

CEQA APPENDIX J

ENVIRONMENTAL CHECKLIST FORM

1. Project title: Independence Lake Spillway Fish Barrier

2. Lead agency name and address:

California Department of Fish and Game
1701 Nimbus Road
Rancho Cordova, CA 95670

3. Contact person and phone number: Kent Smith (916) 358-2382

4. Project location: The project is located on the spillway channel of Independence Lake. There is no street address for the site. The latitude and longitude is: 39° 27'13"N, 120° 17'12" W. Directions to the site are as follows: From Truckee, CA, travel north on Highway 89 about 15 miles. Turn left (west) at the Little Truckee Summit onto Forest Road 07. Travel 1.5 miles, turn left onto Sierra County Road 350 (Independence Lake Road). Follow signs to Independence Lake

5. Project sponsor's name and address:

Kathryn Landreth
The Nature Conservancy
One E. First Street, #1007
Reno, NV 89501

6. General plan designation: Forest 7. Zoning: General Forest

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation.)

The project, construction of a fish barrier on the spillway outlet of Independence Lake, is part of an overall strategy to protect and restore the native Lahontan cutthroat trout population (*Oncorhynchus clarkii henshawi*) of Independence Lake. Lahontan cutthroat trout (LCT) is federally listed as threatened under the Endangered Species Act. The only self-sustaining indigenous lake population of LCT in California resides in Independence Lake and the main inlet tributary, Upper Independence Creek. This population is genetically unique and is vulnerable to hybridization or extinction. Hybridization with non-native trout and competition with and predation by non-native fishes are considered serious threats to LCT in Independence Lake. In

2010, The Nature Conservancy acquired the land surrounding Independence Lake to protect the aquatic ecosystem of Independence Lake, including the LCT population.

Scientific and management evaluations conducted over the past few years conclude that a fish barrier on the spillway at the lower end or outlet of Independence Lake is necessary to prevent non-native fish from colonizing Independence Lake from downstream sources. Non-indigenous game fish are the primary threat to Lahontan cutthroat trout at Independence Lake. If rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), or new strains of brook trout (*Salvelinus fontinalis*) colonize the lake from downstream sources, a serious impact to the cutthroat trout population can be expected, including possible extirpation from the lake.

The U.S. Geological Survey and the U.S. Fish and Wildlife Service fully support installation of a spillway barrier to stop the upstream movement of non-indigenous fish into Independence Lake. Installation of the spillway fish barrier is an important step in the goal of increasing the overall LCT population in Independence Lake.

Design of a spillway fish barrier is based on the following objectives:

1. To stop all fish species from passing the barrier in the upstream direction.
2. To avoid any hydraulic or hydrologic impact to the upstream spillway structure or operations.
3. To minimize changes to the hydraulic or fluvial geomorphic conditions below the barrier structure. To the extent some changes are unavoidable, appropriate measures are incorporated to ensure long-term stability to the channel downstream of the barrier.
4. To avoid the risk of a new channel forming around the barrier during future high-flow events.
5. To complete the project for the lowest cost of implementation, consistent with other objectives.

TNC's goals associated with the fish barrier include public education about the importance of the spillway to a restored population of LCT, and engaging volunteers following the barrier construction, as appropriate.

Independence Lake once supported spawning runs of over 2,000 fish annually into upper Independence Creek. In recent years the number of spawning fish has varied from 40 to 237 fish annually. A population viability analysis conducted by the USGS indicates that with no management actions, LCT will be extirpated within 25 years at Independence Lake. Research by the USGS suggests that the primary causes of LCT decline are competition from Upper Independence Creek non-native species, especially brook trout that prey upon LCT eggs and fry, and kokanee salmon (*Oncorhynchus nerka*) in the lake which are predators and competitors of

LCT (Swanson Hydrology + Geomorphology 2009). Additional threats to LCT and other native fish in Independence Lake are upstream migration of other non-native fish from Stampede Reservoir and introduction of diseases to LCT from the upstream migration of fish in lower Independence Creek. Because the population of LCT in Independence Lake has been so low in the past decade, any additional stress on the population could jeopardize its existence. Construction of the spillway fish barrier, along with other ongoing and planned conservation projects, is expected to reduce the risk of LCT extinction from Independence Lake and increase the LCT population level.

The process of designing the spillway fish barrier, obtaining permits for this construction, and construction of the barrier is expected to be complete by late fall of 2011.

Planning and Implementation Steps:

- A design plan for the fish barrier was developed by a consulting firm, Waterways, Inc., with assistance from the California Department of Fish and Game (Waterways, Inc. 2011).
- The design was reviewed by Truckee Meadows Water Authority (TMWA), California Division of Safety of Dams, Lahontan Water Quality Control Board, and the U.S. Fish and Wildlife Service for compliance with state and federal laws, and to ensure that the barrier does not interfere with TMWA's operation of the dam and spillway.
- Studies were commissioned for wetland delineation, and botanical surveys, and hydraulic modeling of the structure (60% design).
- Permit applications are being prepared and submitted concurrent with preparation of environmental compliance documentation.
- Construction for the fish barrier would take approximately 8 weeks and is scheduled to begin mid-August to early September 2011.

Work at the spillway barrier site would involve construction of a concrete weir to prevent the upstream passage of fish into Independence Lake. In addition to the weir placement, the work would include

- minor grading of the stream bed and banks,
- installation of grouted and un-grouted rock rip rap, 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 twelve inches and a length of approximately 115 feet, running transverse to the spillway flow. The weir crest would be set to create a nine foot near-vertical drop in the spillway bed, from just upstream of the weir (elev. 94.0) to the base of a downstream energy dissipation pool (elev. 85.0), as shown on the weir profile, Attachment 1, Appendix C – Site Plan drawing. 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.

Where possible, concrete would be placed directly in the excavation (not excavate an additional area to accommodate forms) which would reduce the amount of earthwork required for the project. Foundations would be embedded a minimum of 3 feet below the lowest adjacent finish grade for frost and scour protection and confinement.

Areas proposed for fill placement and/or grading would be cleared and grubbed of vegetation and other deleterious materials to an average depth of six inches. Existing vegetation, organic topsoil, and any debris would be stripped and hauled offsite or stockpiled outside the construction limits. All rocks greater than 8 inches in greatest dimension (oversized rock) would be removed from the top 12 inches of soil, if encountered. Oversized rock may be used in landscape areas, rock faced slopes, or removed from the site. Oversized rock would not be placed in fill without prior approval by the project geotechnical engineer.

An estimated 250 cubic yards of grouted rock rip rap would be placed to a thickness of approximately three feet, starting immediately downstream of the weir and extending another seventeen feet downstream to the base of the energy dissipation pool. From there, 280 cubic yards of ungrouted rip rap would extend another twenty-five feet downstream to line the base and sides of the pool and conform to the existing geometry downstream. The existing boulders previously placed in the channel would be salvaged to construct a rock rip rap apron upstream and downstream of the fish barrier

Disturbed areas on the stream banks and staging areas would be revegetated with a mixture of native shrubs, forbs and grasses, as shown in Attachment 1, Appendix C Drawings, Revegetation Plan. Topsoil cleared from the construction site will be stockpiled and used to cover the site before revegetation in order to take advantage of the native seed and sod present in the soil.

