat for, anadromous fish on that tributary to the Eel River in Humboldt County (Exhibit 1). Chadd Creek is located in the lower Eel River watershed, highly accessible to coho, steelhead trout, chinook, lamprey and coastal cutthroat trout and is considered a high priority subwatershed for fish enhancement efforts.

The project entails the removal of an undersized 1-foot diameter culvert on Chadd Creek and installation of a 20 ft. wide x 40 ft. long simple span bridge. Doing so will prevent the routine accumulation of debris in the culvert and subsequent backwatering and flooding upstream that has resulted in numerous fish stranding events within Humboldt Redwoods State Park.

Implementation of this project will immediately improve anadromous stream conditions preventing stranding during winter storm events and flooding on Highway 254. The stream crossing improvement project will improve access to upstream habitat and create an alcove within the channel that will serve as low-velocity refugia for juvenile steelhead trout, chinook, and coho salmon.

The existing culvert, possibly installed in the late 1960s, is located at the crossing of Chadd Creek and the entrance road to the Ancient Redwoods RV Park. It is adjacent to the ancient redwood groves of Humboldt Redwoods State Park. Since its construction, the culvert has been a complete or partial barrier to fish passage for three species of Pacific salmon, impeding access to the stream above. More important, the culvert is hydraulically deficient, and routinely blocks, causing flooding upstream, which in turn results in fish stranding within the State Park as high flows overtop their banks carrying juvenile salmon with them into the redwood groves. This prolonged inundation of the ancient redwood groves also threatens the health of the trees there.

One barrier on upper Chadd Creek was removed by CalTrans in 2012, and no other complete barriers exist within the system.

ERWIG is a small, local conservation group that has conducted stream enhancement efforts in the Eel River since the late 1970s. ERWIG is receiving substantial assistance on the project from Pacific Watershed Associates, a McKinleyville based company specializing in road construction, sediment control efforts and watershed restoration. Both entities have managed multiple Department of Fish and Wildlife Fishery Restoration Grants for comparable work. PWA is widely regarded as one of the most effective practitioners of fishery restoration work on the North Coast. In combination, ERWIG and PWA have the technical and procedural competence necessary to manage and complete the proposed work.

Site Description:

Chadd Creek, a tributary to the Eel River, is located in Humboldt County, California, and flows through Humboldt Redwoods State Park, entering the Eel River at about stream mile 33, south of the town of Shively and north of Redcrest. The proposed project is located at the entrance to the Ancient Redwoods RV Park, where the entrance road to that private RV park crosses Chadd Creek. The Ancient Redwoods RV Park is family owned and operated visitor attraction featuring 49 level-paved RV spaces, a convenience store and a 950-year old ancient redwood that has survived fire and flood. The park provides convenient access to adjacent Humboldt Redwoods State Park.

Humboldt Redwoods State Park contains some of the world's most majestic ancient redwood groves. The park encompasses over 53,000 acres, including 17,000 acres of old-growth coast redwoods. In 1921, Save the Redwoods League dedicated the first Memorial Grove, Colonel Raynal C. Bolling Memorial Grove, in what is now known as Humboldt Redwoods State Park. Today the park contains a diverse coast redwood ecosystem, which includes Rockefeller Forest, the largest remaining old-growth forest in the world, and the entire Bull Creek watershed. Chadd Creek is an important fish-bearing stream. It supports thriving populations of steelhead trout, Chinook and coho salmon. Chadd Creek is a second order stream and has 5.9 miles of blue line stream according to the USGS Redcrest 7.5 minute quadrangle. Chadd Creek drains a watershed of approximately 5.0 mi². Elevations range from about 200 feet at the mouth of the creek to 2,000 feet in the headwater areas. Mixed conifer forest, primarily redwood, dominates the watershed.

Project History: Chadd Creek was partially channelized through the ancient redwood groves along the Eel River sometime prior to the creation of Humboldt Redwoods State Park in 1921. Evidently, the channelization was reinforced through the construction of levees along Chadd Creek by CalTrans in the construction of and repairs to Highway 101 in 1960 and the early 1970s, respectively. During a high flow storm event in the spring of 2015, Chadd Creek breached its constructed levee. The stream avulsed, causing flooding in an old growth forest in Humboldt Redwoods State Park, Ancient Redwoods RV Park, and on Highway 254 (Avenue of the Giants). The event stranded hundreds of juvenile steelhead trout and coho salmon as the streamflow spread across an expansive low-lying area. Highway 254 flooded again in 2016 after another rain. The undersized culvert, located at the Ancient Redwoods RV Park entrance, prevented streamflow from reentering the stream channel below the levee break, causing backwatering and flooding. There is a high probability that this problem will reoccur during high flow events, until

someone replaces the problem culvert. Removal of the Chadd Creek levees and restoration of the adjacent floodplain is a longer-range goal.

