

# Sharber-Peckham Creek Fish Passage Project | 2015

## Sharber-Peckham Creek Fish Passage Project

### Introduction:

The Northwest California Resource Conservation and Development Council will restore fish access into up to 1 mile of Sharber-Peckham Creek by replacing an existing crossing barrier at Fountain Ranch/Quinby Road with a new culvert.

1. This project is necessary because there is a migration barrier to anadromous salmonids on Sharber-Peckham Creek that blocks access to spawning and rearing habitat. Restoring complete migration access to Sharber-Peckham Creek will allow use of over one mile of suitable spawning, over-wintering and rearing fisheries habitat.
2. This project would allow upstream migration of spawners, presently stopped at the outlet of the culvert, and allow for passage of juveniles seeking cold water refugia, greater food sources and increased habitat availability. Sharber-Peckham is one of the relatively few low gradient tributaries to the Trinity River and is therefore very important for coho. By increasing access to more suitable habitat within the Sharber-Peckham drainage, this will allow for the possibility of natural production, the reproduction of native non-hatchery fish. The Trinity River is chronically temperature impaired. Thermal refugia provided by tributaries to the river like Sharber-Peckham are critical to overall recovery of listed salmon.
3. The Grantee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured.
4. All habitat improvement will follow techniques in the *California Salmonid Stream Habitat Restoration Manual* Parts VI, VII, IX and XII (Flosi et al 1998 and 2002).

### Objective(s):

The objective of this project is to address task "SONCC-LTR.5.1.32.2 – remove barriers, guided by the assessment" from the *Recovery Strategy for So.OR/No.CA Coast Coho Salmon* by implementing the replacement of one existing culvert that is impassable to salmonids at various life history stages and various flows with an embedded bottom culvert that is passable to all life stages of salmonids for the range of fish passage flows.

### Project Description:

#### Location:

The fish passage barrier to be replaced lies at the crossing of Fountain Ranch/Quinby Road and Sharber-Peckham Creek, about 0.2 mile upstream of the confluence with the Trinity River at 40.89719400 N; -123.56276600 W.

#### Project Set Up:

The Program Director will facilitate the design process; oversee environmental analysis, review and permitting; review and prepare bid documents; oversee installation of a water diversion/by-pass; oversee construction of the new culvert

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and simulated streambed; and conduct implementation and effectiveness monitoring.

The Project Coordinator will facilitate the design process; oversee environmental analysis, review and permitting; review and prepare bid documents; help install fish exclusion fencing and relocate fish from the project area prior to construction; assist with construction of the new culvert and simulated streambed; oversee restoration of the road surface to pre-construction condition; oversee traffic detouring; and oversee well and utility line management.

The Field Technician will help install fish exclusion fencing and relocate fish from the project area prior to construction; oversee installation of a water diversion/by-pass; assist with construction of the new culvert and simulated streambed; monitor regularly during construction for any failure of exclusion devices; conduct implementation and effectiveness monitoring; and conduct physical and biological monitoring.

The Account Clerk will review and prepare bid documents.

The Office Manager will monitor construction activities daily to ensure that contracts are being implemented properly and all provisions to safeguard the environment and public safety are being strictly adhered to.

The Licensed Engineer will finalize project design, construction bid drawings, and specifications and oversee restoration of the road surface to pre-construction condition.

The Fisheries Biologist will install fish exclusion fencing and relocate fish from the project area prior to construction; and conduct implementation and effectiveness monitoring.

The USFS Coordinator will conduct physical and biological monitoring; and conduct implementation and effectiveness monitoring.

The USFS Technician will conduct physical and biological monitoring.

A Licensed Contractor will install a water diversion/by-pass; remove the existing culvert; construct the new culvert and simulated streambed; restore the road surface to pre-construction condition; stabilize the banks; and detour traffic.

A licensed electrical/plumbing contractor will ensure that wells and utility lines are secured or relocated.

### **Materials:**

Materials will include structural backfill, non-structural backfill, road base, bank stabilization materials, a temporary culvert, a multi-plate arch culvert, simulated

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streambed material, stakes, flagging, nails, sandbags, a water tank, water diversion supplies, seed, plants, wattles, and weed-free mulch.