Work would be performed when flows are not expected to be present at the site. However, a simple gravity diversion pipe and sand bag coffer dam would provide an effective diversion, if necessary, due to uncommonly high flows. The dewatering plan is described in detail in Attachment 1, Appendix D, Dewatering plan. The contractor hired to complete the work will be responsible for all dewatering. The contractor shall furnish, in writing, a plan for diverting surface and groundwater to the engineer prior to beginning any construction work. Any materials specified by the plan will be kept on-site and be available during construction

Project engineers anticipate a need to dewater the excavated areas to remove seepage flows. This would consist of collecting standing water through a filtered intake (perforated standpipe surrounded by clean drain rock) and pumping to a stabilized discharge point on the adjacent floodplain, where discharge can infiltrate into native soils. Dewatering of excavations would be performed by gravity or by constructing sumps to depths below the excavation and removing water with pumps. To maintain stability of the excavation when placing and compacting the trench backfill, groundwater levels would be drawn down a minimum of 2 feet below the lowest point of the excavation where possible.

The project area, which includes the entire construction zone, is 0.78 acres.

Time Line of the Project:

Work would begin August 2011 and is expected to be completed within 8 weeks (about mid-October). Site stabilization work would be performed in 2011 following construction of the fish barrier. Revegetation work would occur in 2011 post-construction if weather conditions allow. Any remaining revegetation work would be completed during the 2012 growing season. If needed, erosion control fabric will be placed to prevent erosion from unvegetated areas.

Attachments:

See Appendix B of the attached Environmental Assessment (EA; Attachment 1; LaBoa, 2011) for photographs of the proposed construction area.

See Appendix C of the EA for the following drawings:

- Site plan
- Site overview
- Existing conditions
- Typical sections
- Reinforcing
- Dewatering and Erosion
- Revegetation

The appendices of Attachment 1 (EA) contain the following associated documents and plans:

Appendix D – Dewatering Plan

Appendix E – Fish Salvage Plan

Appendix F – Weed Prevention Plan

Appendix G – Hazmat and Fire Prevention Plans

Appendix H – Mitigation and Monitoring

9. Surrounding land uses and setting: Briefly describe the project's surroundings:

The proposed fish barrier structure would be located on the spillway channel of Independence Lake. The project site is located a short distance east of Independence Lake along the spillway channel, approximately 500 feet downstream of the existing flashboard weir outlet for the reservoir.

Independence Lake is located in Sierra County and Nevada County, California, approximately 9 air miles northwest of Truckee, California, and 5 miles west of State Route 89. The proposed project site comprises a portion of Section 35, Township 19 north, and Range 15 east on the *Independence Lake* USGS quad topographic map. The site elevation is approximately 6,945 feet above mean sea level (MSL). The approximate latitude and longitude of the site is 39° 27' 12.44" N and 120° 17' 16.40" W. The proposed project is accessed via SR89 to the Fiberboard Road (or Tahoe National Forest Route 7), and then to Sierra County Road 350.

Independence Lake is fed by the headwaters of Independence Creek, south of Mount Lola and east of the Sierra Nevada crest. Downstream of Independence Lake, Independence Creek flows into the Little Truckee River, which is a part of the Truckee River watershed, a basin that encompasses approximately 3,100 square miles and includes the entire land area draining into Pyramid Lake originating in the Sierra Nevada. Independence Lake is part of the North Lahontan hydrologic basin.

The land surrounding Independence Lake is owned by The Nature Conservancy and is managed to preserve the aquatic ecosystem including the native fish populations. A preserve manager home/office and a few other structures are the primary development at the lake. Public recreational access is allowed. Proposed and existing recreation uses include hiking, fishing, boating (primarily non-motorized), and camping. On average, about 6-8 visitor vehicles per weekday are expected, with maybe double that number on weekends. Adjacent lands are owned by the U.S. Forest Service.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Permits:

Sierra County
Lahontan Regional Water Quality Control Board
California Department of Fish and Game
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service (consultation)

Financing:

U.S. Bureau of Reclamation

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|--|
| ☐ Aesthetics | ☐ Agriculture and Forestry Resources | ☐ Air Quality |
| ☒ Biological Resources | ☐ Cultural Resources | ☐ Geology /Soils |
| ☐ Greenhouse Gas Emissions | ☒ Hazards & Hazardous Materials | ☒ Hydrology / Water Quality |
| ☐ Land Use / Planning | ☐ Mineral Resources | ☐ Noise |
| ☐ Population / Housing | ☐ Public Services | ☐ Recreation |
| ☐ Transportation/Traffic | ☐ Utilities / Service Systems | ☒ Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or

mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Signature

Date

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Answers to checklist questions a, b, d

The project is not located in or adjacent to a designated scenic vista or along a scenic highway.
The project would not result in the development of new sources of light or glare.

Answer to checklist question c

The proposed fish barrier site is in an area currently used by very few visitors to Independence Lake and therefore would only have minor visual impacts from the construction activities or the completed concrete structure. Over time as site restoration work is completed, the area is naturally revegetated, and the concrete “weathers” to a more natural color, visual impacts would be reduced. At present, the site is already clearly disturbed and altered.

Late summer recreation use at Independence Lake is relatively light. Access routes to the lake would be posted with safety information advising visitors of construction traffic. Other than occasional noise from construction equipment, conflict with recreation users is not expected.

Mitigation measures

The revegetation plan included in Attachment 1, Appendix C establishes the appropriate type and density of vegetation and/or ground cover on all areas disturbed during project implementation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Answers to checklist questions

No farmland is located in the project area. There would be no impact to agricultural resources.
The project will not affect the adjoining forest areas.

Mitigation measures

No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Answers to checklist questions b, c, d, e

The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Due to its short-term, small scale, low-intensity nature, it would not result in a cumulatively considerable net increase of pollutants. As its pollutants would be limited to vehicle exhaust, and considering the remote location, it would not create objectionable odors affecting a substantial number of people. Haul trucks and worker vehicles would contribute to existing motor vehicle emissions along access roads, but the emissions would be

temporary and insubstantial. Anticipated construction traffic is about 25 trips for equipment move-in and move-out, plus about 40 vehicle trips for commuting workers. On-site construction traffic emissions would be temporary and would not result in a substantial increase in air pollutants. A dozer and small excavator would be brought in by trailer transport and would operate on-site during the construction period. Cement would be brought in from a local source, probably in Truckee. Traffic-related effects from other pollutants during the construction period would be negligible.

Answer to checklist question a

The proposed project site is located in Sierra County, California, which is in the Northern Sierra Air Quality Management District (NSAQMD). There is a potential for temporary, localized impacts on air quality associated with fugitive dust and engine emissions during construction activities. The entire construction site is <1 acre, which includes the actual fish barrier construction area, as well as equipment and materials storage areas.

