**U. S. Department of the Interior**
**Bureau of Reclamation**

**Mid-Pacific Region**
**Lahontan Basin Area Office**
**Carson City, Nevada**

# Finding of No Significant Impact and Environmental Assessment

## Construction of a Spillway Fish Barrier at Independence Lake

**Sierra County, California**

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# FINDING OF NO SIGNIFICANT IMPACT

## Construction of a Spillway Fish Barrier at Independence Lake

## Environmental Assessment

## I. Background

The Bureau of Reclamation (Reclamation) has been directed by the Congress of the United States through Public Law 110-161, 208(a)(2) and PL 111-85, 208 (a)(2) to provide funds to The Nature Conservancy (TNC) to partially fund the acquisition of land that surrounds Independence Lake and for protection of the native fishery and water quality of the lake.

Reclamation has provided funding to TNC for $11,000,000 under a grant agreement. The funding was originally anticipated primarily for the land acquisition and administrative costs. Reclamation and TNC have finalized a grant modification to utilize a portion of the funding for other projects, including construction of a fish barrier in the Independence Lake spillway. The construction of a barrier to fish passage on Independence Lake's spillway would prevent the upstream migration of non-native fish that threaten the long-term viability of Lahontan cutthroat trout (LCT) populations in the lake.

## II. Purpose and Need

The purpose of the Proposed Action is to provide funding to TNC for a fish barrier that provides "protection of the native fishery and water quality of Independence Lake" as determined by TNC. A portion of the grant funding would be used for constructing a fish barrier at the spillway to the lake, which is essential to prevent colonization of the lake from non-native downstream fish. The fish barrier would protect the federally threatened LCT *(Oncorhynchus clarkia henshawi)* and other native fish located in the lake.

Independence Lake is the only location in the entire Walker, Carson, and Truckee River drainages where wild and self-sustaining populations of all native fishes still co-occur. LCT are the premier species of the native fish because Independence Lake and upper Independence Creek support the only self-sustaining indigenous lake population of LCT remaining in California, and is one of only two such lake populations in the world.

The Independence Lake LCT population is genetically unique and is vulnerable to hybridization or extinction. Displacement or hybridization with non-native trout and competition with and predation by non-native fishes are considered serious threats to LCT in Independence Lake. A fish barrier at the spillway to Independence Lake is essential to prevent non-native fish from colonizing Independence Lake from downstream sources. The spillway fish barrier is consistent with U.S. Fish and Wildlife Service recovery plans for LCT. The project is supported by the U.S. Geological Survey, who have done extensive LCT research at Independence Lake, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game.

## III. Alternative Description

**Alternative 1. No Action**
Under this alternative Reclamation would not provide approximately $200,000 in funding allocated by Congress for a fish barrier at the Independence Lake spillway. The No Action Alternative reflects the existing condition at the site of the proposed spillway channel fish barrier and a continuation of the risk of introducing or augmenting non-native fish that threaten populations of LCT and other native fish in Independence Lake by way of upstream movement.

**Alternative 2. Proposed Action – Provide Funding for the Fish Barrier Construction**
Under this alternative, Reclamation would provide approximately $200,000 to TNC for a fish barrier at the Independence Lake spillway, which includes constructing a concrete weir, minor grading of the streambed (spillway channel) and banks, installation of grouted and un-grouted rock riprap, biodegradable erosion control fabric, and revegetation with native species to control erosion. The weir would be composed of approximately 60 cubic yards of poured-in-place reinforced concrete, with a thickness of 12 inches and a length of approximately 115 feet, running transverse to the spillway. The weir crest would create a 9-foot near-vertical drop in the spillway bed. The cross section of the weir would be "stepped" to allow access for maintenance and inspection. Design of the weir accommodates a future footpath (trail) crossing of the spillway.

Specific plans for site dewatering, fish salvage (if necessary), weed prevention, hazardous material spill prevention, and fire prevention would be implemented. The project area, which includes the entire construction zone, is 0.78 acres. Construction would occur over an 8-week period. Post-construction revegetation and effectiveness monitoring would occur during the year following construction.

The following permits and regulatory documents have been or will be obtained prior to construction:

- 401 Water Quality Certification, Lahontan Regional Water Quality Control Board (LWQCB)
- General Waste Discharge Requirements Permit Exemption for Small Construction Projects, Including ...Minor Streambed Alteration Projects, Lahontan Regional Water Quality Control Board (LWQCB)
- Section 404 Permit (Aquatic Habitat Restoration, Establishment and Enhancement Activities) U.S. Army Corps of Engineers (USACE)
- CEQA – Department of Fish and Game Notice of Determination (NOD)
- Special Use Permit from Sierra County
- Stream Alterations Permit – Department of Fish and Game

## IV. Summary of Impacts

Reclamation's analysis in the EA indicates that there will be limited impacts from implementation of the EA Proposed Action alternative. Adverse impacts are restricted to short-

term effects and no significant effects were identified for any resource. Beneficial environmental impacts are expected for several resources. A summary of the impacts for resources considered in detail in the EA are as follows:

**A. Proposed Action – Provide Funding for the Fish Barrier Construction:**

Vegetation: The construction of the fish barrier would have no impacts on federally listed plant species, state-listed plant species, or any species identified as rare and/or sensitive by the California Native Plant Society. There should also be no impact to special plant associations, community types, or habitats.

