Table ES-1 Summary of Impacts and Mitigation Measures

IMPACT ISSUES	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	RESOURCE PROTECTION MEASURES	SIGNIFICANCE AFTER MITIGATION
B = Beneficial **NI** = No impact **LTS** = Less than significant **PS** = Potentially Significant **SU** = Significant and Unavoidable **NA** = Not Applicable **PP** = Proposed Project **AA1** = Action Alternative 1 **AA2** = Action Alternative 2 **NAA** = No Action Alternative				
ENVIRONMENTAL HEALTH				
Issue EH-1: Herbicide Applicator Exposure and Health. Herbicide applicators could suffer health effects due to exposure during application of herbicides. Only the risks of acute exposure are pertinent since the limited testing period would assure that no chronic exposures would occur.	PP = PS AA-1 = NA AA2 = NA NAA = NA	**EH-1 Applicator qualifications:** Herbicide applications would be performed only by Qualified Applicator License (QAL) holders, who would be trained to follow NPDES permit requirements, use proper personal protective equipment, and follow product label specifications.		PP = LTS AA1 = NA AA2 = NA NAA = NA
Issue EH-2: Detectable Concentrations of Herbicides and Degradants in Receiving Waters. Impacts could occur if detectable concentrations of active ingredients and chemical degradants of herbicides proposed for testing persisted in lagoon waters. The environmental fate and persistence of each herbicide proposed for testing in the West Lagoon and Lake Tallac are defined in the literature. There is a potential for excess discharge concentrations if an herbicide product were spilled.	PP = PS AA1 = NA AA2 = NA NAA = NA	Detectable concentrations of discharged herbicides and their degradants would be controlled as a temporary condition allowable only for weeks to months. **EH-2, EH-3a, EH-4 Spill prevention and response plan:** A spill prevention and response plan would be implemented by a QAL holder to minimize and contain any spills during herbicide mixing and application, submitted for review as required by permitting agencies, and implemented at the work sites. **EH-6b Aeration:** Aeration technologies such as LFA would be implemented at each herbicide test site ~~immediately~~ after target aquatic weeds die back from the		PP = LTS AA1 = NA AA2 = NA NAA = NA

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		herbicide application. Aeration during plant decomposition would increase aerobic microbial degradation ~~of herbicide active ingredients~~ and reduce the risk of HABs by breaking up thermal stratification, reducing near-surface water temperature, and stabilizing pH conditions. The aeration systems would be continually operated until herbicide active ingredients and degradants are no longer detected above background concentrations.		
Issue EH-3: Protection of Drinking Water Supplies. Although even minimal dilution would prevent concentrations exceeding drinking water criteria from reaching drinking water supplies, degradation would occur if concentrations of active ingredients and chemical degradants of herbicides proposed for testing were detectable in or near the locations of potable water intakes. The potential for detectable concentrations at drinking water supply intakes is a function of the potential for transport of chemicals to these locations, the environmental fate and persistence of each herbicide proposed for testing, and the maximum allowable application rates for the proposed herbicides.	PP = LTS AA1 = NA AA2 = NA NAA = NA		**EH-2, EH-3a, EH-4 Spill prevention and response plan:** A spill prevention and response plan would be implemented by a QAL holder to minimize and contain any spills during herbicide mixing and application, submitted for review as required by permitting agencies, and implemented at the work sites. **EH-3b Dye tracing:** Rhodamine WT dye would be applied by TKPOA during the herbicide applications and tracked to determine the movement and dissipation of dissolved herbicide	PP = LTS AA1 = NA AA2 = NA NAA = NA

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			products and chemical transformation products. If herbicides are detected in nearby wells, contingency plans include shutting off the wells and distributing water to all users until residues are no longer detected in the samples. **EH-3c Well monitoring and contingencies:** A monitoring plan would address potential effects to human health, based on the TKPOA (2018) Aquatic Pesticide Application Plan. Sampling would be conducted at all three TKPOA well water intakes and would include sampling for contamination by herbicides or degradants 24 hours prior to each application, and at 48-hour intervals thereafter for 14 days. Samples would be analyzed for active herbicide ingredients in the products applied, and contingency plans/measures specified actions if herbicides are detected. **EH-3d West Channel monitoring and contingencies:**	