Mitigation Measures

Access roads and the construction area will be watered to prevent fugitive dust. Speed limits in the project area will be kept below 15 mph. Inactive stockpiles will be watered or covered during windy conditions. Disturbed area will be revegetated as outlined in the revegetation plan (Attachment 1, Appendix C).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede	☐	☒	☐	☐

the use of native wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

☐☐☐☒

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

☐☐☐☒

Answers to checklist questions e and f

The proposed project does not conflict with any local, regional, or state biological protection policies or conservation plans.

Answer to checklist question a

The Biological Assessment (BA) prepared for this project evaluates potential effects of the proposed project on species listed as endangered or threatened, or proposed for listing, under the federal Endangered Species Act of 1973 as amended. The BA is attached to this checklist (Attachment 2) and incorporated by reference. For the purpose of this CEQA Checklist, species included in the BA as well as special status species as defined by the California Department of Fish & Game (e.g.,

http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf).

The following information summarizes potential effects of the proposed action on biological resources, including special-status species, and mitigation measures that are expected to reduce potential adverse effects to a less-than-significant level. Additional detailed information on the known occurrences and status of each special-status species in the project area, and a detailed analysis of potential project effects on each species, is provided in Attachments 1 and 2.

Following the mitigations listed at the end of this section as well as standard management requirements there would be no significant impacts to any of these listed species during or after project implementation.

Table 1. Special status species considered.

Species	Species Status*	Potential for occurrence	Mitigation to achieve less than significant effect
Lahontan cutthroat trout (<i>Oncorhynchus clarkii henshawi</i>)	FT	Present in Independence Lake above project site. During high flows could pass over existing spillway structure. Habitat not typically present due to lack of flow in channel during most of year.	Timing of construction, fish salvage plan
Mountain yellow-legged frog (<i>Rana muscosa</i>)	SCE or SCT	Observed within 3 miles of project site. Habitat for frogs present in wet areas near project site.	Timing of construction to avoid water in channel, relocation if detected during pre-construction surveys.
Fisher (<i>Martes pennanti</i>)	FC	Has never been detected in area, despite extensive surveys. Habitat is present nearby the project site.	None – no impact on species
Wolverine (<i>Gulo gulo</i>)	ST	Single individual observed within 2.5 miles of project site.	None – no impact on species due to large home range of individual and limited size and time-frame of project.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SE	Observed foraging in Independence Lake. Closest known nest sites are over 5 miles away at nearby lakes.	None – no impact on species, construction site is located approximately 500 feet from foraging habitat.
Willow flycatcher (<i>Empidonax traillii</i>)	SE	Habitat is present, no individuals observed at site.	The critical nesting period for willow flycatchers end August 15 th . Construction is scheduled to begin August 15 th or later.
Webber's Ivesia (<i>Ivesia webberi</i>)	FC	No	None
Plumas Ivesia (<i>Ivesia sericoleuca</i>)	SS	Present near the construction site.	Surveyed populations will be flagged and avoided. Construction equipment limited to designated routes.

*Special Status abbreviations:

FC = Federal Candidate

FT = Federally threatened

SCE = State candidate, endangered

SCT = State candidate, threatened

SE = State endangered

SS = State sensitive

ST = State threatened

In order to achieve “No Impact” on Lahontan cutthroat trout, mountain yellow-legged frog, and Plumas Ivesia, mitigation measures will be required, as noted in the table above. Below is a more detailed description of the mitigation measures and how “No Impact” will be attained for these special status species.

Details on the ecology and distribution of Lahontan cutthroat trout (LCT) can be found in the attached Biological Assessment, Attachment 2. Although unlikely, there could be risk of short-term harm to fish in the spillway if fish are present. LCT are not known to occur in the stream or spillway below Independence Lake, and construction is planned for late in the season when surface flows are absent. The spillway channel does not typically contain fish habitat because of the intermittent flows. Additionally, the project applicant will also work with the dam operator (Truckee Meadows Water Authority) to minimize or eliminate flow in the spillway channel during construction. If flow is present however, surveys for fish will take place, and a fish salvage plan will be enacted and implemented by the U.S. Geologic Survey (Attachment 1, Appendix E).

Details on the ecology and distribution of mountain yellow-legged frog (MYLF) can be found in the attached Biological Assessment, Attachment 2. MYLF are found in Upper Independence Creek as well as lower Independence Creek about 3 miles from the proposed project area (Attachment 1). They have not been found at the project site; however suitable habitat exists in the wet areas in and near the proposed spillway fish barrier site. MYLFs in the area are capable of dispersing to the construction site, so it is possible that frogs could be present during construction.

Construction of the spillway fish barrier would cause ground disturbance to the 0.78 acre site for approximately 2 months in late summer and early fall. Disturbance would be primarily from use of heavy equipment, construction worker activity and vehicle traffic. There could be a short-term risk of harm to aquatic organisms in the spillway as a result of soil or water contamination, or site disturbance at the 0.78 acre construction site. To prevent such impacts, erosion control Best Management Practices will be enacted and water quality monitoring upstream and downstream of the project area will take place as outlined in the Mitigation and Monitoring Plan (Attachment 1, Appendix H).

Plumas Ivesia is a perennial herb in the rose family that is native to California. It is included on the California Native Plant Societies Inventory of Rare and Endangered Plant on list 1B.2 (rare,

threatened, or endangered in CA and elsewhere). During a botanical survey of the spillway project area, Plumas Ivesia plants were found near the project area. The population will be entirely avoided by construction. However, the plants will be flagged and avoided prior to the onset of any construction activities to ensure that no impact will result. Additionally, equipment will be confined to established construction and staging areas that will avoid any potential impacts to Plumas Ivesia.

Answer to checklist questions b and c

There will be temporary disturbance to 0.39 acres of wetlands and riparian vegetation, of which 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 will temporary. The WOUS/wetlands to be affected include the current channel, the lower inset terraces and the upper terrace to the west of the current channel.

Answer to checklist question d

The purpose of the project is to limit upstream migration of non-native fish species into Independence Lake. At present, LCT do not occur downstream of Independence Lake, therefore downstream migration of this species not be affected. Other native, smaller species are not capable of passing over the existing spillway structure. The spillway barrier can be retrofitted at a later date to allow fish passage if LCT are re-established downstream of Independence Lake.

Mitigation Measures

Mitigation for Lahontan cutthroat trout: Construction is planned for late in the summer when flow in the spillway channel will be absent or reduced. In the event that flow is present, a fish salvage plan (Attachment 1, Appendix E) would be activated if fish were found. This would reduce the risk of harm to any fish, including LCT, at the construction site. A hazardous material plan would be in place and activated if a spill were to occur (Attachment 1, Appendix G). On-site monitoring by TNC and contract administrators would reduce the risk by anticipating problems and taking prompt action if a spill occurred. 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 (Attachment 1, Appendix C Drawings – Sheets C5 and C6).

