

COASTAL CONSERVANCY

Staff Recommendation

October 2, 2014

**FISH CREEK FISH PASSAGE PROJECT**

Project No. 14-037-01

Project Manager: Michael Bowen

**RECOMMENDED ACTION:** Authorization to disburse up to \$600,000 to Trout Unlimited in order to remediate the fish passage barrier on Fish Creek, tributary to the South Fork Eel River in Humboldt County.

**LOCATION:** Avenue of the Giants near Miranda, Eel River watershed, Humboldt County.

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

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

Exhibit 2: [Fish Creek Basis of Design Report](#)

Exhibit 3: [Fish Creek Correspondence](#)

Exhibit 4: [Project Letters](#)

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**RESOLUTION AND FINDINGS:**

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

“The State Coastal Conservancy hereby authorizes the disbursement of up to six hundred thousand dollars (\$600,000) to Trout Unlimited, a nonprofit organization, to implement the Fish Creek Salmonid Barrier Removal project to enhance habitat for anadromous fish on Fish Creek, tributary to the Eel River in Humboldt County, subject to the following conditions:

1. Prior to the disbursement of funds for the project, Trout Unlimited 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. All contractors to be retained for the project.
  - c. Documentation that Trout Unlimited has secured all funding needed for the project, including agreement by the California Department of Transportation (Caltrans), as owner of the project site, to commit resources, in the form of staff time and additional monetary contributions, as needed for the timely review and approval of the design of the project

and for the implementation and completion of the project and future monitoring and maintenance of the project improvements.

- d. Documentation that all necessary permits and approvals have been obtained.
2. Prior to commencement of work on the Fish Creek Fish Passage Project, Trout Unlimited shall enter into and record an agreement with Caltrans and approved by the Conservancy, pursuant to Public Resources Code Section 31116(c), that authorizes Trout Unlimited to carry out and monitor the project and to enter the property for those purposes and that is sufficient to protect the public interest in and provides for long-term monitoring and maintenance by Caltrans of the project improvements.”

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. Trout Unlimited 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 \$600,000 to Trout Unlimited to construct a fish passage improvement project at Fish Creek in the Eel River watershed in Humboldt County (Exhibit 1). The project site is amongst the highest priority fish barriers in the entire Eel River watershed and project implementation will almost surely lead to direct and measurable increases in coastal salmon populations.

Trout Unlimited will remove a complete barrier to fish passage that is located 440 feet upstream of Fish Creek’s confluence with the South Fork Eel River. The existing culvert, constructed in 1930, is located at the crossing of Fish Creek and Avenue of the Giants, otherwise known as State Highway 254. It is adjacent to and downstream of the ancient redwood groves of Humboldt Redwoods State Park. Since its construction the culvert has been either a near complete or complete barrier to fish passage to three species of Pacific salmon, blocking access to the entire three mile stream. In addition, the culvert is hydraulically deficient, and therefore at risk of failure. It is the only barrier in Fish Creek, and it is the highest priority barrier on a State highway in all of CalTrans District One, arguably the district with the most significant coastal salmon resources.

The existing culvert is a 7-foot wide, 6-foot high, 184-foot long concrete, single-bay, box culvert set at an 8% grade that is impossible for fish to ascend. The outlet has a 9 x 45-foot long concrete apron, and the culvert invert is composed of eroding concrete and exposed rebar. A CDFG field survey dated April 30, 1969 made the following observation following a routine

electrofishing operation: “No fish were found above this culvert. Silver salmon and steelhead young of the year were found below this culvert. At this date, this culvert remains a complete barrier to anadromous fish.” (DFG, 1969).

Pursuant to the Conservancy’s proposed authorization, Trout Unlimited will replace the existing culvert with a fully passable arch culvert that is hydraulically and ecologically suitable for the site. Doing so will decrease maintenance needs and risk of failure while also providing immediate habitat benefits to state and federally listed pacific salmon populations. These improvements are detailed in the basis of design report for the proposed improvement (Exhibit 2). With the new arched culvert in place, salmon and steelhead will have immediate access to three miles of healthy habitat for rearing and spawning.

