

Trinity River Watershed Council

Project Concept Proposal

Section 1: Summary Information

1. Project type: (Sediment reduction, fish passage, etc.)	Sediment management and fish passage
2. Project title:	Grass Valley Creek - Anadromous Pacific Lamprey: sediment management and connectivity
3. Applicant name:	Trinity County Resource Conservation District (TCRCD)
4. Contact person:	Alex Cousins
5. Address:	PO Box 1450
6. City, State, Zip:	Weaverville, CA 96093
7. Telephone #:	530-623-6004
8. Fax #:	530-623-6006
9. Email address:	Alex Cousins <acousins@tcrd.net>
10. Type:	Public Agency ☒ Nonprofit Organization ☐ Indian Tribe ☐ Other ☐
11. Amount requested:	\$49,450
12. Total project cost:	\$84,450
13. Project objectives:	1) provide critical information on fine-scale habitat utilization and distribution of lamprey ammocoetes in Hamilton Ponds sediment (Grass Valley Creek) to inform future dredging/management activities in a manner that will minimize mortality and other negative impacts to anadromous Pacific Lamprey attracted to the ponds as rearing habitat, while facilitating management of the ponds themselves. 2) assess the passage potential and constraints of the Buckhorn Debris Dam's existing spillway ramp (Grass Valley Creek), with the goal of providing access for anadromous Pacific Lampreys to over five miles of potential spawning/rearing habitat above the dam. 3) determine distribution of anadromous Pacific Lamprey, suitable rearing habitat and potential passage barriers in Grass Valley and Little Grass Valley creeks for incorporation into current and future habitat restoration / sediment management activities within the drainage.
14. Time frame:	2014 – 2016, two field seasons (May-October)
15. Stream:	Grass Valley and Little Grass Valley creeks

Section 2: Location Information

1. Township, Range, Section:	Hamilton Ponds: T33N, R9W, S26 Buckhorn Debris Dam: T32N, R8W, S15
2. Latitude, Longitude (in decimal degrees, Geographic, NAD83):	Hamilton Ponds: Lat 40.68638°, Long -122.86164° Buckhorn Debris Dam: Lat 40.62495°, Long -122.75646°
3. Location description:	Grass Valley Creek is a major southern tributary of Trinity River, entering about 8 miles below Lewiston Dam. The Hamilton Ponds are 1 mile upstream from the Trinity River confluence. Buckhorn Sediment Dam is on Grass Valley Creek 10 miles upstream of the confluence.
4. Directions:	The Hamilton Ponds are off Hwy. 299 on Lewiston Road. The entrance to Buckhorn Lake and Sediment Dam and the upper part of the watershed is through a gated BLM road off Hwy. 299, approximately 20 miles east of Weaverville. The rest of the watershed mostly Little Grass Valley Creek lie adjacent to Hwy 299 between Fawn Lodge and Buckhorn Summit.

Section 3: Watershed Information

1. Watershed name:	Grass Valley Creek
2. Watershed area:	Trinity River
3. Watershed area directly affected by the proposed project:	Grass Valley Creek and the Trinity River below confluence
4. Land use statement:	BLM land, and some private land
5. Project area ownership:	% Private: 20 % State: % Federal 80% both Hamilton Ponds and Buckhorn Dam are federally managed
6. Project area with landowners in support of proposal:	100%
7. Length of blue line streams directly affected by proposal:	Grass Valley Creek: 15+ miles Little Grass Valley : 5+ miles
8. Watershed Plan(s):	Trinity River TMDL Pacific Lamprey Conservation Initiative - Trinity Basin Implementation Plan

Section 4: Project Objectives

1. Background information:

Pacific Lamprey are a large, eel-shaped anadromous fish native to the Trinity Basin and western coastal drainages of North America. The oceanic adults feed on marine fishes, but stop feeding when they enter freshwater to spawn. They form a crucial component in the riverine ecosystem. The larvae (ammocoetes) spend their first 5-7 years as filter feeders living in beds of fine oxic substrate, where they reach over 6" in length and form an important component of the in-fauna, mixing aquatic sediments similarly to terrestrial earthworms, filtering the water-column and providing a prey base for many fishes. Returning adults transport marine nutrients high into coastal rivers and provide a prey base for many marine and terrestrial mammals, both as incoming adults and as spawned-out carcasses. Due to their unique climbing behavior, Pacific Lamprey often pass instream features (eg. waterfalls) that form barriers for anadromous salmonids, thus gaining access to and enriching higher reaches.