Mitigation for mountain yellow-legged frog: The project area and adjacent areas will be surveyed for mountain yellow-legged frogs by a qualified aquatic biologist prior to commencement of construction. If MYLF are detected, the U.S. Fish and Wildlife Service will be notified. In coordination with U.S. Fish and Wildlife Service biologist, MYLF in the project area will be netted and relocated to nearby suitable habitat. The project area will continue to be

surveyed until construction is complete or the U.S. Fish and Wildlife Service determine no further surveys are necessary.

Mitigation for impacts to riparian and wetland vegetation: Impacts to wetlands and riparian vegetation were avoided and minimized through project design. Disturbance at the project site is limited to 0.39 acres, of which only 0.07 acres are permanent impacts. The wetland area extends beyond the project area such that only a small portion, (less than 10 percent) of the Waters of the United States/wetland will be affected by the spillway fish barrier project.

To mitigate for the permanent impact of 0.07 acres to wetland vegetation, a restoration project is planned to take place on Upper Independence Creek. This project will restore a severely eroding cutbank, improving water quality, Lahontan cutthroat trout spawning habitat, and compensating for lost wetland and riparian acreage.

Natural topography and hydrology will be retained in temporarily disturbed areas, and these areas will be revegetated with local wetland or riparian species as appropriate. All disturbed riparian and wetland vegetation will be salvaged and transplanted as part of the revegetation effort. The areas to be avoided will be temporarily fenced.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Answer to checklist questions

Historic resources would not be affected by the proposed project. The U.S. Fish and Wildlife Service surveyed the fish barrier construction site in 2010, evaluated the impact of the proposed project on cultural resources, and submitted a report in compliance with their Programmatic Agreement with the California Office of Historic Preservation. The U. S. Fish and Wildlife Service report stated that the project would not affect or impact cultural resources.

Mitigation Measures

If cultural resources are discovered during project implementation, any ground disturbing activities would be halted and the U. S. Fish and Wildlife Service regional archaeologist would be notified. Archaeologists with the U.S. Bureau of Reclamation would also be notified.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating	☐	☐	☐	☒

substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

☐☐☐☒

Answer to checklist questions a, c, d, e

The proposed project is not located in an Earthquake Fault Zone or on a geologic unit which is unstable or that would become unstable as a result of the project. The project is not located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code. Question e. is irrelevant to the proposed project area.

Answer to checklist question b

Although the project involves ground disturbing activities, no substantial erosion should result from project implementation. The project area has been minimized and is designed to eliminate streambank erosion that is presently occurring. All topsoil in the area will be stockpiled and reused in project revegetation, preventing topsoil loss from the site.

Mitigation Measures

Construction Best Management Measures (BMPs) will be followed to prevent erosion and topsoil loss from the site during and after construction. Erosion control notes on the drawings will be followed, as well as any permit requirements and engineer requirements.

Temporary BMPs to be used during construction include:

- The contractor will use only approved access routes and will stay within the specified limits of clearing.
- All areas to remain undisturbed will be designated with temporary fencing.
- If dewatering is necessary, the dewatering plan (Attachment 1, Appendix D) will be followed.
- Temporary erosion control and drainage structures specified in the drawings or as required by the engineer will be used and maintained by the contractor.
- During grading or trenching operations the contractor will use temporary drainage control measures per the final drawings or as approved by the engineer.
- All protective devices will be in place at the end of each work day when the five-day rain probability exceeds 40%.
- After a rainstorm, all silt and debris will be removed from check berms and sedimentation basins, and the basins pumped out.

- During a rain event, the contractor will monitor the erosion control devices and modify them to prevent the progress of any ongoing erosion.
- Prior to October 15 (or at the conclusion of construction, if earlier), all disturbed areas will be stabilized and winterized using mulch or slope protection fabric.

Best Management Practices for permanent site stabilization include:

Mulch and revegetate disturbed areas. Soils lacking adequate ground cover because of the proposed project will be mulched with available on-site materials such as pine needles, bark, branches, and grasses. In addition, areas denuded during construction will be actively revegetated with appropriate native plant species using plant materials (i.e., seeds, container stock, plugs, pole cuttings) collected from local sources and salvaged sod and topsoil.

Stabilize the banks of the spillway channel. The banks of the spillway channel will be graded during construction to a sustainable angle. Newly graded banks will be protected with slope protection fabric.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS
EMISSIONS. Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

☐
☐
☒
☐

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

☐
☐
☐
☒

Answer to checklist question b

The project will not conflict with any applicable plans, policies, or regulation adopted for the purpose of reducing greenhouse gas emissions.

Answer to checklist question a

The greenhouse gas of interest in the proposed project is carbon dioxide (CO₂) because it is a combustion product of vehicle and equipment fuel burning. The total amount of fuel expected to be used during the fish barrier construction project was estimated, then CO₂ emissions projected using an Environmental Defense Business Calculator program

(<http://business.edf.org/projects/fleet-vehicles/fleet-greenhouse-gas-emissions-calculator>)

- Gasoline burned by vehicles during construction, including worker commute: ~300 gallons
- Diesel burned by equipment transport and material supply: ~200 gallons
- Diesel burned by on-site equipment during construction: ~100 gallons

Projected total CO₂ emissions over the length of the project (2 months) = ~5 to 6 metric tons. As a point of reference, the Council on Environmental Quality suggested a threshold of 25,000 metric tons for disclosure in NEPA documents. Emissions from the construction project would

be minimal relative to background levels, such as vehicle traffic on SR89 or construction projects in Truckee.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

☐	☐	☐	☒
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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

☐	☐	☐	☒
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h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

☐	☒	☐	☐
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Answers to checklist questions a, c, d, e, f, g

The proposed project would not routinely transport, use, or dispose of hazardous materials. It is not located near locations listed in questions c, d, e, or f. It would not affect emergency plans.

Answers to checklist question b

The proposed project is not expected to result in the creation of health hazards, potential health hazards or expose people to potential health hazards since the proposed project is a small construction project located in a remote area. During construction, the use of construction equipment may have the potential to release hazardous substances, such as oil and diesel, or may contaminate exposed soil.

Answer to checklist question h

The project area is in a remote location with some light recreational development and one residence. The project site is located in an area of moderate-high wildfire threat. The proposed project could have an initial impact on potential ignitions of wildfire because of construction equipment; however, the work will be mostly within flood plain/meadow areas where there is less fire hazard. The following mitigations will reduce the risk to less than significant.

Mitigation Measures

The contractor will follow the written hazardous materials and fire plan (Attachment 1, Appendix G) at all times. TNC will provide 24-hour on-site supervision of the overall construction project and will have communication equipment.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage	☐	☒	☐	☐

systems or provide substantial additional sources of polluted runoff?

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) Otherwise substantially degrade water quality? | ☐ | ☐ | ☐ | ☒ |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ☐ | ☐ | ☐ | ☒ |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| j) Inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |

Answers to Checklist Questions b, g, i and j

This project will not have an impact on groundwater. The project is not near developed land and the proposed action would not affect housing within a 100-year flood hazard area. It does not increase the risk of flooding or inundation.