Trout Unlimited is a national coldwater fisheries conservation organization with over 150,000 members nationwide (over 10,000 in California) and over 200 professional staff nationwide (12 in California) dedicated to conserving, protecting, and restoring North America’s trout and salmon fisheries and their watersheds for the next generation. Since establishment of their North Coast Coho Program in 1998, Trout Unlimited has advanced fishery enhancement work in California substantially. The organization has managed multiple Department of Fish and Wildlife Fishery Restoration Grants for comparable work, and is widely regarded as one of the most effective practitioners of fishery restoration work on the North Coast. Trout Unlimited currently manages two grants from the Coastal Conservancy for water conservation projects in coastal streams, and has demonstrated the technical and procedural competence necessary to manage and complete the proposed work.

**Site Description:**

Located a short distance north of Garberville near Miranda, Fish Creek is a 2.8 mile long and remarkably scenic creek flowing through the ancient redwood groves of the Alexander Grove within Humboldt Redwoods State Park. The project site is at milepost 4.18 on Avenue of the Giants (Highway 254). The road crossing of Highway 254 over Fish Creek establishes a complete barrier to fish passage 440-feet above Fish Creek’s confluence with the South Fork Eel River. Fish Creek is one of the few and iconic creeks along the Avenue of the Giants hosting intact and large stands of redwood groves. The project site is a frequent pull-off for motorists enjoying Alexander Grove and the scenic beauty of the North Coast. In fact, visitors are inevitably drawn to the ancient redwood tree directly adjacent to the project site that has proven to be the most significant design constraint for the engineers attempting to develop final plans. The project has been designed to protect all nearby ancient trees and at the same time to reopen aquatic access to nearly three miles of scenic salmonid habitat with immense ecological potential.

**Project History:**

The Coastal Conservancy has invested heavily in both the design and implementation of fish passage improvement projects throughout California, particularly on the North Coast, and specifically at Fish Creek. Prior grants to the Five Counties Salmonid Conservation Program 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 Conservancy co-chairs the Fish Passage Forum, a multi-agency venture dedicated to streamlining the reopening of historic but blocked fish habitat. The Forum recently joined the National Fish Habitat Partnership; a national association of similar groups dedicated to restoring native fish populations, and has demonstrated to the partnership its leadership in pioneering the removal of high priority barriers to fish passage.

The Fish Creek project comports strongly with the Conservancy's priority to reestablish the Eel River's historically high salmon populations. In addition to the Conservancy's extensive Eel River estuary enhancement activities, such as the Salt River Ecosystem Restoration Project, the Eel River Estuary Preserve Project and the Ocean Ranch Enhancement Project. Notably, the Conservancy and the Sonoma County Water Agency co-funded the Center for Ecosystem Management and Restoration (CEMAR) to conduct a literature search of Eel River historic records, and to conduct an evaluation of high priority fishery enhancement opportunities within the Eel River. This effort, completed in 2008, identified key watersheds suitable for enhancement efforts that could measurably improve populations of salmon and steelhead in the watershed. Fish Creek ranked as a high priority.

Fish Creek has also ranked highly and figured prominently in assessments of barrier severity on State Highway crossings. Fish Creek is, according to CalTrans's own assessment, the highest priority barrier in all of District One, including Del Norte, Humboldt Mendocino and Lake counties. In 2005, Fish Creek was ranked as the highest priority project during a Caltrans District 1 Study (Lang et al, 2001-04). The culvert met neither CDFW nor NOAA Fisheries fish passage criteria, and replacement with a structure that provides unimpeded fish passage was recommended.

Yet the Fish Creek Project history is complicated, as evidenced by the project correspondence (Exhibit 3). After more than four decades of fish blockage, and at the urging of the California Department of Fish and Game, the entire length of the culvert was retrofitted with eight concrete ramp-style baffles in the 1970s. Unfortunately, that effort met with limited success. Although the baffles may have rendered the culvert partially passable to steelhead at limited times, the severity of the barrier remained acute, and the remediation need remained high. Since that time, the retrofit has deteriorated, and the baffles soon exhibited exposed rebar, rendering the improvement useless. In 1993 CDFW located steelhead, Chinook, and Coho salmon trapped in the outlet pool downstream of the existing culvert. Few have ever been documented above the culvert.