The proposed project may temporarily create small areas where weeds may germinate, but this would not have an adverse effect on the flora of the surrounding area. By taking prevention measures in the Weed Prevention Plan, the risk of introducing new weed species or spreading existing noxious or invasive weeds would be minimized. Implementation of the revegetation plan would restore desired plant cover to reduce the risk of invasion by noxious weeds and reduce erosion.

Wetlands, Waters of the United States and Hydrology: There would be temporary disturbance to 0.39 acres of wetlands, of which only 0.07 acres of WOUS/wetland would be permanently impacted by the proposed project. The permanent disturbance areas include the concrete foundation of the fish barrier and the surrounding areas. All other disturbance would be temporary, natural topography, hydrology would be retained, and these areas would be revegetated with local wetland species.

Fish, Endangered, Threatened, or Candidate Fish Species: Assuming full effectiveness of the fish barrier structure, the risk of introductions of non-native fish through upstream migration in the spillway would be eliminated. An important risk factor that could affect the continued viability of Independence Lake LCT and other native fish populations would no longer exist.

There could be risk of short-term harm to fish in the spillway if fish are present due to late-season flows. A fish salvage plan would be activated in this case, which would reduce the risk of harm to any fish, including LCT, at the construction site.

There could be a short-term risk of harm to fish in the spillway because of soil or water contamination at the 0.78-acre construction site. A hazardous material plan would be in place and activated if a spill were to occur. On-site monitoring by TNC and contract administrators would reduce the risk by anticipating problems and taking prompt action if a spill occurred.

There could be a short-term risk of harm to fish in the spillway because of site disturbance at the construction site. Erosion control measures, a revegetation plan, and monitoring during and after construction would minimize a risk of sedimentation into the spillway channel from site disturbance.

Wildlife, Endangered, Threatened, or Candidate Species: Construction of the spillway fish

barrier would cause ground disturbance to the 0.78-acre site for approximately 2 months. Most wildlife species would not expected to be adversely affected by the fish barrier construction because of its timing, duration, and construction area size. Noise disturbance could cause some animals to avoid the immediate area during construction. The fisher, a Candidate species under the federal Endangered Species Act, does not occur in the project area. Wolverine, also a Candidate species, has been sighted during winter near the project area. It is possible this one individual could pass through the area, but it would not be affected by the project because of the limited disturbance impact of the project.

The construction site may have surface water flow or subsurface moisture. If so, there could be risk of harm to amphibians, including mountain yellow-legged frogs (MYLF, a Candidate species under the federal Endangered Species Act) during construction if they are present at the construction site. A scheduled pre-construction amphibian survey would provide information about the potential for MYLF to be in the proximity of the construction site. The proposed project could inadvertently affect undiscovered individual MYLF and MYLF habitat by destroying burrows, or crushing or digging up individuals.

The hazardous materials spill plan and erosion control measures would minimize risk of harm to animals because of soil or water contamination at the construction site. The project would have continuous on-site monitoring by TNC.

Migratory birds are not expected to be affected by the construction project. Construction would take place in a limited, previously disturbed area that is maintained as an operational spillway facility. Construction timing is one season, late summer to fall, when migratory birds at the project's elevation are expected to have completed breeding and are commencing migration

Geology, Soils, Hydrology, and Water Resources: There would be no adverse impacts to geology, soils, hydrology, or water resources. The design of the fish barrier structure was modeled to assess impacts to the hydraulic structure of the spillway and downstream hydrology. The fish barrier structure would not affect lake levels or the elevation at which the spillway becomes active, and there are no dam safety concerns. After a design modification, no potential adverse downstream hydrologic impacts were detected. Several contingencies for dewatering the construction site are in the Dewatering Plan to stay within expected infiltration rates of the adjacent meadow.

Land Uses, Air Quality, Noise, and Greenhouse Gases: The fish barrier would not change the land use, which is an operational spillway for Independence Lake. Modeling demonstrated no change to the function and effectiveness of the spillway.

Air quality would not be affected by the project. About 5 metric tons of $CO_2$ are expected to be generated from the project. Construction-generated fugitive dust would be eliminated or minimized by measure such as road and construction site watering. State or national air quality standards would not be in violation.

Construction-generated noise would be noticeable near the construction site during construction,

which would be during the day on weekdays starting in mid-August. The construction site is about ½ mile from the walk-in campground and no other concentrated recreation use takes place near the construction site, so noise is not expected to impact recreation users at the lake.