Answers to questions a, e, and f

The water quality objectives for beneficial uses that could potentially be affected within the short-term by implementation of the proposed project include sediment, turbidity, and to a lesser degree oil and grease. During construction, runoff from the site could be generated. The project is designed to ensure that the objectives of the Basin Plan are met to protect and/or enhance beneficial uses of water and to prevent violation of water quality standards or waste discharge requirements.

Answers to questions c, d, and h

The project includes construction of a fish barrier structure in the spillway channel and the 100-year floodplain. The drainage pattern of the site will not be substantially altered. The project

has been designed to prevent any increases in erosion or siltation, flooding, or redirection of flood flows.

Independence Lake stage is managed via a controlled outlet. When lake stage exceeds an elevation of 6,949 feet on the USGS gage (USGS 10342900, Independence Lake) the spillway channel is activated. Flow through the spillway channel is uncontrolled and is dictated by the lake stage and the release rate through the controlled outlet. There is a flashboard weir in the spillway channel that further regulates the elevation at which the spillway becomes active (Waterways Consulting 2010).

The integrity and function of the spillway is an important consideration. Hydraulic modeling was completed on two different hydrologic scenarios (Waterways Consulting 2010): a discharge of 325 cubic feet per second (cfs) and 660 cfs. 325 cfs corresponds to the highest flow on record (January 3, 1997) for the USGS gage below the dam. This is a conservative assumption of the discharge conveyed by the spillway for the flood of record, since the gage records the combined discharge of the outlet and spillway channels. 660 cfs is the design discharge for the spillway channel, based on records obtained from the California Department of Water Resources Division of Safety of Dams (DSOD).

Modeling showed that the backwater effect of the spillway barrier was found to dissipate well downstream of the flashboard weir, indicating that the barrier would not affect lake levels or the elevation at which the spillway becomes active.

Initial model runs showed the potential for the fish barrier's backwater effect to route flows into the meadow on the left side of the channel (looking downstream). If water were to flow into the adjacent meadow it would eventually re-enter the spillway channel downstream of the barrier. A significant elevation drop exists between the meadow surface and spillway channel so that water re-entering the spillway channel could result in streambank erosion or destabilization of the spillway channel. Therefore, it was considered imperative to contain the water within the spillway channel at the fish barrier location for all flows up to the spillway design discharge. Waterways Consulting modified the fish barrier design by extending the structure upstream on the left bank to tie into higher ground, thereby directing design flows over the weir and containing flows within the spillway channel.

The hydraulic evaluation determined that the proposed fish barrier would not backwater the lake or impact lake levels under the DSOD design discharge. The design of the barrier was modified to contain flows within the spillway channel and prevent flooding into the adjacent meadow. The proposed spillway fish barrier is not expected to alter the performance or function of the spillway channel.

Mitigation Measures

Water quality impacts will be prevented by follow construction erosion control measures and Best Management Practices, described in the answer to checklist question VI, Geology and Soils.

If flowing water is present in the spillway during construction, pH and turbidity will be monitored upstream and downstream of the project site (before and during construction) to ensure that there are no impacts from construction. Water quality monitoring is described in the Mitigation and Monitoring Plan (Attachment 1, Appendix H).

If site dewatering is necessary during construction, the Dewatering Plan will be followed (Attachment 1, Appendix D). The Hazardous Materials plan (Attachment 1, Appendix G) will be followed to prevent any impacts from fuel spills.

No mitigation is needed to prevent erosion or flooding caused by placement of the structure in the channel and 100 year floodplain. The project has been designed to prevent such impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Answers to checklist questions

The project will not physically divide an established community, conflict with any land use plans, policies or regulations, or conflict with any habitat conservation or natural community conservation plans.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Answers to Checklist Questions

The proposed project would not affect the availability of any mineral resources.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE. Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Answers to questions c, e, and f

The project will not lead to any permanent increase in ambient noise levels. The project is not located near an airport or within an airport land use plan. The project is not located near a private airstrip.

Answers to questions a, b, and d

Due to its remote location and limited use, Independence Lake has few sources of human-caused noise. The main sources are from occasional vehicle traffic, campground users, and recreation activities during the summer. Boat use is mostly limited to paddled watercraft. The proposed fish barrier construction site does not have developed trail access, is 400 feet from the lake shore and not near the primary recreation use areas. Ambient noise is generally dominated by natural sounds.

Because Independence Lake is a quiet place, the construction-generated noise would be noticeable near the construction site and possibly at walk-in campsites, about 0.5 miles from the construction site. Noise carries over open water and under certain wind conditions boaters on the eastern part of Independence Lake would hear construction-generated noise. Topography and a wooded buffer of about 100 yards surrounding the construction area help to buffer construction noise.

Transport of construction materials and equipment would require the use of commercial trucks. These trucks and other motorized construction equipment, including use of a cement truck, a small excavator and bulldozer, would increase the daytime ambient noise levels at the eastern shore of Independence Lake during their use.

Commercial trucks used to transport construction materials and equipment from off-site sources to the project area would generate approximately 25 truck trips (round trip) during the extent of the project. Workers commuting to the work site would generate about 40 trips.

Mitigation Measures

The majority of the 8-week construction period will be during the recreation late-season (after Labor Day weekend) so recreation use will be light (about 6-8 vehicles per day). Construction will be restricted to weekdays from about 7 a.m. to 5 p.m. Access roads to Independence Lake would be posted with notices about the fish barrier construction project and scheduled forest thinning on TNC land at Independence Lake.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. POPULATION AND HOUSING.

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

☐
☐
☐
☒

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

☐
☐
☐
☒

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

☐
☐
☐
☒

Answers to checklist questions

The project will not have an impact on population growth or housing. There are no growth-inducing aspects of this project.

Mitigation Measures

None needed.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES. Would the project:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Answers to checklist questions

Because of the project's remote location, construction activities are not expected to interfere with police and fire access. In addition, the project would have no effect on schools or other public facilities, since none are located in the project area.

Mitigation Measures

No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION. Would the project:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Answers to checklist questions

The project does not have an effect on existing recreational facilities. In the future, a trail may use the spillway barrier as means to cross over the channel. However, the trail is not yet planned, designed, or permitted.

Mitigation measures

None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency	☐	☐	☐	☒

access?

f) Conflict with adopted policies, plans,
or programs regarding public transit,
bicycle, or pedestrian facilities, or
otherwise decrease the performance or
safety of such facilities?

☐☐☐☒

Answers to checklist questions

The project would have no impacts on transportation or traffic in the manner described.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the	☐	☐	☐	☒

project's solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

☐☐☐☒

Answers to checklist questions

The project would not impact any utilities or service systems in the manner described.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Answer to checklist question a

With the previously discussed mitigations incorporated, the project will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below a self-sustaining level or reduce the number or restrict the range of a rare or endangered plant or animal. See section IV. Biological Resources, and the attached EA (Attachment 1). The project will not have any impact on cultural resource sites.