The Coastal Conservancy has invested heavily in both the design and implementation of fish passage improvement and habitat enhancement projects throughout California, particularly in the North Coast region. Prior grants to the Five Counties Salmonid Conservation Program and California Trout have resulted in the reopening of more than 100 miles of high quality salmon and steelhead habitat formerly blocked by poorly constructed road-stream crossings. This in turn has resulted in numerous observations of salmon in previously inaccessible areas.

The Conservancy has also played a significant role in establishing barrier removal priorities, thereby ensuring that proposed projects are likely to yield significant biological responses in the form of returning salmon and steelhead. For instance, the Conservancy funded the development of the California Passage Assessment Database, a joint effort of the California Department of Fish and Wildlife and the Coastal Conservancy.

The Chadd Creek project advances the Conservancy's priority to reestablish the Eel River's historically high salmon populations. Stream enhancement efforts complement the Conservancy's extensive Eel River Estuary work, including the Salt River Ecosystem Restoration Project, the Eel River Estuary and Centerville Slough Enhancement Project and the Ocean Ranch Enhancement Project.

PROJECT FINANCING

Coastal Conservancy	\$194,958
Project Total	\$194,958

The expected source of Conservancy funds for this project is the fiscal year 2016/17 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732 identifies specific purposes of Chapter 6 and includes: protect and restore aquatic, wetland and migratory bird ecosystems, including fish and wildlife corridors; protect and restore coastal watersheds, including, but not limited to bays, marine estuaries, and nearshore ecosystems; and assist in the recovery of endangered, threatened or migratory species by improving watershed health, instream flows, fish passage and coastal or inland wetland restoration.

As required by Proposition 1, the proposed project provides multiple benefits. By restoring hydrologic connectivity within the subwatershed, the project, when implemented, will restore historic access to juvenile salmonid rearing habitat, reduce flooding, decrease risk of sedimentation, prevent fish stranding and improve the ecology of an ancient redwood grove within Humboldt Redwoods State Park.

The proposed project was selected through a competitive grant process under the Conservancy's *Proposition 1 Grant Program Guidelines* adopted in June 2015 ("Prop 1 Guidelines"). (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this "Project Financing" section, the "Project Summary" section and in the "Consistency with Conservancy's Project Selection Criteria & Guidelines" section of this report.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project is undertaken pursuant to Chapter 6 of Division 21 of the Public Resources Code, as follows:

Pursuant to §31251, the Conservancy may award grants to local public agencies and nonprofit organizations for the purpose of enhancement of coastal resources which, because of human-induced events, or incompatible land uses, have suffered loss of natural and scenic values. Consistent with this section, the proposed authorization provides funds to ERWIG to enhance coastal fishery resources disturbed by incompatible land uses, such as inappropriate culvert installation.

Pursuant to §31251.2(a), "In order to enhance the natural or scenic character of coastal resources within the coastal zone, the Conservancy may undertake a project or award a grant . . . to enhance a watershed resource that is partly outside of the coastal zone. . . ." This section also requires that any project conducted under this chapter must only take place "...at the request of the local public agency or agencies having jurisdiction over the entire project area." Consistent with this section, ERWIG, which operates outside of the coastal zone, requested Conservancy assistance with a project located outside the coastal zone. This assistance was also requested by the County of Humboldt in a letter to the Conservancy dated September 30, 2016 (Exhibit 2). The assistance was sought in order to implement a project intended to benefit salmon populations known to travel many miles upstream of the coastal zone boundary in order to fulfill their life history patterns. Indeed, salmon depend on unimpeded access to high quality habitat both within and outside of the coastal zone in order to survive. Restoring salmon populations to historic levels requires completion of projects to improve salmon habitat both within and outside the coastal zone.