Unfortunately, Pacific Lamprey are a recognized species of concern for the USFWS and USFS. Populations are in substantial decline throughout their range and the USFWS has developed the Pacific Lamprey Conservation Initiative to promote stakeholder conservation actions that will serve to conserve the species, reverse population declines and thereby avoid its listing under the ESA. Within the Klamath Basin, Pacific Lamprey have also been an extremely important resource for the Hoopa Valley, Karuk and Yurok Tribes since time unrecorded. The

dramatic decline of lamprey populations in the Klamath and Trinity River watersheds has adversely impacted Hoopa, Karuk and Yurok culture and food security.

2. **Need for the project:** Both the sediment management in the Hamilton Ponds and passage at Buckhorn Dam have been identified as priority projects in the USFWS's Pacific Lamprey Conservation Initiative - Trinity Basin Implementation Planning process, developed in collaboration with the Hoopa Valley Tribe, Yurok Tribe, Trinity County RCD, TRRP, and USFS among others. This project facilitates sediment management in Grass Valley Creek to benefit salmonids and fine sediment concerns identified in the TMDLs, while providing the information necessary for avoiding negative impacts to larval lampreys (ammocoetes) and their fine-grained habitat caused by dredging and maintenance of the Hamilton Ponds. The project also promotes habitat connectivity for anadromous lampreys by surveying, assessing and making specific recommendations for passage barriers in the Grass Valley drainage, including Buckhorn Debris Dam, which due to its ramped spillway offers excellent potential to connect anadromous lampreys to extensive upstream habitat.
3. **Additional objectives:** Beyond the specific projects at Hamilton Ponds and Buckhorn Dam, this project will survey Grass Valley and Little Grass Valley creeks to assess lamprey distribution and potential passage barriers in the drainage, providing planning information for future TRRP projects.
4. **Section 5: Project Tasks and Results**

Detailed project tasks:

- 1) Habitat surveys in Hamilton Ponds will map ammocoete distribution and characterize habitats by grain size, oxygen levels and flow using standard methods.
- 2) Passage assessments will review physical characteristics of instream structures to determine attributes that would facilitate or obstruct passage by upstream-migrating adult lampreys and downstream outmigrating juveniles, as well as presence/absence surveys above and immediately below structures.
- 3) Distribution surveys will utilize standard methods established by extensive field surveys for lamprey ammocoetes in western North America by Reid and Goodman, avoiding impacts to non-target species.

Time frame: The work will span two field seasons, starting as early as May 2014, with an estimated completion of Dec. 2015, the window of two seasons provides a second back-up season in the event of field disruption or need to obtain additional information in response to year one findings.

Deliverables: The TCRCD will provide TRRP with

- detailed habitat and ammocoete use maps of the Hamilton Ponds,
- a proposed management strategy to avoid impacts to lamprey during sediment management activities,
- an assessment of passage potential at Buckhorn Dam,
- distribution maps of Pacific Lamprey in Grass Valley and Little Grass Valley creek mainstems and
- an assessment of passage barriers in Grass Valley and Little Grass Valley creeks.

As a part of the Final Report the TCRCD will provide TRRP with documentation of any monitoring of this project for future use. The TCRCD will include a progress report supplemented with photographs with each invoice.

6. **Expected quantitative results (cost per unit):**

- 1) maximize suitability of lamprey rearing habitat in the Hamilton Ponds (ca. 4 acres), which may serve as the principal rearing habitat for 15 miles of high quality anadromous spawning habitat in the mainstems of Grass Valley (10 mi) and Little Grass Valley (5 mi) creeks and potentially, the largest single rearing habitat feature in the upper Trinity River for anadromous Pacific Lamprey.
- 2) potentially open 5+ miles of spawning/rearing habitat above Buckhorn Debris Dam.
- 3) assess passage facilitation and opportunities for anadromous lampreys applicable to other dams with overflow ramps (e.g. Lewiston).
- 4) provide guidance for lamprey mitigation/enhancement in management planning for fine sediments in the Hamilton Sediment Retention Ponds and the broader Trinity drainage.

7. **Other products and results:**

8. Applicant's qualifications and experience:

Over the past 18 years TCRCD has received, managed and successfully completed nearly 300 grants in the Trinity and surrounding drainages. Our partners in these endeavors include a long list of federal, state, and local agencies and non-profits. TCRCD has also been very involved with sediment management specifically in the Grass Valley Drainage, including dredging operations in the Hamilton Ponds. This familiarity with practical operations and management needs in the ponds will complement and enhance the biological expertise of our partners.