Answer to checklist question b

The BA (Attachment 2) contains an analysis of cumulative effects of the project. It concluded that the project would not have any adverse cumulative impacts.

Answer to checklist question c

The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

Attachments:

1. Environmental Assessment for the Independence Lake Spillway Fish Barrier, LaBoa 2011
2. Biological Assessment, Independence Lake Spillway Fish Barrier, LaBoa 2011

References:

- Holdredge and Kull, 2009. Geotechnical Engineering Report for Independence Lake Fish Barrier Project. Prepared for Blue Line Consulting, Santa Cruz, CA. On file with TNC, Reno, NV. 37 pp.
- Swanson Hydrology + Geomorphology, 2009. Upper Independence Creek Geomorphic and Hydrologic Study. Prepared for TNC and TRWC. On file with TNC, Reno, NV. 88 pp.
- Waterways Consulting, 2010. Spillway Barrier Hydraulic Modeling Report. Prepared for TNC and TRWC. On file with TNC, Reno, NV. 30 pp.
- Waterways Consulting, 2011. Independence Lake Lahontan cutthroat trout enhancement plan, Spillway fish barrier, 100% submittal. Prepared for TNC. On file with TNC, Reno, NV. 10 pp.

**CEQA APPENDIX J-a:
ENVIRONMENTAL INFORMATION FORM**

Date Filed:

General Information

1. Name and address of developer or project sponsor:

Kathryn Landreth
The Nature Conservancy
One E. First St., Ste. 1007
Reno, NV 89501

2. Address of project: There is no street address.

Assessor's Block and Lot Number: 019-060-006

3. Name, address, and telephone number of person to be contacted concerning this project:

The Nature Conservancy
One E. First St., Ste. 1007
Reno, NV 89501
Christopher Fichtel
(775) 322-4990 Ext. 14

4. Indicate number of the permit application for the project to which this form pertains:

The project title is: Independence Lake Spillway Fish Barrier; no permit number has been assigned.

5. List and describe any other related permits and other public approvals required for this project, including those required by city, regional, state and federal agencies:

Special Use permit/grading/building permit, Sierra County
401 Water Quality Certification, Lahontan Regional Water Quality Control Board
General Waste Discharge Small Construction Permit, Lahontan Regional Water Quality Control Board
Nationwide permit 27, U.S. Army Corps of Engineers
NEPA, U.S. Bureau of Reclamation

6. Existing Zoning District: Sierra County, General Forest (GF).

7. Proposed use of site (project for which this form is filed):

The project purpose is to construct a fish barrier in the spillway channel of Independence Lake. The barrier is necessary to protect the native population of Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), a federally listed threatened species. The barrier will prevent colonization of the site by non-native species such as brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and rainbow trout

(*Oncorhynchus mykiss*). These species compete with, prey upon, and hybridize with Lahontan cutthroat trout (LCT).

Project Description

8. Site Size. The project area is 0.78 acres.

9. Square footage. The area of impact within the site is 0.39 acres or 16,988.4 square feet.

10. Number of floors on construction. N/A

11. Amount of off-street parking provided. N/A

12. Attach plans. Attached. Please see 100% Design Plans.

13. Proposed scheduling. Construction is proposed to start August 1, 2011 and end by October 15, 2011.

14. Associated projects:

Table 1 lists the past, present, and reasonably foreseeable actions considered in the cumulative impacts analysis completed for NEPA documentation (Attachment 1).

Table 1 – Activities Considered in Cumulative Effects Analysis

Project Name	Implementing Entities, Agencies and Cooperators
Upper Independence Creek weir removal and streambank stabilization	TNC, US Forest Service, US Geological Survey, U.S. Fish and Wildlife Service, CA Dept. of Fish and Game, Truckee River Watershed Council
Brook trout removal in Upper Independence Creek	US Forest Service, US Geological Survey, U.S. Fish and Wildlife Service, CA Dept. of Fish and Game, TNC
Forest thinning	TNC, CALFIRE

Please see #32 for further description of the associated projects and explanation of cumulative effects.

15. Anticipated incremental development. At present, no further development of the project site is planned. A trail may cross through the project area at a future date; however the trail alignment has not been identified, planned, or designed.

16. If residential, number of units. N/A

17. If commercial, area. N/A

18. If industrial, type. N/A

19. If institutional, function. N/A

20. Variance, conditional use or rezoning application required? A Special Use permit will be required by Sierra county.

Are the following items applicable to the project or its effects? Discuss below all items check yes (attach additional sheets as necessary).

	Yes	No
21. Change in existing feature of any bays, tidelands, beaches, or hills, or substantial alteration of ground contours.	☐	☒
22. Change in scenic views or vistas from existing residential areas or public lands or roads.	☐	☒
23. Change in pattern, scale, or character of general area of project	☐	☒
24. Significant amounts of solid waste or litter	☐	☒
25. Change in dust, ash, smoke, fumes, or odors in vicinity	☒	☐
26. Change in ocean, bay lake, stream or ground water quality or quantity, or alteration of existing drainage patterns.	☒	☐
27. Substantial change in existing noise or vibration levels in the vicinity	☒	☐
28. Site on filled land or on slope of 10% or more	☐	☒
29. Use or disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.	☐	☒
30. Substantial change in demand for municipal services (police, fire, water, sewage, etc.)	☐	☒
31. Substantially increase fossil fuel consumption (electricity, oil, natural gas, etc.)	☐	☒
32. Relationship to a larger project or series of projects.	☒	☐

25. Change in dust, ash, smoke, fumes, or odors.

There will be a temporary increase in odors during construction of the project, and there is potential for an increase in construction related dust.

Odors would come from construction vehicle exhaust. The proposed fish barrier construction site does not have developed trail access, is 400 feet from the lake shore, and is not near the primary recreation use areas at Independence Lake. Construction will primarily take place during weekdays late in the season when visitation is low.

There is a potential for temporary, localized changes in dust due to fugitive dust during construction activities. The entire construction site is <1 acre, which includes the actual fish barrier construction area, as well as equipment and materials storage areas.

Access roads and the construction area will be watered to prevent fugitive dust. Speed limits in the project area will be kept below 15 mph. Inactive stockpiles will be watered or covered during windy

conditions. Disturbed area will be revegetated as outlined in the revegetation plan (Attachment 1, Appendix C).

26. Change in ocean, bay lake, stream or ground water quality or quantity, or alteration of existing drainage patterns.

The project will take place in the spillway channel of Independence Lake. There is a potential for construction related water quality impacts.

Water quality impacts will be prevented by following construction erosion control measures and Best Management Practices. Water quality (pH and turbidity) will be monitored before and during construction as outlined in the Mitigation and Monitoring Plan (Attachment 1, Appendix H). If site dewatering is necessary during construction, the Dewatering Plan will be followed (Attachment 1, Appendix D). The Hazardous Materials plan (Attachment 1, Appendix G) will be followed to prevent any impacts from fuel spills.