Pursuant to §31253, "[t]he Conservancy may provide up to the total of the cost of any coastal resource enhancement project" Consistent with this section, the proposed contribution, intended for implementation of a significant project, represents the entire project cost and, in determining the funding amount, the Conservancy has considered factors relevant to project eligibility, as detailed in the "Consistency with Conservancy's Project Selection Criteria & Guidelines" section, below.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:

Consistent with **Goal 5, Objective E** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement one project to remove barriers to fish passage and provide instream habitat and favorable water temperatures.

Consistent with **Goal 5, Objective G** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement one project that 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.

**CONSISTENCY WITH CONSERVANCY'S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Promotion and implementation of state plans and policies:** The project is consistent with the following state plans and policies concerning restoration of riparian habitat and increasing natural production of the coastal salmon populations that depend upon that habitat for certain life history stages.
 - a. The California Department of Fish and Wildlife completed its assessment of the Eel River watershed and provided recommendations for restoration of salmonid stocks. The 1997 report, *Eel River Salmon and Steelhead Restoration Action Plan* recommended actions such as removing barriers, reducing sediment inputs, improving riparian forest conditions, reducing water withdrawals, habitat enhancement, and suppressing Sacramento pikeminnow. Thus, the project is consistent with this plan.
 - b. The Project is consistent with the California Fish and Wildlife issued *Recovery Strategy For California Coho Salmon* of February 2004. In that document, and under the Weott Hydrologic Unit, the plan recommends "(t)reat the prioritized culverts that are barriers to coho salmon passage along Avenue of the Giants, through collaborative efforts with other agencies." The project site is a prioritized barrier along Avenue of the Giants. (ER-WE-04 pg. 9.59).
 - c. 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 specifically identifies Chadd Creek as a stream with "high intrinsic potential," and one where Coho are consistently observed. Top recommendations from the report for the project area and estuary include the removal of barriers and treatment of sediment sources.
 - d. Finally, the Project is consistent with the California Water Action Plan, a collaborative effort of the California Natural Resources Agency, the California

Environmental Protection Agency, and the California Department of Food and Agriculture. This plan was developed to meet three broad objectives: more reliable water supplies, the restoration of species and habitat, and a more resilient, sustainably managed water resources system. It lays out the state's challenges, goals and actions needed to put California's water resources on a safer, more sustainable path. The plan identifies ten overarching strategies to protect our resources, include two particular to this project that the Conservancy can help implement: 4) *Protect and restore important ecosystems (restore coastal watersheds and strategic coastal estuaries to restore ecological health and nature system connectivity to benefit local water systems and help defend against sea level rise, eliminate barriers to fish migration)* and 7) *Increase flood protection (encourage flood projects that plan for climate change and achieve multiple benefits).*

3. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
4. **Support of the public:** The proposed project enjoys the support of Humboldt County, NOAA Fisheries, State Parks and the California Conservation Corps (See Exhibit 2).
5. **Location:** Chadd Creek is tributary to the Lower Eel River and is located between Redcrest and Shively, Humboldt County. The project site is entirely outside of the coastal zone, but will benefit coastal resources by providing coastal salmon populations with sufficient habitat to fulfill their life history patterns.
6. **Need:** The Conservancy is the only proposed funder for this project. Absent Conservancy support, the grantee will have insufficient funds to pursue this project.
7. **Greater-than-local interest:** The iconic ancient redwood groves in Humboldt Redwoods State Park have attracted visitors since the early twentieth century. Avenue of the Giants is an especially popular route for tourists, and the Ancient Redwoods RV Park hosts many of them. The opportunity to highlight salmon restoration along this well-travelled route provides an excellent chance to showcase coastal counties, coastal fisheries, and coastal communities that depend upon those fisheries. Population declines have adversely impacted sport and commercial fishing sectors of the economy. The commercial salmon season remained closed on the Northcoast this year due to depressed Klamath River stocks. Absent abundant fisheries, this ready source of a high quality sportfish and seafood product will, for practical purposes, disappear from our lives. Recovering coastal salmon populations to sustainable levels is of national interest, and California can and should play a major role in this effort. Reopening historic habitat while improving infrastructure that supports local, tourist-based economies is a good way to achieve this goal.
8. **Sea level rise vulnerability:** Located well outside the coastal zone, the proposed project is unthreatened by sea level rise.

Additional Criteria

9. **Urgency:** Leveraging the success of past investments in recovery while Eel River fish populations are rebounding is of the greatest importance so that in future years of depressed populations increased habitat availability will help offset lower returns of fish.

