



United States Department of the Interior

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Standing Analysis for Effects to Lahontan Cutthroat Trout from In-Water Projects in Lake Tahoe

Prepared by

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1 INTRODUCTION

1.1 PURPOSE OF STANDING ANALYSIS

This Standing Analysis (SA) provides the analytical basis for an optional, alternative consultation process for Federal action agencies to address potential effects of future actions, pursuant to section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), to the following species: Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). The U.S. Fish and Wildlife Service (Service) developed this SA to streamline the process of reviewing actions that would result in a “may affect, not likely to adversely affect” (NLAA) determination for the subject species.

This SA provides the analytical basis for consultations conducted for Federal actions that meet the criteria described below as delivered through a Determination Key (DKey) in the Service’s Information for Planning and Consultation (IPaC) application. To obtain consultation documents, including concurrence with NLAA determinations, Federal agencies must use the associated DKey in IPaC to answer questions about the proposed action. By screening the project through the DKey, all or part of the SA is adopted by the Federal action agency and used to submit a concurrence request to support their NLAA determination. Consultation under section 7(a)(2) is only required for actions that may affect a listed species or critical habitat; actions which an action agency determines will have no effect on species or critical habitat do not require submittal to the Service.

1.2 BENEFITS OF THE STANDING ANALYSIS

The IPaC DKey based on this SA was designed such that, once the action agency provides the project-specific information required by the DKey, the resulting document contains the required components for informal consultation for qualified projects. Throughout the remainder of this document, statements regarding this SA refer to both the SA and the associated DKey.

The routine nature of the review of many Federal actions (projects) provides an opportunity to comprehensively evaluate the aggregate of their effects on species and critical habitats, as appropriate. The streamlined process facilitated by this SA will reduce the amount of Service staff time necessary to review actions requesting consultation and provide Federal agencies, consultants, and other project proponents a predictable, consistent, and timely response for qualified actions. In addition, development of an SA to assess the impacts of individual projects allows the Service to track and evaluate aggregate effects of multiple independent actions on listed species and/or critical habitat(s).

1.3 ELIGIBILITY FOR USE OF THE STANDING ANALYSIS

The SA describes the scope of activities that it addresses and provides the technical basis for Service concurrence on Federal action agency’s NLAA determinations that are consistent with the findings of the SA. The SA may also provide technical information to help agencies identify actions that will have no effects to the listed species or critical habitat(s). For projects that do not

qualify to use the SA, action agencies/project proponents should coordinate directly with the local Ecological Services Field Office (ESFO) and address any consultation requirements, as appropriate.

1.4 ENSURING ACCURATE DETERMINATIONS

As is true in all consultation procedures, the Service relies on complete and accurate information provided by Federal action agencies during consultation. To apply this SA to a project, it is the responsibility of the action agency/project proponent to provide information that is truthful and accurate and that fully represents the entire scope of the project in order to comply with the Act.

Where appropriate in our analysis, we make note of which activities are expected to have no effects¹ on a species or critical habitat. This information is provided as technical assistance to action agencies making no effect/may affect determinations.

1.5 UPDATES TO THE STANDING ANALYSIS

This SA will be reviewed annually and updated as needed to ensure the analysis contains the best scientific and commercial data available. This update process will include regular reviews to ensure that the analysis is accurate and valid, and that the SA still meets the Act's requirements. All updates will also ensure that the logic is sound and determinations are appropriate for covered activities. Updates will be signed under an updated cover.