Since July 2005 representatives of the State Coastal Conservancy (SCC), CalTrans, CDFW, California State Parks, NOAA and the Five Counties Salmonid Conservation Program have met frequently to discuss and coordinate on the design alternative selected for this application. With Conservancy funding administered by the 5C Program, Newfields Engineering completed a 65%

design for the crossing structure. In addition, and due to the proximity of ancient redwood trees to the existing structure, a root impact assessment report was completed by Mark Lancaster, Registered Professional Forester, of the Five Counties Salmonid Conservation Program. Conservancy staff, in cooperation with Trout Unlimited the Five Counties Program, the Fish Passage Forum and others, has struggled for ten years to help CalTrans incorporate fish passage barrier remediation into their daily operations. Project proponents of Fish Creek are very hopeful that this project will represent a starting point for District One of CalTrans to make substantial progress on fish passage improvement, progress that has been halting since the passage of SB-857 in 2003 and attempted passage of AB-1189 in 2009 directed CalTrans to make progress in this arena.

The proposed project represent the first occasion in which District One of CalTrans has been willing to accept third party assistance with the remediation of a barrier on a State Highway under an encroachment permit. The partnership with CalTrans is developing, and this proposal seeks to leverage multiple partners and funding sources in order to prompt a more effective fish passage improvement program on State highways. Cooperation with CalTrans at these highest priority sites is vital to the recovery of State and federally listed salmon populations.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$600,000</b>
California Department of Fish and Wildlife (pending)	\$854,954
<b>Project Total</b>	<b>\$1,454,954</b>

The anticipated source of the Conservancy's funds will be the fiscal year 2009/2010 appropriation from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). The project is appropriate for funding under this source as these funds are available for the acquisition, enhancement, restoration, protection and development of coastal resources in accordance with the Conservancy's enabling legislation. Projects that restore natural resources are given priority if they meet one or more of the criteria specified in Public Resources Code § 75071. The proposed restoration project satisfies the following specified criteria: (a) Landscape/Habitat Linkages, the project will contribute to linking creek habitat for endangered fish species to other creek habitat and to the ocean and facilitate needed movement of these endangered species; and (b) Watershed Protection – the project will contribute to long-term protection of and improvement to the water and biological quality of the Eel River and the near shore area of the Pacific Ocean, and; (c) Non State Matching Funds, the project team has requested that federal funds from the CDFW's Fisheries Restoration Grant Program be applied to this project to enhance non state match.

CalTrans has not committed financial support to this project yet. However, they have conducted an essential geotechnical evaluation of the site at Conservancy request, a task valued at approximately \$10,000. Moreover, CalTrans staff is seeking additional funding to contribute to the project implementation, though no commitments have yet been made. CalTrans staff review time for the project is tentatively committed, and it is expected that contributions of CalTrans

staff time to this project will be significant, substantial and fundamental to the success of the project. The board authorization reflects a requirement for commitment by Caltrans of financial contributions to the project by CalTrans.

Additional funding needed for the project is anticipated through a pending grant application made by Trout Unlimited. Trout Unlimited has submitted an application to the CDFW Fishery Restoration Grant Program (FRGP), which disburses funds of federal origin. The FRGP grant, if awarded, would provide funds necessary for implementation. CDFW engineering staff has reviewed and approved the existing design, and CDFW grant staff has held a site visit to review the application in the field. The review and site visit went quite well, and CDFW staff encouraged forward movement of the application. Due to the lengthy history, and acknowledged priority of the project, the application is expected to fare well in the review process. Finally, Trout Unlimited will contribute about \$5,000 in project management and post project monitoring services towards the project.

**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 Trout Unlimited to enhance coastal fishery resources disturbed by incompatible human-induced events or land uses, such as inappropriate culvert installation. In addition to blocking the migration of coastal salmon, undersized or inappropriately situated culverts such as that at Fish Creek restrict basic geomorphic processes and cause significant bedload to aggrade behind the culvert. This phenomenon increases the risk of catastrophic culvert failure during peak storm events, a situation that presents the risk of substantial and deleterious sediment input to coastal watersheds.

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. . . .” Consistent with this section, Trout Unlimited, which operates inside and outside of the coastal zone, requested Conservancy assistance with projects located outside the coastal zone. This 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. If salmon and other highly prized aquatic resources are to be maintained and restored to historic levels, projects to improve salmon habitat must be undertaken both within and outside the coastal zone. Section 31251.2 also requires the review and approval of the California Department of Fish and Wildlife. As a pending co-funder of the Fish Creek project, and supporter of similar projects nearby such as Bridge and Woodman Creek, the Department fully endorses the proposed Conservancy funding, which furthers the objectives of

Trout Unlimited in the context of this grant request. A support letter for this authorization from the Department is included in Exhibit 4.