### **Tasks:**

The grantee will complete the following tasks (tasks funded by sources other than FRGP are indicated with an asterisk\*):

#### Task 1: Complete draft and final engineering and design\*

The finalized design, construction bid drawings and specifications will be submitted to CDFW for approval. The finalized design, construction bid drawings and specifications will be subcontracted to a licensed engineer for development.

The Project Coordinator and Project Director will facilitate the design process.

#### Task: Permitting\*

All necessary permits will be secured and submitted to CDFW. Environmental analysis, review and permitting will be overseen by the Project Coordinator and Program Director with the assistance of specialized 5C staff.

#### Task 3: Project Bid Period & Construction Contract Approval\*

Construction will be completed by one to multiple subcontractors, with engineering inspection provided by the licensed engineer hired to finish the design plans. Project construction will be contracted out by 5C Program Staff. Review and preparation of bid documents will be done by the Program Director, Project Coordinator and Account Clerk. Subcontracts will be submitted to CDFW for review.

#### Task 4: Construction

Construction of the Sharber-Peckham Creek multi-plate arch ellipse with an embedded bottom will begin mid-summer 2015. Best Management Practices as described in A Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds will be applied throughout the construction phase of this project.

The full manual is available at: [www.5counties.org/roadmanual.htm](http://www.5counties.org/roadmanual.htm)

The project will include:

- Fish removal and exclusion: Prior to removal of fill, existing pipe and installation of the multi-plate arch ellipse, block nets will be placed upstream and downstream of the culvert removal site and seined or electrofished to remove all aquatic species present, which include coho and steelhead, with possibly some Chinook. The organisms will be relocated at least 100 feet outside of the project area. This work

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will be performed by Ross Taylor and Associates, a permitted professional fisheries biologist, with the help of the Project Coordinator and the Field Technician.

- Water Management-Water diversion/by-pass: The creek will need to have a by-pass installed, which would consist of routing the flow through PVC pipe and plastic sheeting while maintaining a pump with a diesel or electric generator prior to excavation of the culvert. This will be installed by the contractor with direction and support from 5C Program Director, Project Coordinator and Field Technician. Use of a pumping and routing system will be used to remove all water from the immediate location of the culvert. A total length of approximately 350 feet will be dewatered. The pump may need to run continuously, 24 hours a day, 7 days a week for up to six weeks (flow dependent). This may require the use of either a diesel pump, or if possible, electricity will be made available at the site for the use of an electric pump. This work will be performed by a licensed electrical/plumbing subcontractor. Water traveling downstream will be routed through temporary piping where it will be released in the lower remaining 400 feet of Sharber-Peckham Creek before its entry into the Trinity River. Measures will be in place to capture any sediment that may route via the diverted water before it re-enters the stream. The water by-pass will accomplish three goals: 1) remove excess water from the immediate construction site; 2) prevent injury to juvenile salmonids; and 3) maintain the cool water refugia at the mouth of Sharber-Peckham Creek for riverine fish.
- Excavation -Removal of existing culvert: The project will require removal of approximately 700 cubic feet of road-bed material from above and below the existing culvert. During culvert replacement, material excavated will be temporarily stored outside the immediate riparian area. Some of this material will be used on top of the proposed elliptical culvert. Excess material shall be removed from site via dump truck and disposal of at a location approved by Trinity County. Use of an excavator to remove the existing culvert will occur within the stream channel approximately 200 feet above and below the existing centerline of the road.
  - The old culvert will be disposed of at an approved site. The current road bed is approximately 16 feet wide. The potential exists for disturbance of approximately 200 feet of riparian vegetation both upstream and downstream of the current culvert location, which may include removal of existing alder trees. An excavator will be used to remove the existing culvert and excavate within the stream channel to a width and depth

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necessary for placement of the new structure and adjacent compaction of fill materials. Excavation of the channel to achieve the desired grade upstream will extend approximately 150 feet upstream of the inlet of the culvert. Excavation will necessitate removal of approximately 200 square feet of riparian vegetation (majority of vegetation is non-native blackberries) both upstream and downstream of the current culvert location. Removal of all construction materials from the site will occur within 2 weeks following completion of the project. This work will be performed by a licensed subcontractor.