10. **Resolution of more than one issue:** Like all barriers to fish passage, the lower Chadd Creek site represents the common theme of industrial development achieved at the expense of habitat quality. Thus, it represents the opportunity to bring past developments into compliance with recent standards that simultaneously promote industrial progress, flood control and natural resource enhancement.
11. **Leverage:** See the “Project Financing” section above.
12. **Conflict resolution:** The proposed project seeks to alleviate flooding while improving habitat, avoiding fish stranding and increasing access to a riverside park.
13. **Readiness:** ERWIG and its partner PWA have demonstrated their ability and desire to commence and complete the project timely.
14. **Realization of prior Conservancy goals:** “See “Project History” above.”
15. **Cooperation:** This project entails cooperation and dedication of resources from a variety of parties, notably the private landowner, State Parks, and the County of Humboldt.
16. **Vulnerability from climate change impacts other than sea level rise:** The project site has been reviewed for its probable hospitability to pacific salmon populations in an era of climate change. In most years, heavily forested Chadd Creek enjoys cool and relatively undiverted streamflows that are likely to support pacific salmon populations for the foreseeable future.
17. **Minimization of greenhouse gas emissions:** The applicant will ensure that the contractors employ best management practices (e.g. low idling rates) during project construction so as to minimize greenhouse gas emissions.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The proposed authorization will support a project in Humboldt County. The project site is entirely outside of the coastal zone, but the aquatic resources and habitat quality of stream channels within and outside of the coastal zone boundaries are inextricably linked. Barriers to fish passage affect coastal resources regardless of barrier location within the watershed. The anadromous fish populations that spend part of their life history within the coastal zone reside for extended periods outside of the coastal zone, and therefore depend upon free passage within a watershed throughout their life history.

The authorization is consistent with the relevant portions of the Humboldt Bay Local Coastal Program (LCP), which was certified by the Coastal Commission on October 14, 1982, and which states:

“The biological productivity and the quality of coastal waters, (and) streams . . . appropriate to maintain optimum populations of marine organisms . . . shall be maintained, and, where feasible, restored through . . . minimizing alteration of natural streams.”
(LCP, 3-55)

“New development within stream channels shall be permitted when there is no less environmentally damaging feasible alternative, where the best feasible mitigation measures have been provided to minimize environmental effects, and shall be limited to . . . wetlands, fishery, and wildlife enhancement and restoration projects. . . .” (LCP, 3-56)

Because the proposed authorization will implement a project designed to improve sediment flushing by restoring natural geomorphologic processes, and open up previously unavailable habitat, the proposed authorization is entirely consistent with the LCP Policy stated above.

COMPLIANCE WITH CEQA:

Staff has reviewed the proposed project in its totality, and determined that the overall project is exempt from the California Environmental Quality Act (CEQA) pursuant to the CEQA Guidelines, Title 14 of the California Code of Regulations, sections 15333, as follows.

The Lower Chadd Creek Fish Passage Project is exempt under section 15333 because this implementation project is a small habitat restoration project that cumulatively does not exceed five acres in size and will assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife. The project meets the additional conditions of this categorical exemption in that there would be no significant adverse impact on endangered, rare or threatened species or their habitat pursuant to CEQA Guidelines section 15065; there are no hazardous materials at or around the site; and the project will not result in significant impacts when viewed in connection with the effects of past, present, or probable future projects. Replacement of the failing, hydraulically deficient undersized culvert with a bridge will substantively increase conveyance capacity, improve habitat and reduce sedimentation within this watershed. Any associated riparian planting and revegetation along the stream required by Best Management Practices or permit terms will measurably improve habitat with no material risk of adverse effect to the environment. Removal of the existing structure and vast quantities of fill over it will reduce the risk of culvert failure that in turn could cause the delivery to the Eel River of sediment. This action will provide immediate habitat benefits and provide a preventative measure against future introductions of silt and mud to a productive watershed. In addition to these long-term beneficial effects, by design and approach, this project construction work will not impact the endangered fish species because best management practices identified in the CDFW's Restoration Manual and in permit terms established by NOAA Fisheries and CDFW will be employed by the grantee and its contractors. Consistent with Section 15333, culvert removal will be undertaken in accordance with these published guidelines and permit terms.

Staff will file a Notice of Exemption upon approval.