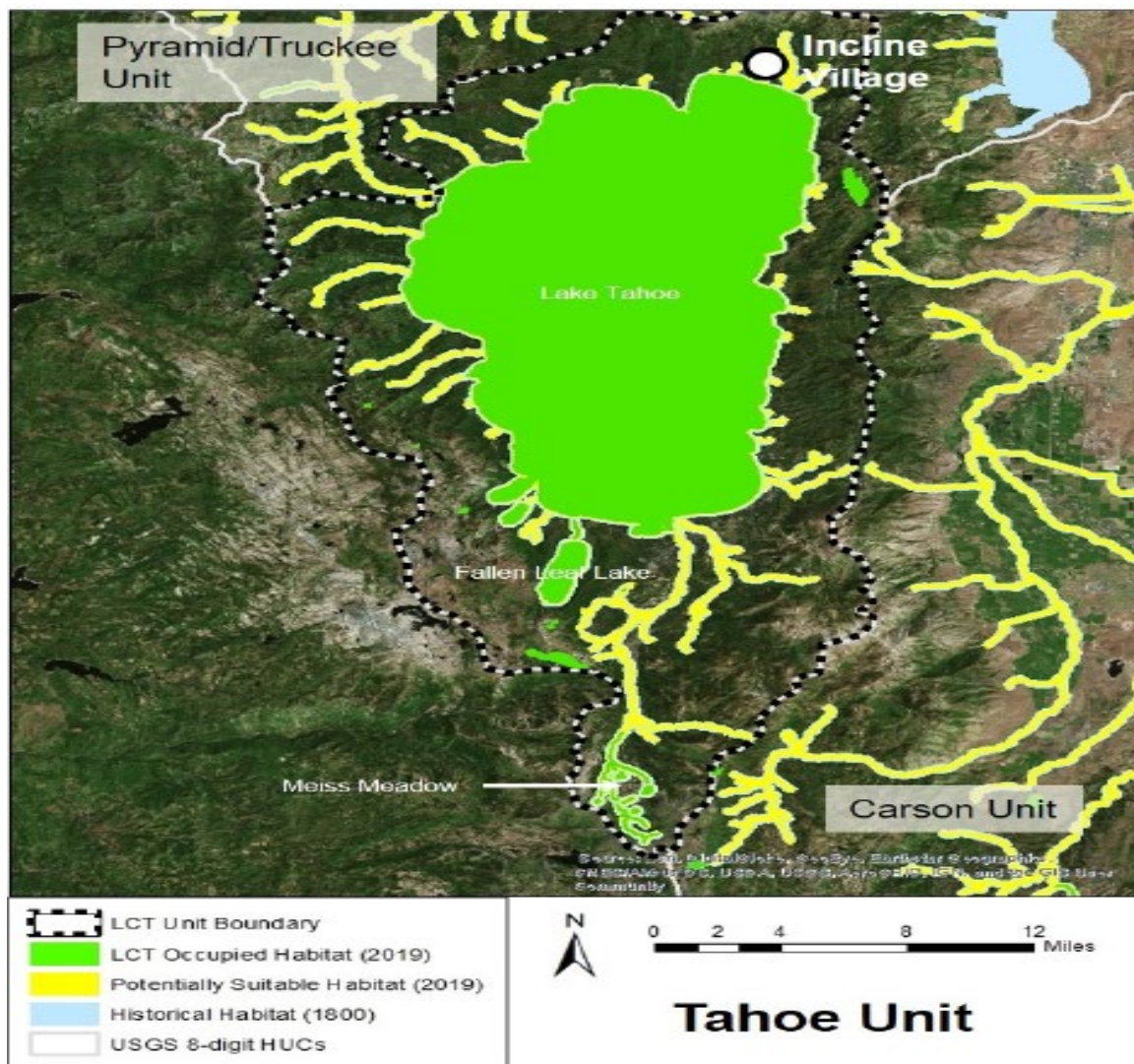
Projects reviewed under this SA must rely on the version that is current on the date consultation is completed. For reference, both current and previous versions of the SA will be maintained by the lead field office.

2 COVERED AREA

This SA applies within the area described below, unless otherwise excluded (Section 3.1). In delineating the geographic scope of this SA (coverage area), we determined the appropriate extent based on the species and critical habitat(s) included and the activities covered herein. To qualify to use this SA, a project's action area must fall completely within the covered area.

This SA coverage area is the entire Tahoe Basin in California and Nevada which includes the following counties: Placer County, Eldorado County, Douglas County, and Washoe County. See Figure 1 below for the full covered area of this SA.

¹ A "no effect" determination is only appropriate when either the species is not present in the action area or is not exposed to any possible stressors or impacts from the proposed action.



3 COVERED ACTION DESCRIPTION

The actions described herein include all activities addressed in this SA. The action description, conservation measures, and covered area inform the SA and describe which specific activities are appropriate for NLAA outcomes for individual projects under this analysis. The description of activities, and their inclusion in the SA, does not imply that said activities always result in effects to the species, nor is it meant to cover activities that fall outside of the prescribed bounds of the analysis as described below. Action agencies are not required to use this SA; they continue to have the option to request individual consultation on a project; however, in most cases, we anticipate use of the SA will substantially decrease consultation timeframes.