- **Construction of Culvert - New structure and simulated streambed:** The construction of the 14'-11" span x 11'-2" rise multi-plate ellipse culvert will be constructed with an embedded (approx. 3 feet) simulated streambed bottom. There will also be five rock ribbons installed within the culvert to maintain grade and retain the simulated streambed material within the structure. The design includes additional instream work of grade control structures which will maximize the beneficial effects of culvert replacement and improve both rearing and spawning habitat. Sub-surface grade control rock ribbons will be embedded into the streambed, both upstream and downstream of the new culvert. These ribbons will be set at or below the design channel grade to reduce the potential for upstream headcutting and downstream scouring. Upstream, they will be placed at approximately 5 feet, 75 feet, and 180 feet upstream of the culvert. Downstream, they will be placed at the culvert outlet, and at the site of three existing boulder weirs. These weirs will be converted to subsurface grade control rock ribbons in order to allow juvenile fish passage. The first rock weir is approximately 45 feet downstream of the culvert outlet. The second rock weir is 40 feet beyond the first, and the third weir is 45 feet beyond the second. An excavator will likely access the first rock weir via the access road on the east side of the creek. From this access road, the excavator will travel approximately 50 feet to the creek, impacting vegetation consisting of invasive Himalayan blackberry, stinging nettle and poison hemlock. The excavator will then likely travel within the creek channel to each of the rock weirs, for a total maximum distance of 150 feet. This work will be conducted by a licensed subcontractor, with assistance from the Project Coordinator and Field Technician and supervision by the Program Director.
- **Roadway and Backfill:** Structural backfill and compaction around the new culvert will occur immediately following completion of the culvert and simulated streambed construction. Non-structural backfill and road base will be placed and compacted. The road surface will be restored to pre-construction condition. All road work will be done by a

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licensed subcontractor with oversight by the Project Coordinator and contracted licensed Engineer.

- **Equipment:** Some equipment that may be necessary will include large trucks necessary to deliver equipment and supplies, excavator, dump trucks, water truck for dust abatement on the remaining road prism, other heavy equipment required for the delivery of construction materials and preparation and compaction of the road surface, and gas or diesel powered electric generators for all power tools and operation of by-pass pump. Staging areas for all equipment delivery and storage will be kept outside of the riparian area. Fueling and lubricating of all equipment shall be done well outside the riparian area.
- **Bank stabilization and erosion control:** This will include installation of geotextiles or mulch and aid in the prevention of noxious weed introduction to the disturbed site. Bank stabilization will occur along the downstream bank opposite the wells and along the upstream and downstream side of the fill slope. Methods for bank stabilization will use 1-2 ton RSP. Bank stabilization will be done by a licensed contractor, with the assistance of 5C staff. Upon project completion, the necessary final erosion controls will be installed at the project sites. All disturbed areas will be re-vegetated with native seed/riparian plantings suitable for the project area and/or mulched with certified weed-free mulch. The level of disturbance for this project is anticipated to be minimal, but all applicable BMPs for reducing sediment delivery to the stream (Roads Manual Appendix B, Part 4) will be adhered to throughout construction. All permanent and temporary spoils will be stored in a manner to prevent sediment delivery to any stream/waterway throughout and after project construction. A temporary spoils location and stabilization plan will be prepared by 5C staff for the contractor to use, including incorporation of the Roads Manual spoils storage BMPs (Chapter 5 and Appendix B, Part 4).
- **Detour Road - Traffic control:** In order to prevent a road closure to area residents, a temporary detour road will be installed approximately 30 feet upstream of the existing culvert. This detour road will be within the dewatered channel and constructed with road fill, road base and will have a temporary CMP in place in the event of a summer thunderstorm. Short-term closures may occur, but with the detour road in place, residents and emergency vehicles will be able to pass. All efforts will be made to maintain an open roadway. This work will be done by subcontractor and overseen by the Project Coordinator.

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- Utilities: 5C staff and contractors will ensure that wells and utility lines within the project area are secured, or safely relocated to a new location to prevent interruptions in services to residents. This may require excavation to relocate the lines. If interruptions are foreseen, other accommodations, such as temporary water tanks, or water delivery will be installed or provided. This work will be done by a licensed electrical/plumbing subcontractor and overseen by the Project Coordinator.

