

Appendix I-2
GENERAL TAHOE PROJECT PROPOSAL

Project Name: Restoration/Recovery of Lahontan Cutthroat Trout in
Fallen Leaf Lake

EIP # 10125

Lead Agency: U.S. Fish and Wildlife Service

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Co-Lead: Tahoe Basin Management Unit

Phone Number: (775)861-6354

Threshold: Lahontan Cutthroat Trout
Reintroduction

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Threshold Standard: Fisheries 4 (F4)

Total Project Cost: \$1.75 Million

Round 6 Funding requested: \$250,000

Is this a multi-year project? Yes

Project Description:

Lahontan cutthroat trout (LCT) were re-introduced into Fallen Leaf Lake beginning in 2002 by the Fish and Wildlife Service, in partnership with the community of Fallen Leaf Lake, the U.S. Forest Service, and California Department of Fish and Game. The re-establishment of this native fishery is critical to the preservation and potential expansion of the species into historic lake habitat and provides an important and unique native fishery to the region. The Lahontan National Fish Hatchery Complex will produce, tag, and stock 30,000 to 50,000 ten inch LCT annually into Fallen Leaf Lake during the months of September and October. LCT reared at Lahontan NFH is a lake strain known to have originated from a population indigenous to the Tahoe/Truckee basin. Biological sampling of the LCT will be performed seasonally using a variety of methods, including creel census, and mark and recapture methods using boats, nets, traps, weirs, and acoustical sampling technology. This data will be used to determine appropriate stocking rates, size, and timing, growth and survival rates to re-establish an important native fishery in a lake environment.

The U.S. Fish and Wildlife Service completed a planning process for the Tahoe/Truckee and Pyramid Lake basins which emphasizes the re-establishment of the lake form of Lahontan cutthroat trout into historic lake habitats. The plan specifically identifies implementation of a reintroduction demonstration project for Fallen Leaf Lake. The Short-Term Action Plan for Lahontan Cutthroat Trout in the Truckee River Basin was developed through an interagency team and public stakeholder process. There is currently a technical level Recovery Implementation Team, an administrative Management Oversight Group, and ongoing Public Stakeholder meetings. The Management Oversight Group is governed by a Memorandum of Understanding between participating agencies to promote and expedite the implementation of the Short-Term Action Plans and therefore recovery of Lahontan cutthroat trout.

Reintroduction of Lahontan cutthroat trout into Fallen Leaf Lake is very much a collaborative initiative that includes the community of Fallen Leaf Lake, Lahontan NFH Complex (Fish and Wildlife Service), the U.S. Forest Service, California Department of Fish and Game, and Trout Unlimited. Lahontan cutthroat trout raised at Lahontan NFH have been tagged and stocked annually from the summer of 2002 through October 2004. Tahoe Research Group was contracted for a three year period to evaluate the reintroduction, including resource availability, habitat utilization by native and non-native fish, Lake Trout abundance and population structure, and predation rates of Lake Trout on stocked Lahontan cutthroat trout.

This project proposal builds and expands on the important preliminary information gathered from

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the first three years of research and monitoring that has been conducted by the Lahontan NFH Complex, the Tahoe Basin Management Unit, and Tahoe Research Group. The first three years of research, particularly the efforts of Tahoe Research Group, emphasized primarily the abundance, population structure, and forage base of Lake Trout and the food web of Fallen Leaf Lake. This information was an important first step to better understand the ecosystem dynamics that successful recovery of Lahontan cutthroat trout depends. However, little is known about the life history characteristics of the original lake forms of Lahontan cutthroat trout and just how some of the unique strains native to basins or watersheds may perform in a modified lake environment. This next phase of stocking, research, and recreational fishing will emphasize the potential of this native species and utilize expertise in the field of native fish biology

Describe the purpose and need for the project:

The Fallen Leaf Lake project is considered by the Recovery Implementation Team and the Management Oversight Group as an historic first step leading to the eventual reestablishment of a strain of Lahontan cutthroat trout native to the Truckee River Watershed on a small, manageable scale. From this initial effort we will further our understanding of the threats or limitations the species faces in a modified habitat, in particular the impacts of lake trout predation.