Action	Description
Pier, catwalk, dock, boatlift or similar feature	Placement, maintenance, repair, modification, expansion, or removal of a pier, catwalk, dock, boatlift or similar feature where the only disturbance is piling installation or removal
Scientific measuring devices	Placement, maintenance, repair, or removal of water loggers, water filters, or other similar features
Fish habitat mitigation structures	Placement, maintenance, repair, or removal of fish pyramids or crawfish traps
Aquatic invasive species nonchemical management	Placement, maintenance, repair, or removal of benthic barriers or other similar stationary features
Mooring buoy field	Modification, maintenance, expansion, or removal of buoys and their associated anchors occurring in a total project area size of less than 10 acres
Maintenance Dredging	Removal of lakebed sediments through a barge mounted excavator or suction method occurring in a total project area size of less than 1 acre annually up to a maximum of 10 years
Shoreline erosion control activities	Placement, removal, or replacement of shoreline, dynamic, or static revetment occurring in a total project area size of less than 1 acre annually up to a maximum of 10 years
Buoy/Buoys	Placement, maintenance, repair, modification, or removal of a buoy/buoys

3.1 EXCLUSIONS

Actions that include certain activities, occur in certain geographic areas, or meet one or more context-dependent conditions will not be eligible to use the SA. For projects requiring consultation (*i.e.*, that “may affect” listed species or critical habitats) that do not qualify due to one or more of these exclusions, action agencies/project proponents must contact the appropriate ESFO directly to complete their consultation requirements.

3.1.1 Excluded Activities

To receive the Service’s concurrence of an action agency’s NLAA determination or the Service’s concurrence for an NLAA determination, based on this SA, actions and activities may NOT include the following:

- 1) Projects occurring outside of Lake Tahoe waters.
- 2) Projects occurring within 1000 feet of a tributary.

- 3) The placement, maintenance, repair, modification, expansion or removal of a pier, catwalk, dock, boatlift or similar feature with more disturbances than piling installation or removal.
- 4) The placement, maintenance, repair, or removal of scientific measuring devices that are not water loggers, water filters, or other similar features.
- 5) The placement, maintenance, repair, or removal of aquatic invasive species nonchemical management that are not benthic barriers or other similar stationary features.
- 6) Mooring buoy field modification, maintenance, expansion, or removal occurring in a total project area size exceeding 10 acres.
- 7) Maintenance dredging occurring in a total project area size exceeding 1 acre annually up to a maximum of 10 years.
- 8) Shoreline erosion control activities occurring in a total project area size exceeding 1 acre annually up to a maximum of 10 years.
- 9) Projects that include in-water work within Lake Tahoe but do not require a USACE permit.
- 10) Projects where not all TRPA and/or USACE water-quality and water clarity control measures will be implemented.
- 11) Projects that do not include in-water activities that could potentially affect Lahontan cutthroat trout.

3.1.2 Excluded Areas

As outlined in the Covered Area section (2.0), this SA will apply broadly where the Lahontan cutthroat trout may be present, except in any area outside of Lake Tahoe waters.

3.1.3 Conditional/Other Exclusions

In addition, the following conditional exclusions are addressed below in the Conservation Measures section.

3.2 CONSERVATION MEASURES

This SA applies conservation measures in the traditional sense of the definition – that is, design features to avoid adverse effects on an individual, population, or species. Projects using this SA to support a determination of NLAA must apply all required conservation measures and incorporate additional recommended conservation measures to the extent practicable. The inability to adopt certain conservation measures may result in a project not qualifying to use this SA.

3.2.1 Permits

The proposed action will require a permit from the Tahoe Regional Planning Agency (TRPA) and the U.S. Army Corps of Engineers (USACE).

3.2.2 Water Quality and Water Clarity

The proposed action will require implementation of all specific water quality and water clarity control measures stipulated in the 401 and/or 404 Water Quality Certification referenced in the USACE permit(s).

4 COVERED SPECIES AND CRITICAL HABITAT

The following section includes a summary of relevant background information on the species used to develop this SA. A complete description of the species can be found on ECOS (<https://ecos.fws.gov>). This overview is included to inform the reader of the species prior to the analysis of the effects of the action presented below. Species and critical habitats within a project's action area that may be affected by the proposed action, but are not covered by this SA, will require individual consultation with the local ESFO.