### Task 5: Monitoring

Implementation and effectiveness monitoring will occur as specified below and according to procedures found in the “California Salmonid Stream Habitat Restoration Manual” in order to ensure the project is carried out as planned and that fish passage is realized. Monitoring activities will be performed by Ross Taylor and Associates and 5C staff, including Program Director, Project Coordinator and Field Technician. All monitoring data associated with the project will be reported to all organizations that fund the project in the form of progress or final reports as specified in the grant agreement, as well as having the final report posted to the Five Counties Salmonid Conservation Program’s (5C) website ([www.5counties.org](http://www.5counties.org)). These data will include, but are not limited to: photographs, long profile survey data and fish presence survey data.

#### Implementation Monitoring:

5C staff will monitor the effects of the work in the riparian zone as it occurs. Should any concerns develop that have not been foreseen, appropriate actions, contractual or otherwise, would be taken to avoid deleterious effects to water quality and/or the riparian reserves. Contract administration staff will monitor construction activities daily to ensure that the contract(s) are being implemented properly and that all provisions to safeguard the environment and public safety are being strictly adhered to. This monitoring would begin at project implementation and occur at regular intervals throughout the project. 5C staff will also monitor regularly for any unintentional mortality of juveniles due to failure of exclusion devices. Photo point monitoring will occur pre-project, during construction and post-project for the first two winter seasons.

#### Physical Monitoring:

Two cross-sections and a longitudinal profile extending from the confluence with the Trinity River upstream of the project area approximately 400 feet has been established to set baseline for post-project monitoring activities. An existing longitudinal profile is available for this area. Re-evaluation of cross-sections and longitudinal profiles will be surveyed immediately following construction and following the first two winter seasons. This monitoring work will be done by fisheries

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biologists from the Six Rivers National Forest, 5C Field Technician and Project Coordinator.

### Biological Monitoring:

Fish presence surveys will be conducted on Sharber-Peckham Creek following construction to assess success of the project. Post-project, it is likely the stream channel will require at least two to three years of active monitoring to ensure that 1) fish existing pre-project are maintained at least in their pre-project species, life history stages and numbers, 2) riparian vegetation impacted during the project and replaced is not choked out by competitive species, and 3) channel changes are not causing deleterious upstream effects on existing over wintering and spawning habitat. This monitoring work will be done by fisheries biologists from the Six Rivers National Forest, 5C Field Technician and Project Coordinator.

### **Deliverables:**

- 1) Final design plans
- 2) Pre and post-project photo monitoring documentation and monitoring reports on post-project surveys
- 3) Quarterly Progress Reports summarizing work performed during the reporting period
- 4) Draft Report summarizing the results of the project. This will include a statement of purpose, the scope of the project, final cost breakdowns, and a description of the approach and techniques used during the project
- 5) Final Report

### **Timelines:**

\*Indicates Tasks anticipated to be funded by sources other than FRGP

- May – December 2014: Final Design\*
- January – March 2015: Permitting\*
- April – June 2015: Project Bid Period & Construction Contract Approval\*
- June 2015 – October 2017: Progress Reports
- June 2015: Submit Final Designs, permits, and subcontracts to CDFW for review
- June – August 2015: Pre-project Monitoring
- August – October 2015: Construction
- October 2015 – March 31 2018: Post-project Monitoring\*
- February 28, 2018: Submit Final report

### **Additional Requirements:**

1. The Grantee will not proceed with on the ground implementation until all necessary permits and consultations are secured. Work in flowing streams is restricted per the Army Corp of Engineers Regional General Permit. Actual

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- project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife.
2. The Grantee shall notify the Grantor Project Manager a minimum of five working days before the project site is de-watered and the stream flow diverted. The notification will provide a reasonable time for Grantor personnel to oversee the implementation of the water diversion plan and the safe removal and relocation of salmonids and other fish life from the project area. If the project requires dewatering of the site, and the relocation of salmonids, the Grantee will implement the following measures to minimize harm and mortality to listed salmonids:
    - Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year.
    - The Grantee shall minimize the amount of wetted stream channel dewatered at each individual project site to the fullest extent possible.
    - All electrofishing shall be performed by a qualified fisheries biologist and conducted according to the National Marine Fisheries Service, Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
    - The Grantee will provide fish relocation data to the Grantor Project Manager on a form provided by the Grantor.
    - Additional measures to minimize injury and mortality of salmonids during fish relocation and dewatering activities shall be implemented as described in Part IX, pages 52 and 53 of the *California Salmonid Stream Habitat Restoration Manual*.
  3. The culvert design and installation will meet flow carrying capacity required for a 100-year flood event as identified by specifications determined by National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Wildlife (CDFW), for adult and juvenile salmonid fish passage. The project will follow the National Marine Fisheries Service (NMFS 2001) Guidelines for Salmonid Passage at Stream Crossings and criteria for fish passage as described in Volume II, Part IX, of the *California Salmonid Stream Habitat Restoration Manual*. The engineered plans for the bridge (culvert) installation shall be visually reviewed and authorized by NOAA Fisheries or California Department of Fish and Wildlife engineers prior to commencement of work.
  4. All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual*, Volume I, and Volume II Part XI and Part XII. The Grantee/landowner will maintain the new crossing,