Results of this ongoing reintroduction program will enhance our understanding of the conservation needs of the lake form of Lahontan cutthroat trout. In particular, this project will expand our understanding of the life history characteristics of a known wild lake strain of this sub-species, and improve the likelihood for successful establishment and recovery in other priority lake environments such as Lake Tahoe.

Describe the goals and objective of the project:

- 1) Utilize Lahontan cutthroat trout from the Pilot Peak strain broodstock, the only strain in captivity believed to be native to the Truckee River basin. Establish a monitoring program that evaluates growth, size and longevity of this strain in historic lake habitat. The Pilot Peak strain exhibits promising growth and reproductive characteristics for introduction into lake environments.
- 2) Expand the research into habitat utilization by Lahontan cutthroat trout and potential overlap with Lake Trout. Determine through investigation and research, appropriate tracking technology and other non-lethal sampling methods that will allow us to monitor the seasonal habitat preferences of Lahontan cutthroat trout and Lake Trout in Fallen Leaf Lake.
- 3) Apply the knowledge obtained during the first three year study, and any additional information or strategies determined from goal 2, to mechanically suppress the impact of the larger age classes of Lake Trout on both stocked and eventually naturally reproduced Lahontan cutthroat trout.
- 4) Continue ongoing creel census throughout the fishing season to evaluate angler harvest, growth rates, and angler satisfaction.
- 5) Continue seasonal gill net and minnow trap sampling efforts to monitor species composition and size of fish from representative habitats.

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- 6) Investigate spawning potential of Lahontan cutthroat trout in Glen Alpine Creek and Taylor Creek. Investigate and monitor the use of streamside incubation technologies at these two stream locations using eyed-up eggs from Lahontan NFH. Apply mass marking technologies for future identification.
 - 7) Complete an assessment of the existing fish passage at the outflow of Fallen Leaf Lake to Taylor Creek and make recommendations for improvement.

Describe the anticipated project accomplishments:

Establish an understanding of the survival, growth rate, longevity and reproductive potential of Lahontan cutthroat trout in Fallen Leaf Lake. Investigate streamside incubation technologies to initiate natural reproduction in Glen Alpine and Taylor Creeks. Monitor seasonal habitat utilization of Lahontan cutthroat trout. Assess angler response to this native trout fishery and refine our production commitments based on angler harvest levels.

Describe the “readiness” of this project to move forward (environmental documentation, etc.):

This is an ongoing project in which all authorization, consultations, and permits have been acquired. The public and specifically the community of Fallen Leaf Lake were involved during the initial project development and continue to be involved in the implementation. Most of the monitoring protocols were established in the first three years of the project and are being refined for this phase.

Describe partnerships for this project (include documentation):

Partners with the Fish and Wildlife Service and Tahoe Basin Management Unit include, the Fallen Leaf Lake Community Association, Trout Unlimited, and California Department of Fish and Game, and all parties to the Management Oversight Group Memorandum of Understanding.

Describe the anticipated project effectiveness monitoring program for use with adaptive management framework:

The combination of rigorous research and fishery management protocols were established and implemented during the first two years of the Fallen Leaf Lake Project. Further, monitoring protocols established during the first two years will be refined using the third year of data and applied to monitoring protocols for this project. Researchers with expertise in native fish population dynamics will be contracted to investigate specific questions and hypothesis related to Lahontan cutthroat trout life history. Researchers from the University of Nevada –BRRC and U.C. Davis will be contracted to assist with this program. Adaptive management has been applied to all recovery efforts initiated in the Truckee and Tahoe Basins. The Short-Term Action Plan speaks specifically about the use of adaptive management as a tool to continuously and expeditiously revise and update management and recovery strategies for Lahontan cutthroat trout.

Include an 8 ½ X 11 map depicting the project, or research/study area.

See below.