Relevant information on the status of LCT, life history traits, population dynamics, habitat requirements, threats, and distribution are further detailed in the Recovery Plan for the Lahontan Cutthroat Trout (Service 1995), Updated Goals and Objectives for the Conservation of Lahontan Cutthroat Trout (Updated Goals and Objectives; Lahontan Cutthroat Trout Coordinating Committee 2019), the Lahontan Cutthroat Trout 5-Year Review (Service 2009) and the Lahontan Cutthroat Trout Status Review (Service 2023). Lahontan cutthroat trout are a threatened species under the Act. Originally listed by the Service as endangered on October 13, 1970 (35 FR 13520), LCT were subsequently reclassified as threatened on July 16, 1975, to facilitate management and allow regulated angling (40 FR 29864). There is no designated critical habitat for LCT (Service 1995).

Lahontan cutthroat trout inhabit lakes and streams but are obligatory stream spawners. Spawning generally occurs from April through July, depending upon stream flow, elevation, and water temperature (McAfee 1966; Lea 1968; Moyle 2002; Rissler *et al* 2006). Small, intermittent, tributary streams and headwater reaches are sometimes used as spawning sites (Coffin 1981). Growth rate is variable for LCT, with faster growth occurring in larger, warmer waters, and particularly where forage fish are utilized (Service 1995). Lahontan cutthroat trout in fluvial (stream) environments generally become sexually mature around year three (Ray *et al* 2007) while LCT in adfluvial (lake) environments become sexually mature between three and four years of age (Rissler *et al* 2006). Distance traveled to spawning sites varies with stream size and strain of LCT (strain refers to locally adapted populations in a particular area or environment). Historically, LCT populations in Pyramid and Winnemucca Lakes migrated as far as 100 miles up the Truckee River into Lake Tahoe and its tributary streams (Sumner 1940; Peacock and Kirchoff 2007). Lake dwelling LCT populations have adapted to a wide variety of lake habitats from oligotrophic (with low nutrient levels and primary productivity) alpine lakes (*e.g.*, Independence Lake) to large, productive desert terminal lakes (*e.g.*, Pyramid Lake). Optimal stream habitat is characterized by clear, cold water with silt-free substrate and a 1:1 pool-riffle ratio. Streams should have a variety of habitats including areas with slow deep water, abundant instream cover (*i.e.*, large woody debris, boulders, undercut banks), and relatively stable streamflow and temperature regimes. Streambanks should be well vegetated to provide cover, shade, and bank stabilization.

Historic overfishing practices, damage to spawning tributaries caused by pollution, logging, water diversions, and the introduction of nonnative species had detrimental effects on LCT, and this species was considered extirpated from Lake Tahoe by the 1930s. Since 2011, LCT have

been stocked intermittently in Lake Tahoe, however, reintroduction efforts in a smaller lake with a similar composition of nonnative fish species found low survival and abundance of LCT due to predation from nonnative fishes (Al-Chokhachy *et al* 2009). In 2019, the Lahontan National Fish Hatchery Complex in Gardnerville, Nevada, began a more dedicated stocking program in Lake Tahoe and by 2022 had reintroduced more than 200,000 Pilot Peak strain LCT. Several genetic analyses confirm that Pilot Peak LCT are the strain most genetically similar to the LCT historically found in Lake Tahoe (Peacock and Kirchoff 2007). Future additional stocking of LCT into Lake Tahoe will be continued, with plans of up to 100,000 fish per year, but is dependent on production numbers, water availability at the hatchery, infrastructure and other regional stocking commitments. Approximately 20 percent of released LCT are tagged to help biologists evaluate the success of the stocking effort along with the growth, survival, and distribution of the fish. Lake Tahoe LCT stocking efforts help achieve updated recovery objectives for the Tahoe Unit (TU) including: TU1 – Manage and minimize threats (*i.e.*, competition, predation) and hybridization risk from non-native trout species to allow for the formation and/or maintenance of the TU LCT population; TU2 – Establish multiple adfluvial recovery populations within the unit, including Lake Tahoe (Lahontan Cutthroat Trout Coordinating Committee 2019).