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inspect the crossing in a timely manner and remove debris as necessary during the storm season.

5. No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. Any and all equipment will be removed from the streambed and flood plain areas at the end of each workday.

Exhibit 3: 2015 Fisheries Restoration Grant Program Mitigated Negative Declaration (Sharber)

California Department of Fish and Game

Natural Diversity Database

Selected Elements by Common Name - Portrait

Possible Species within the Salyer Quad and Surrounding Quads for:

FP 157 Sharber-Peckham Creek Fish Passage Project

T6N R5E Section 13

Trinity County

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 Bald Mountain milk-vetch <i>Astragalus umbraticus</i>	PDFAB0F990			G4	S2	2B.3
2 California globe mallow <i>Iliamna latibracteata</i>	PDMAL0K040			G2G3	S2	1B.2
3 California wolverine <i>Gulo gulo</i>	AMAJF03010		Threatened	G4	S1	
4 Cascade stonecrop <i>Sedum divergens</i>	PDCRA0A0B0			G5?	S2	2B.3
5 Del Norte salamander <i>Plethodon elongatus</i>	AAAAD12050			G4	S3	SC
6 Gasquet rose <i>Rosa gymnocarpa var. serpentina</i>	PDR0S1J1V1			G5T2	S2	1B.3
7 Heckner's lewisia <i>Lewisia cotyledon var. heckneri</i>	PDPOR04052			G4T3	S3	1B.2
8 Howell's montia <i>Montia howellii</i>	PDPOR05070			G3G4	S3	2B.2
9 Humboldt marten <i>Martes caurina humboldtensis</i>	AMAJF01012			G5T1	S1	SC
10 Klamath gentian <i>Gentiana plurisetosa</i>	PDGEN060V0			G2G3	S2	1B.3
11 Klamath/North Coast Fall/Winter Run Chinook Salmon River	CARB2332CA			GNR	SNR	
12 Klamath/North Coast Interior Headwater Fishless Stream	CARB2220CA			GNR	SNR	
13 Klamath/North Coast Rainbow Trout Stream	CARB2312CA			GNR	SNR	
14 Oregon fireweed <i>Epilobium oregonum</i>	PDONA060P0			G2	S2	1B.2
15 Oregon goldthread <i>Coptis laciniata</i>	PDRAN0A020			G4	S3	4.2
16 Pacific fuzzwort <i>Ptilidium californicum</i>	NBHEP2U010			G3G4	S3?	4.3
17 Pacific tailed frog <i>Ascaphus truei</i>	AAABA01010			G4	S2S3	SC
18 Siskiyou checkerbloom <i>Sidalcea malviflora ssp. patula</i>	PDMAL110F9			G5T2	S2	1B.2
19 Sonoma canescent manzanita <i>Arctostaphylos canescens ssp. sonomensis</i>	PDERI04066			G3G4T2	S2	1B.2
20 Sonoma tree vole <i>Arborimus pomo</i>	AMAFF23030			G3	S3	SC
21 Townsend's big-eared bat <i>Corynorhinus townsendii</i>	AMACC08010		Candidate Threatened	G3G4	S2S3	SC
22 Trinity River jewelflower <i>Streptanthus oblancoelatus</i>	PDBRA2G500			G1	S1	1B.2

Exhibit 3: 2015 Fisheries Restoration Grant Program Mitigated Negative Declaration (Sharber)

California Department of Fish and Game

Natural Diversity Database

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Possible Species within the Salyer Quad and Surrounding Quads for:

FP 157 Sharber-Peckham Creek Fish Passage Project

T6N R5E Section 13

Trinity County

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
23 Trinity shoulderband <i>Helminthoglypta talmadgei</i>	IMGASC2630			G2	S2	
24 Upland Douglas Fir Forest	CTT82420CA			G4	S3.1	
25 Yuma myotis <i>Myotis yumanensis</i>	AMACC01020			G5	S4?	
26 angel's hair lichen <i>Ramalina thrausta</i>	NLLEC3S340			G5	S2?	2B.1
27 bald eagle <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S2	
28 bensoniella <i>Bensoniella oregona</i>	PDSAX02010		Rare	G3	S2	1B.1
29 buttercup-leaf suksdorfia <i>Hemieva ranunculifolia</i>	PDSAX0W010			G5	S2	2B.2
30 chinook salmon - spring-run Klamath-Trinity Rivers pop. <i>Oncorhynchus tshawytscha</i>	AFCHA02056			G5	S1S2	SC
31 coast fawn lily <i>Erythronium revolutum</i>	PMLIL0U0F0			G4	S2S3	2B.2
32 coast sidalcea <i>Sidalcea oregana ssp. eximia</i>	PDMAL110K9			G5T1	S1	1B.2
33 fisher - West Coast DPS <i>Pekania pennanti</i>	AMAJF01021	Candidate	Candidate Threatened	G5T2T3Q	S2S3	SC
34 foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050			G3	S2S3	SC
35 fringed myotis <i>Myotis thysanodes</i>	AMACC01090			G4	S4	
36 giant fawn lily <i>Erythronium oregonum</i>	PMLIL0U0C0			G5	S2	2B.2
37 great blue heron <i>Ardea herodias</i>	ABNGA04010			G5	S4	
38 hoary bat <i>Lasiurus cinereus</i>	AMACC05030			G5	S4?	
39 hooded lancetooth <i>Ancotrema voyanum</i>	IMGAS36130			G1G2	S1S2	
40 leafy-stemmed mitrewort <i>Mitellastra caulescens</i>	PDSAX0N020			G5	S4	4.2
41 long-eared myotis <i>Myotis evotis</i>	AMACC01070			G5	S4?	
42 long-legged myotis <i>Myotis volans</i>	AMACC01110			G5	S4?	
43 northern clustered sedge <i>Carex arcta</i>	PMCYP030X0			G5	S2	2B.2

Exhibit 3: 2015 Fisheries Restoration Grant Program Mitigated Negative Declaration (Sharber)

California Department of Fish and Game

Natural Diversity Database

Selected Elements by Common Name - Portrait

Possible Species within the Salyer Quad and Surrounding Quads for:

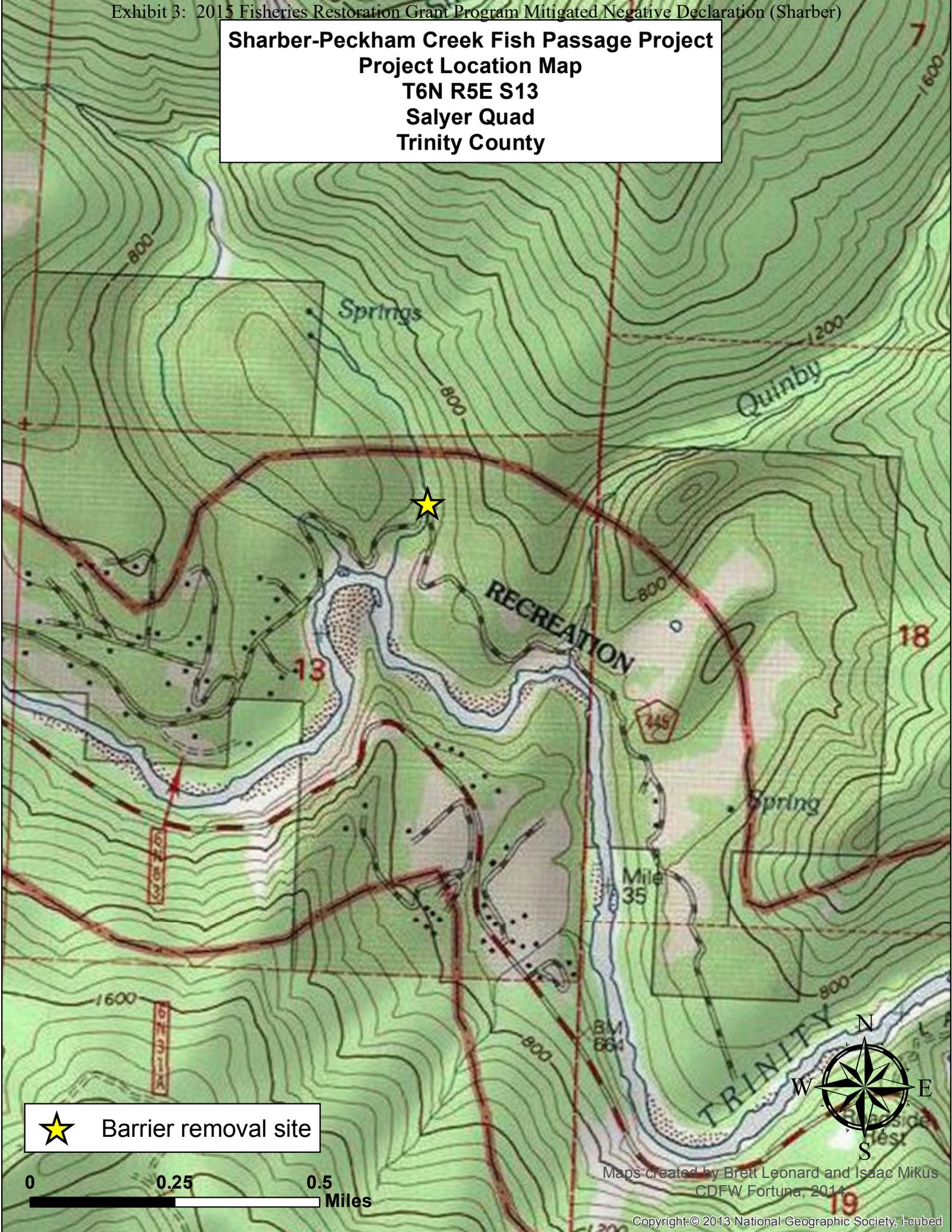
FP 157 Sharber-Peckham Creek Fish Passage Project

T6N R5E Section 13

Trinity County

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
44 northern goshawk <i>Accipiter gentilis</i>	ABNKC12060			G5	S3	SC
45 northern meadow sedge <i>Carex praticola</i>	PMCYP03B20			G5	S2S3	2B.2
46 northern spotted owl <i>Strix occidentalis caurina</i>	ABNSB12011	Threatened	Candidate Threatened	G3T3	S2S3	SC
47 obtuse starwort <i>Stellaria obtusa</i>	PDCAR0X0U0			G5	S3.3	4.3
48 osprey <i>Pandion haliaetus</i>	ABNKC01010			G5	S4	
49 pale yellow stonecrop <i>Sedum laxum ssp. flavidum</i>	PDCRA0A0L2			G5T3Q	S3.3	4.3
50 pink-margined monkeyflower <i>Erythranthe trinitensis</i>	PDPHR01070			G2	S2	1B.3
51 rattlesnake fern <i>Botrypus virginianus</i>	PPOPH010H0			G5	S2	2B.2
52 silver-haired bat <i>Lasionycteris noctivagans</i>	AMACC02010			G5	S3S4	
53 small groundcone <i>Kopsiopsis hookeri</i>	PDORO01010			G5	S1S2	2B.3
54 southern torrent salamander <i>Rhyacotriton variegatus</i>	AAAAJ01020			G3G4	S2S3	SC
55 summer-run steelhead trout <i>Oncorhynchus mykiss irideus</i>	AFCHA0213B			G5T4Q	S2	SC
56 wayside aster <i>Eucephalus vialis</i>	PDASTEC0A0			G3	S1	1B.2
57 western pond turtle <i>Emys marmorata</i>	ARAAD02030			G3G4	S3	SC
58 white-flowered rein orchid <i>Piperia candida</i>	PMORC1X050			G3?	S2	1B.2
59 willow flycatcher <i>Empidonax traillii</i>	ABPAE33040		Endangered	G5	S1S2	

**Sharber-Peckham Creek Fish Passage Project  
Project Location Map  
T6N R5E S13  
Salyer Quad  
Trinity County**



 Barrier removal site

0 0.25 0.5 Miles

Maps created by Brett Leonard and Isaac Mikus  
CDFW Fortuna, 2014

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