Cultural Resources: The U.S. Fish and Wildlife Service (Service) assumed lead agency status for, and completed, Section 106 compliance for the entire project pursuant to the terms of the 1997 *Programmatic Agreement Among the U.S. Fish and Wildlife Service Region 1, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding the Administration of Routine Undertakings in the State of California* (Programmatic Agreement). The activities for which Reclamation is providing partial funding are the same as those considered in the Service Section 106 compliance efforts.

In an effort to identify historic properties, the Service reviewed the project activities and applied the terms of the Programmatic Agreement. No cultural resources were identified.

Reclamation notified SHPO May 12, 2011 regarding a finding of no historic properties affected pursuant to 36 CFR Part 800.4(d)(1) and that Reclamation's responsibilities under Section 106 of the National Historic Preservation Act have been fulfilled given that the Service completed Section 106 compliance pursuant to the terms of their Programmatic Agreement.

Indian Trust Assets: The fish barrier construction and structure would have no adverse impact on trust assets of the Washoe Tribe of Nevada and California. The project would provide protection to LCT and other native fish in Independence Lake. Implementation of the proposed project is not expected to have an effect on Indian Trust Assets. Land, minerals, federally reserved hunting and fishing rights, federally reserved water rights, in stream flows associated with trust land, water quality, native plants, wildlife resources, and cultural sites would not be affected. The population of native LCT would be positively affected by eliminating the risk of non-native brown trout and rainbow trout entering Independence Lake by upstream migration.

Environmental Justice: No minority or low-income populations or communities are present within or near the proposed project area. The fish barrier would not affect access, environmental quality, or human health. The project could have a slightly positive effect on local employment as the workers, equipment and construction materials are expected to be obtained locally. There would be no adverse human health or environmental effects to minority or low-income populations because of the proposed project.

Cumulative Effects: There are no known cumulative effects from the proposed project and three other ongoing and planned projects at Independence Lake: Upper Independence Creek weir removal and stream bank stabilization; brook trout removal in Upper Independence lake; and thinning forest stands on TNC lands for wildfire protection.

Irreversible and Irretrievable Commitment of Resources: There are no known irreversible or irretrievable commitments of resources associated with the project.

**B. The No Action Alternative:** No impacts to the existing environment would occur. The risk

of introducing non-native fish from downstream sources would continue.

Environmental Commitments

1. An amphibian survey would be conducted prior to construction to determine the presence or absence of mountain yellow legged frogs (MYLFs). The construction site and adjacent areas would be surveyed by a qualified professional aquatic biologist. If MYLF were found, TNC would notify Reclamation and implement any necessary protection measures for MYLF.

2. The following permits would be obtained by TNC prior to construction:
   - 401 Water Quality Certification, LRWQCB
   - NPDES permit, California SWRCB
   - Nationwide permit 27, USACE

3. Construction contracts would incorporate permit language and elements of the Weed Protection Plan to protect against introduction or spread of noxious or invasive weeds.

4. Construction contracts would incorporate the Hazmat and Fire Prevention Plan to protect against accidental spills of hazardous materials and construction-caused wildfire.

5. Prior to beginning construction, TNC would survey flowing or ponded water in the spillway channel at and near the construction site. If fish were present, the Fish Salvage Plan would be implemented by U.S. Geological Survey personnel.

6. Access routes into the construction site would have advisory signage to warn the public about construction traffic.

7. Construction site dewatering would follow the Dewatering Plan, including contingencies for diverting larger amounts of water to different locations. Dewatering would remove groundwater to at least 2 feet below the lowest point of excavation to maintain stability of the excavation when placing and compacting the trench.

8. Erosion control measures would be implemented according to permit requirements and the erosion control plan and notes in the drawings.

9. Disturbed areas on the stream banks and staging areas would be stabilized and revegetated with a mixture of native shrubs, forbs, and grasses, as shown in the Revegetation Plan. Plant material would be obtained from TNC lands near the project site if possible.

10. A TNC representative would be on-site daily during construction to monitor activities. TNC would monitor stream conditions following construction and during the following year (2012).

## V. Consultation and Public Involvement:

The EA was prepared by TNC and their consultant under the direction, review and approval of Reclamation. The EA was prepared in coordination with TNC, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, the U.S. Geological Survey, and Truckee Meadows Water Authority (TMWA). TMWA consulted with the California Department of Water Resources on dam safety.

Press releases requesting comments on the EA were sent to Reclamation's Mid-Pacific Region list of media contacts. Notice of availability of the EA was sent to an interested parties list on June 14, 2011. The EA was posted on the Bureau of Reclamation Mid-Pacific NEPA website.

The draft EA and a letter requesting EA review and comments were provided to the Washoe Tribe of Nevada and California on June 14, 2011.

## VI. Decision and Findings

Reclamation's decision is to implement Alternative 2, identified as the Proposed Action in the EA. Based on the environmental analysis contained in the attached EA (September 2011) completed in accordance with the National Environmental Policy Act. Reclamation makes a finding of No Significant Impact as the project is not a major federal action and there is no evidence to indicate that the Proposed Action will significantly affect the quality of the human environment or the natural resources in the area. An environmental impact statement is therefore not required for the Proposed Action.