5 EFFECTS OF COVERED ACTIVITIES

This section covers the effects of the anticipated activities covered in this SA to the covered species and critical habitat (above).

The effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action but that are not part of the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (50 CFR 402.02).

A project's action area must include all areas affected (*i.e.*, modifications to land, air, or water) by the proposed action, and not merely the immediate area involved in the action. If the activities satisfy the two-part test for causation ("but for" and "reasonably certain to occur"), they should be considered as part of the action. To qualify for use of this SA, a project's action area must be wholly encompassed by the coverage area for this SA as described above and all activities within the proposed action must fit within the scope of the SA.

Qualifying actions typically involve one or more of the stressors addressed below. Proposed projects involving these stressors *may affect, but are not likely to adversely affect* LCT. Our concurrence is based on our expectation that LCT are unlikely to be within the action area during construction and the action agency's (and your applicant's) commitment to implement the special conditions of the applicable required construction permits. These considerations form the basis of our assessment that the nature of anticipated impacts to LCT will be insignificant and

discountable. No critical habitat has been designated for this species; as a result, none will be affected.

5.1 EFFECTS OF SUSPENSION OF SEDIMENTS ON LCT

Suspended sediment can affect fish behavior, physiology, embryo survival, and produce habitat alterations which may result in physiological stress and reduced growth and survival (Suttle *et al* 2004). Effects on fish behavior include avoidance of turbid water (Bisson and Bilby 1982), altered territoriality (Berg and Northcote 1985), changes in foraging and predation (Gregory 1993; Gregory and Northcote 1993), and homing and migration (Whitman *et al* 1982). Physiological effects associated with increased levels of suspended sediment or turbidity include gill trauma (Berg and Northcote 1985) and increased plasma cortisol levels indicating stress (Redding *et al* 1987). Survival of salmonid embryos is reduced dramatically as fine sediment increases (Bjornn and Reiser 1991). An increase in turbidity also reduces predation rates for all prey sizes for LCT (Vinyard and Yuan 1996). Common alterations of salmonid habitat from fine sediment deposition are increased embeddedness (the degree to which gravel, cobble and boulders are covered or sunken into the silt, sand or mud of the stream bottom) (Chapman 1988), reduction of habitat complexity and abundance (McIntosh *et al* 2000), decreased areas for refugia (Poole and Berman 2001), reduced spawning and rearing habitat (Platts *et al* 1989), and alterations to hyporheic (zone of stream where mixing of shallow groundwater and surface water occurs) inputs (Baxter and Hauer 2000). For these adverse effects to occur, fish must not only be present, but also unable to avoid these adverse effects. The likelihood for LCT to be present in or near the area during project implementation are low as LCT are expected to respond to construction activity by avoiding the area. The large size of Lake Tahoe allows LCT to move away from the action area, therefore, the potential for the adverse effects of suspended sediments is low. The specific water-quality and water clarity control measures stipulated in required construction permits issued by TRPA, your agency, and others for this project will ensure that this project will not result in turbidity levels suspected to result in physical injury to fish. At most, we anticipate that this effect would cause LCT to temporarily move to adjacent habitat outside of the action area. We anticipate that the suspension of sediments due to the mechanical operation of machinery for the covered activities may affect, but is not likely to adversely affect LCT.

5.2 EFFECTS OF INJURIOUS NOISE ON LCT

Sonic impacts (Hastings and Popper 2005) have the potential to result in direct physical injury to fish. Noise from machinery operation during construction can result in the displacement of fish. However, in order for injury to result, fish must not only be present, but also unable to avoid these adverse effects. We generally regard the potential for LCT injury from sonic impacts to be discountable because we regard it as extremely unlikely that the species will be present in or near the action area during project activities. At most, we anticipate that this effect would cause LCT to temporarily move to adjacent habitat outside of the action area. We anticipate that injurious noise impacts due to the mechanical operation of machinery for the covered activities may affect, but is not likely to adversely affect LCT.

5.3 EFFECTS EQUIPMENT OPERATING IN AND NEAR THE WATER ON LCT

Lahontan cutthroat trout are expected to respond to construction by avoiding the area. Due to the size of Lake Tahoe, LCT have the ability to move from the action area without impediment to other suitable lake shore habitat. Accidental spills/contamination during construction activities can result in negative affects to fish. However, the specific water-quality and water clarity control measures stipulated in required construction permits issued by TRPA, your agency, and others for the covered activities will ensure that this project will not result in adverse effects. At most, we anticipate that this effect would cause LCT to temporarily move to adjacent habitat outside of the action area.