The project includes construction of a fish barrier structure in the spillway channel and the 100-year floodplain. The drainage pattern of the site will not be substantially altered. The project is designed to prevent any increases in erosion or siltation, flooding, or redirection of flood flows.

27. Change in existing noise or vibration.

The project will not result in any permanent increases in noise or vibration levels. The project will result in temporary increases in noise levels during construction.

Due to its remote location and limited use, Independence Lake has few sources of human-caused noise. The main sources are from occasional vehicle traffic, campground users, and recreation activities during the summer. Boat use is mostly limited to paddled watercraft. The proposed fish barrier construction site does not have developed trail access, is 400 feet from the lake shore, and is not near the primary recreation use areas. Ambient noise is generally dominated by natural sounds.

Because Independence Lake is a quiet place, the construction-generated noise would be noticeable near the construction site and possibly at walk-in campsites, about 0.5 miles from the construction site. Noise carries over open water and under certain wind conditions boaters on the eastern part of Independence Lake would hear construction-generated noise. Topography and a wooded buffer of about 100 yards surrounding the construction area would help to buffer construction noise.

32. Relationship to a larger project or series of projects.

The Independence Lake Spillway Fish Barrier Project is related to a series of projects intended to protect and restore the aquatic ecosystem of Independence Lake, including the native fish species. Independence Lake holds the only native, self-reproducing, lake population of Lahontan cutthroat trout (LCT) in California. Because of the unique nature of this population, this species is a particular focus of conservation efforts at Independence Lake.

In the answer to question 14 above, three related projects are listed: Upper Independence Creek weir removal and streambank stabilization, Brook trout removal in Upper Independence Creek, and Forest thinning.

Upper Independence Creek Weir Removal and streambank stabilization. Beginning in the fall 2011, TNC and partners will remove an old weir and restore an associated cutbank currently threatening the key spawning stream for LCT.

Scientific and management insights identified the need to remove an old non-functioning weir and rehabilitate an associated downstream cutbank at Upper Independence Creek (UIC) located at the northern end of Independence Lake. The cutbank is a site of high erosion on the outside of a meander bend. The eroding bank is causing harm to in-stream cutthroat trout habitat through sedimentation of spawning gravels and depletion of cover and resting habitat. The weir was destroyed by high storm water flows several years ago and the remains of the weir are causing disruptions to the natural geomorphic and hydrologic patterns in the creek.

The project has two main goals and objectives:

1. Remove the old, non-functioning fish weir to restore natural hydrology of UIC
2. Restore 80-feet of cutbank to reduce sedimentation in Upper Independence Creek.

CEQA and NEPA will be required for this project and are being prepared separately. This project will also be subject to 401 Water Quality Certification through the Lahontan Regional Water Quality Control Board and Section 404 authorization from the U.S. Army Corps of Engineers (under a Nationwide permit).

Removal of brook trout in Upper Independence Creek. For six years the U.S. Geological Survey has led an experimental annual electroshocking effort to remove brook trout from Upper Independence Creek under Scientific Collector's Permit with the CA Department of Fish and Game. Other cooperating agencies include the U.S. Forest Service, CA Department of Fish and Game, and the U.S. Fish and Wildlife Service. This project supports the long-term conservation outcome at Independence Lake of increasing the number of spawning adult LCT from the current number of about 175 adults annually to 500 – 1,000 adults annually. The number of spawning LCT increased to 237 in 2010, the highest number in 50 years. Before the project began the highest number of spawning LCT was 150 and there has been a steady increase each year since 2005, when the removal program began. LCT egg to fry survival has increased three-fold during this same period.

Until brook trout are no longer a threat to the Independence Lake LCT population, it is expected this program will continue.

Forest Thinning. To maintain the watershed, the lake ecosystem, and water quality, and restore natural habitat diversity, TNC will be implementing forest management practices that will 1) promote "old-growth" stand conditions of few, large, widely spaced trees with an open understory; 2) reduce the build-up of fuels; 3) reduce the risk of high severity wildfire; 4) enhance the natural regenerative

capacity of aspen; and 5) restore degraded wet meadow and riparian habitats. Forest surveys by a CA Registered Professional Forester (RPF) in 2008 affirmed that the forests and montane chaparral at Independence Lake are at risk of high-severity wildfire.

During summer 2011, approximately 70 acres of forest stands will be treated to meet these objectives. Logging and other vegetation management activities will be concurrent with the fish barrier construction.

Forestry activities will be conducted under a 5-year Timber Harvest Plan approved by CalFire.

Cumulative Impacts. Cumulative impacts of these related projects were analyzed in the Environmental Assessment completed for NEPA analysis (Attachment 1, Section 3.13). It was found that there would be no adverse cumulative impacts from the completion of this project.

Environmental Setting

33. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical, or scenic aspects. Describe any existing structures on the site, and the use of the structures. Attach photographs of the site.

The proposed fish barrier structure would be located on the spillway channel of Independence Lake. The project site is located a short distance east of Independence Lake along the spillway channel, approximately 500 feet downstream of the existing flashboard weir outlet for the reservoir (Photo 1).

General setting: Independence Lake is located in Sierra County and Nevada County, California, approximately 9 air miles northwest of Truckee, California, and 5 miles west of State Route 89. The land surrounding Independence Lake is owned by The Nature Conservancy and is managed to preserve the aquatic ecosystem including the native fish populations. A preserve manager home/office and a few other structures are the primary development at the lake. Public recreational access is allowed. Proposed and existing recreation uses include hiking, fishing, boating (primarily non-motorized), and camping. On average, about 6-8 visitor vehicles per weekday are expected, with maybe double that number on weekends. Adjacent lands are owned by the U.S. Forest Service.

Topography of project site: The site area is relatively level to gently downsloping to the northeast. It appears that the spillway channel is at or near the location of the natural Independence Lake outlet stream. The spillway channel joins the excavated dam outlet channel a few hundred feet downstream of the proposed fish barrier. Low levees border the spillway channel on both sides. The proposed fish barrier is bounded by a grassy meadow area and surrounded by dense conifer forest (Photo 2).

Soil stability of project site: Soil conditions encountered in a geotechnical field investigation (Holdredge and Kull, 2009; Geotechnical Engineering Report for Independence Lake Fish Barrier Project) generally consisted of hard fine grained silt overlying dense relatively fine sand soil of low plasticity that should provide suitable lateral and vertical foundation support for the proposed fish barrier structure. No highly plastic, compressible, or potentially expansive soil was encountered.

Silty sand soil encountered 2.5 to 4.5 feet below the ground surface is highly erosive. The soil appears to have been eroded out from under the near-surface silt soil at several locations on the sides of the stream bank. The sand soil appears dense and should stand near vertical in temporary excavations, but may be prone to caving if significant groundwater is encountered. If groundwater is present during foundation excavation and concrete placement, the excavation will be dewatered. A dewatering plan has been developed (Attachment 1, Appendix D).