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 a reasonable component of the overall 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):**

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. Aging culverts are notorious for failing during significant storm events, delivering substantial sediment pulses adverse to fishery resources in the process. The proposed project will prevent that outcome by ensuring that the active stream channel and accompanying sediment load are matched.

**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 proposed project enjoys the support of U.S. Congressman Jared Huffman, State Senator Noreen Evans, Assemblyman Wesley Chesbro, Humboldt County, NOAA Fisheries, CDFW, the Five Counties Salmonid Conservation Program, and many others. (See Exhibit 4).
4. **Location:** 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. Fish Creek is tributary to the South Fork Eel and is located near Miranda, Humboldt County.

5. **Need:** The grant funds proposed for this project are subject to the receipt of sufficient matching funds from CDFW for implementation. Absent Conservancy support, the grantee will have insufficient funds to pursue this high priority project.
6. **Greater-than-local interest:** The State is the sum of its parts, and few parts are more important to the health and well-being of the State than its coastal counties, coastal fisheries, and coastal communities that depend upon those fisheries. Sportfishing is of ever-increasing importance to the State economy, and substantial investments have been made in creative marketing for commercial fisheries, but absent abundant fisheries, a ready source of a high quality sportfish or seafood product will, for practical purposes, disappear from our markets. 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 public infrastructure where advisable is an excellent way to achieve this goal.
7. **Sea level rise vulnerability:** Located well outside the coastal zone, the proposed projects suffer no vulnerability from sea level rise.

#### **Additional Criteria**

8. **Urgency:** For three years the Eel river has enjoyed record returns of salmon and steelhead. Leveraging the success of past investments in recovery while populations are high is of the greatest importance so that in future years of depressed populations increased habitat availability will help offset lower returns of fish.
9. **Resolution of more than one issue:** Like all barriers to fish passage, the Fish 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 promote both industrial progress and natural resource enhancement. However, Fish Creek has also become a symbol of our urgent need, and seeming inability as a society, to remediate barriers to fish passage on state highways. This challenge, which other Pacific states have grappled with, is nowhere more apparent than Fish Creek where remediation has languished for decades. Restoration of this site represents an urgently important opportunity for the State of California to show that infrastructure can and should be improved and upgraded to protect and enhance transportation while improving coastal stream habitat.
10. **Leverage:** See the “Project Financing” section above.
11. **Conflict resolution:** As described in number 9, above, the proposed project poses an opportunity to terminate decades of disagreement between resource agencies and CalTrans about the nature and severity of barriers on state highways and the manner in which the barriers should be remedied.
12. **Readiness:** Trout Unlimited has demonstrated its ability and desire to commence and complete the project timely.
13. **Realization of prior Conservancy goals:** “See “Project History” above.”
14. **Cooperation:** This project entails extensive cooperation and dedication of resources from a variety of parties, notably CalTrans, State Parks, Trout Unlimited, CDFW and the Coastal Conservancy.



15. **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 Fish Creek enjoys cool and relatively undiverted streamflows that are likely to support pacific salmon populations for the foreseeable future.
16. **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 proposed project is consistent with the language of the Humboldt Bay Local Coastal Program (LCP) in the following respects:

Humboldt County

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 restore habitat connectivity in a high priority coastal stream, restore riparian habitat and generally enhance the geomorphic and biological function of this coastal watershed for the benefit of coastal watersheds, 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, section 15333, as follows.

The Fish Creek Fish Passage Project is exempt under section 15333 because this implementation project is a small habitat restoration projects 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. Each of the projects has been reviewed and endorsed by CDFW and each is intended and designed to have beneficial effect on endangered species. Replacement of the failing, hydraulically deficient, undersized culvert at Fish Creek with a 19.5' arch culvert will substantively increase conveyance capacity, improve habitat and reduce sedimentation within this watershed. Riparian planting and restoration along the stream will also measurably improve habitat with no material risk of adverse effect to the environment. 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(d)(6), the culvert replacement will be undertaken in accordance with these published guidelines and permit terms.

Staff will file a Notice of Exemption upon approval.