5.4 AGGREGATE EFFECTS

Although the consultation process will be applied on an individual project basis, we also considered the potential additive impacts of processing multiple projects under this SA to ensure the effects remain insignificant/discountable/wholly beneficial collectively.

We have reviewed the covered activities addressed by this SA and have determined that habitat effects are not expected to aggregate when combined with similar effects from other consultations covered by this SA in a manner that would result in adverse effects to the species (*e.g.*, these effects would not be significant, measurable, or detectable either individually or collectively).

6 SUMMARY AND CONCLUSION

After considering the relevant information pertaining to the species and critical habitat, reviewing the covered activities and associated required conservation measures, and evaluating their anticipated effects (both individually and in the aggregate), we conclude that the actions subject to this SA, individually and collectively, will support a Federal action agency determination of a section 7(a)(2) determination pursuant to the Act of “may affect, not likely to adversely affect,” as appropriate, for the subject species and critical habitat as described above. This SA is based on the consultation provisions of section 7(a)(2) of the Act and the information cited and will undergo review and revision, as needed, if any of the following conditions have been met: 1) If new information reveals the effects of the covered action(s) to the covered species or critical habitat are occurring in a manner or to an extent not considered in this SA based on applied use; or 2) If the species or critical habitat covered by the SA has a change in status.

This SA will be provided through IPaC via a link within the DKey output letter.

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APPENDIX A – STRUCTURED QUESTIONS FOR SCREENING A PROJECT VIA A DKEY TO DETERMINE WHETHER IT IS APPLICABLE FOR USE UNDER THIS SA

1. Does the proposed project include any activities within the Tahoe Basin?
 - a. Yes – 2
 - b. No – NA
2. Does the proposed project include any work waterward of the Ordinary High-Water Mark (6229.1’ LTD) of Lake Tahoe?
 - a. Yes – 3
 - b. No – NA 1
3. Will the proposed project occur within 1000 feet of a tributary?
 - a. Yes – NA 1.1
 - b. No – 4
4. Is the in-water work limited to the placement, maintenance, repair, modification, expansion or removal of a pier, catwalk, dock, boatlift or similar feature where the only disturbance is piling installation or removal?
 - a. Yes – 11
 - b. No – 5
5. Is the in-water work limited to the placement, maintenance, repair, or removal of scientific measuring devices (such as water loggers, water filters, or other similar features), fish habitat mitigation structures (such as fish pyramids or crawfish traps), or aquatic invasive species nonchemical management (such as benthic barriers or other similar stationary features)?
 - a. Yes – 11
 - b. No – 6
6. Is the in-water work limited to the modification, maintenance, expansion, or removal of a mooring buoy field or limited to the placement, maintenance, repair, modification, or removal of a buoy/buoys?
 - a. Yes – 7
 - b. No – 8
7. Will the project occur in a total project area size of less than 10 acres?
 - a. Yes – 11
 - b. No – NA 1.2
8. Is the in-water work limited to maintenance dredging?
 - a. Yes – 9
 - b. No – 10
9. Will the project occur in a total project area size of less than 1 acre annually up to a maximum of 10 years?
 - a. Yes – 11
 - b. No – NA 1.3
10. Is the in-water work limited to shoreline erosion control activities (such as shoreline, dynamic, or static revetment)?
 - a. Yes – 9

- b. No – NA 1.4
- 11. Does the proposed project require a permit from the Tahoe Regional Planning Agency (TRPA)?
 - a. Yes – 12
 - b. No – 13
- 12. Will the proposed project include implementation of all specific water-quality and water clarity control measures stipulated in the construction permit issued by the TRPA?
 - a. Yes – 13
 - b. No – NA 2
- 13. Does the proposed project require a permit from the U.S. Army Corps of Engineers (USACE)?
 - a. Yes – 14
 - b. No – NA 4
- 14. Will the proposed project include implementation of all specific water- quality and water clarity control measures stipulated in the 401 and/or 404 Water Quality Certification references in the USACE permit(s)?
 - a. Yes – NLAA
 - b. NA 3