With the exception of the organic surface soil, site soil is generally suitable for reuse as structural fill. However, the fine grained silt soil may be difficult to uniformly moisture condition and compact to meet project specifications.

Plants and animals: The biological resources of the project site and adjoining lands are described in detail in the Biological Assessment prepared for NEPA compliance (Attachment 2). The project site includes wetland vegetation and lodgepole pine forest. A California sensitive plant species, Plumas Ivesia (*Ivesia sericoleuca*) is located near the construction site. The population will be flagged prior to construction and avoided in order to avoid impacts. Additionally, construction equipment will be limited to designated routes. The area is dominated by native plants. The spillway channel does not typically carry flow during the late summer when construction is planned. However, if water is present, surveys for mountain yellow legged frogs (*Rana muscosa*) and fish will occur. Mountain yellow legged frogs have been observed within 3 miles of the project site, so there is a possibility that they could be present. The only special status fish species that could potentially be present is Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). Lahontan cutthroat trout are present in Independence Lake but are not found below the spillway. However, in high flows fish could potentially pass over the flashboard weir from the lake and enter the spillway channel. Any fish or frogs found in the spillway channel will be relocated to suitable habitat; a fish salvage plan has been developed (Attachment 1, Appendix E). The project is of limited scope, size, and timing, therefore no terrestrial species should be impacted by construction (see Attachment 1, Attachment 2).

Cultural/historic/scenic: The project site was surveyed for cultural resources and none were found on site. The location has been highly altered since the construction of the Independence Lake dam in 1939. The site does not have any notable scenic aspects.

Existing structures: There are no existing structures at the project location currently. The channel has been altered in the past to arrest headcutting. Numerous 2- to 3-foot diameter boulders were previously placed in the channel to apparently help reduce the headcutting. A flashboard structure upstream of the project site controls water release from Independence Lake into the spillway channel. The project has been designed so as to not impact the flashboard structure.

34. Describe the surrounding properties, including information on plant and animals and any cultural, historical, or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (one-family, apartment houses, shops, department stores, etc.), and scale of development. Attach photographs of the vicinity.

The area surrounding Independence Lake is owned by the U.S. Forest Service – Tahoe National Forest, Sierraville District. The area is undeveloped and is predominantly mixed coniferous forest with some meadow and aspen habitat. A research station operated by the University of California, Berkeley (Sagehen Creek Field Station) is located approximately 3 air miles from the project site, in the adjacent watershed. Some rural residential development is located approximately 2-3 miles from the project site.

Please see attached photographs.

Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information are true and correct to the best of my knowledge and belief.

Date: _____

Signature _____

For _____

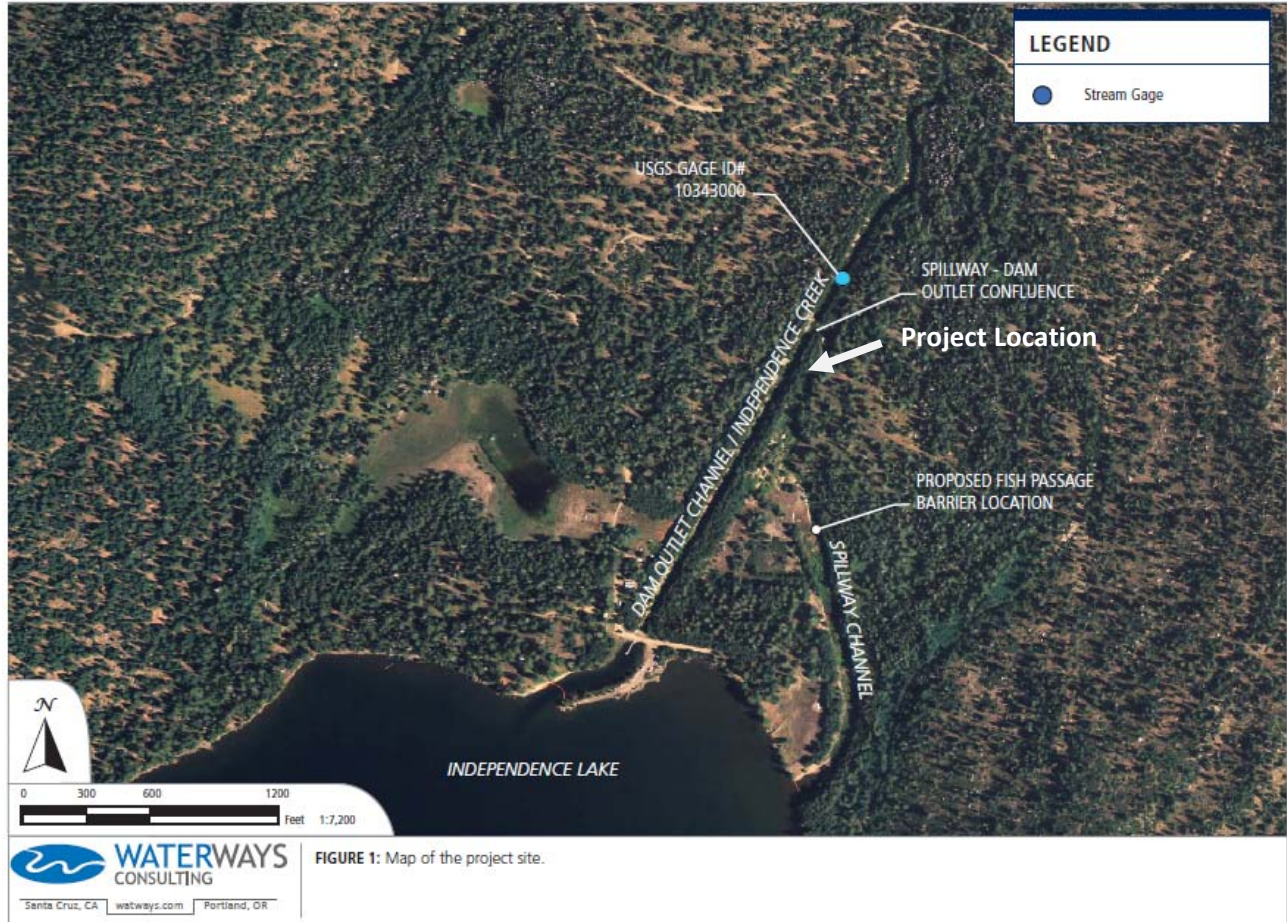


Photo 1. Aerial photo of project site.



Photo 2. Looking downstream from the barrier site. The left bank is a wetland/meadow area, the right bank is a lodgepole pine forest.



Photo 3. Current conditions at barrier site. The boulders have been placed in the channel to arrest a headcut. The streambed around the trees in the middle of the photo has eroded around the trees.



Photo 4. Looking upstream towards the barrier site, the eroding bank on the right of the photo will be laid back and stabilized.



Photo 5. Adjoining U.S. Forest Service property on the ridgelines to the north and west of the parcel.



Photo 6. Ajoining U.S. Forest Service property to the south of the parcel in the Sagehen Basin.