TCRCD will be partnering with Dr. Stewart Reid (Western Fishes - CV available on request), a recognized regional expert on lampreys, and with Damon Goodman (USFWS) who is the FWS lead for the Pacific Lamprey Conservation Initiative (PLCI) in California and has been involved in Trinity River restoration since 2006. Dr. Reid has over 16 years of field experience with lampreys in the Klamath Basin. He and Goodman have surveyed lamprey distribution extensively throughout the western states and within the Klamath and other California drainages. They have well-tested survey protocols, lamprey specific survey equipment, and experience assessing habitat potential. Dr. Reid is also involved as advisor in lamprey passage projects throughout California and Oregon, ranging from smaller weirs, fish ladders, dams and very large water diversion structures.

Section 6: Landowners, Access and Permits

1. Landowners Granting Access for Project: (Please attach provisional access agreement[s]) Bureau of Land Management and Bureau of Reclamation	
2. Required Permits:	None required
3. Lead CEQA/NEPA agency:	TCRCD
4. Required mitigation:	Yes ☐ No ☒

Section 7: Project Budget

1. Summary project costs (Please attach detailed budget[s]):

Sources of Funds	Cash	In-kind (if applicable)	Status S,P,U (secured, pending, unknown)	Anticipated award date	Total
Trinity River Restoration Program	\$49,450				\$49,450
State Agencies <u>Name(s) and amount(s) of each:</u>					
Federal Agencies <u>Name(s) and amount(s) of each:</u> USFWS		\$25,000			\$25,000
Applicant:					
Other Sources <u>Name(s) and amount(s) of each:</u> TCRCD		\$10,000			\$10,000
Total	\$49,450	\$35,000			\$84,450

Estimated Project Cost by Task

<i>Project Name</i>			
Type of Work	Amount Requested	Cost Share	Total
Hamilton Ponds	\$25,000	\$20,000	\$45,000
Buckhorn Dam	\$15,000	\$10,000	\$25,000
Passage barriers & Distrib.	\$9,450	\$5,000	\$14,450
Total	\$49,450	\$35,000	\$84,450

3. Budget justification:

TRRP funds will be utilized primarily to compensate Dr. Reid as a sole-source contractor, due to his extensive experience with lampreys and familiarity with the Klamath Basin. Dr. Reid's sub-contract will include his field time, travel expenses, all necessary equipment and primary project reporting responsibility. TCRCD will receive administrative overhead funds for administration of the project. Additional field and technical support from Goodman (USFWS) and from TCRCD for their expertise and experience in Grass Valley sediment management, in particular the Hamilton Ponds, and provision of technical support with passage engineering/materials is funded as In-Kind.

4. Administrative overhead: TCRCD has an federally approved indirect cost rate of 15.02%.

Section 8: Supplemental or Specialized Information

Please attach the following required items to the application:

1. Project location 7.5 minute topographic quadrangle map, (USGS).
(See attached)
2. Photographs of Project.
3. Description of how this project meets the Trinity River Restoration Program criteria for Watershed Projects
 - ✓☐ Reduces fine sediment delivery to Trinity river or tributary with fish habitat
Sediment dredging/management of the Hamilton Ponds is currently on hold due to lack of information on negative impacts to lampreys. This project will provide necessary information for mitigating lamprey impacts while managing sediment in the ponds.
 - ✓☐ Consistent with Preferred Alternative of TR EIS/EIR (Appendix C of FEIS/EIR)
 - ✓☐ Completeness of {pre}proposal
 - ✓☐ Sediment control excludes large quantity of local fine sediment budget
This project enhances the potential benefits and mitigate negative impacts of two major sediment control projects in the Grass Valley drainage - Hamilton Ponds and Buckhorn Dam.
 - ✓☐ Leveraged matching funds
Matching in-kind contributions account for **41%** of the total project.
 - ✓☐ Consistency with existing watershed plans (NW forest Plan, TR-TMDL, SWQCP)
All three objectives are ranked as high priorities for the Trinity Basin under the USFWS's coast-wide Pacific Lamprey Conservation Initiative - Implementation Plan, developed in collaboration with the Hoopa Valley Tribe, Yurok Tribe, Trinity County RCD, TRRP, and USFS among others. Pacific Lamprey are also Sensitive Species under the USFS planning.
 - ✓☐ Lower cost per unit sediment control
Project conclusions will allow for determining the most cost-efficient sediment management approach, while minimizing impacts to anadromous Pacific Lamprey.
 - ✓☐ Provide multiple fishery benefits
 - ✓☐ Proponents have required experience and resources to complete project