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			If herbicides are detected within the West Channel, additional monitoring stations would be sampled outside the Tahoe Keys in Lake Tahoe and monitoring would continue south and north of the channel (TKPOA 2018). In any event, if herbicide residue is detected within 500 feet of the West Channel, the LWB would be notified within 24 hours. Well monitoring would verify the effectiveness of carbon filtration to remove any herbicide residues. If herbicides were detected in wells, contingency plans would be implemented that could include shutting off wells and distributing bottled drinking water until residues are no longer detected in the samples. **EH-3e Public outreach:** TKPOA would design and carry out an information campaign targeting homeowners, renters, and rental agencies, to provide advance notice regarding the CMT before and during aquatic herbicide applications. TKPOA would also hold a workshop and	

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			informational meeting with Tahoe Water Suppliers Association (TWSA) at least 45 days before herbicide applications are conducted. **EH-3f Carbon filtration contingency:** If monitoring detects herbicide residues ~~C~~carbon filtration systems already installed at water supply wells would remove any herbicide residues. A mobile filtration system would pump and treat water at wells where exceedances are detected above drinking water standard concentrations. **EH-3g Double turbidity curtain barriers:** Double turbidity curtain barriers would be installed outside West Lagoon areas where herbicide testing sites are located, to confine the herbicide applications and ensure that herbicide residues or chemical transformation products do not migrate toward the West Channel connecting the West Lagoon to Lake Tahoe	
Issue EH-4: Introduction of Toxic Substances	PP = LT~~P~~S	~~The herbicides proposed for~~	The herbicides proposed for	PP = LTS

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into the Environment. Impacts could occur if detrimental physiological responses could occur when humans, plants, animals, or aquatic life are exposed to the herbicides proposed for testing. Exposure could occur due to spills or in the course of application of the herbicides. Acute toxicity levels for each herbicide are defined by the USEPA. The maximum allowable application rates for each herbicide determine the potential for effects.	AA1 = NA AA2 = NA NAA = NA	~~testing would not have acute or chronic toxicity to fish or invertebrates, and even minimal dilution would prevent concentrations from exceeding drinking water criteria at drinking water intakes (see EH-3).~~ ~~EH-2, EH-3a, EH-4 Spill prevention and response plan: A spill prevention and response plan would be implemented by a QAL holder to minimize and contain any spills during herbicide mixing and application.~~	testing would not have acute or chronic toxicity to fish or invertebrates, and even minimal dilution would prevent concentrations from exceeding drinking water criteria at drinking water intakes (see EH-3). **EH-2, EH-3a, EH-4 Spill prevention and response plan**: A spill prevention and response plan would be implemented by a QAL holder to minimize and contain any spills during herbicide mixing and application.	AA1 = NA AA2 = NA NAA = NA
Issue EH-5: Short-term Increases in Aluminum Concentrations (NAA). Aluminum persistent in sediments of the lagoons could be mobilized into the water column by project activities. If mobilized, it could affect aquatic life. The USEPA defines acute and chronic water quality criteria for the protection of aquatic life.	PP = PS AA1 = PS AA2 = PS NAA = PS	**EH-5a Best Management Practices:** Best management practices to minimize sediment disturbance would be followed. Turbidity would be monitored to ensure that sediment disturbance and the consequent potential for mobilization of aluminum into the water column is minimized. BMPs also would be used to prevent accidental releases of sediment to the lagoons during dredge spoils transport and handling. **EH-5b Treatment and testing of dewatering effluent (AA2):** Before any effluent is discharged		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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		to Lake Tallac or to the sanitary sewer system, it would be tested to ensure that aluminum levels comply with water quality criteria for aluminum. **EH-5c Leak Prevention, Spill Control, and Containment Plans (AA2):** A leak-detection program would be implemented for the transport of dredge spoils. Containment plans would assure adequate storage and safe handling of dredge spoils during processing. The plans would minimize the risk of dredged sediment containing aluminum from being released outside of approved discharge locations. **EH-5d Turbidity Curtain Barriers (AA2):** Turbidity curtain barriers would be used to isolate test areas for suction dredging and prevent the migration of disturbed sediment containing aluminum beyond the boundaries of test sites.		
Issue EH-6: Harmful Algal Blooms (HABs). A risk exists that the dieback and decay of aquatic weeds consequent upon test activities, and subsequent release of nutrients to the waters of	PP = PS AA1 = PS AA2 = NA NAA = PS	**EH-6a Timing and size of treatments:** Spring aquatic plant surveys would be conducted to ensure that herbicide treatments		PP = LTS AA1 = LTS AA2 = NA NAA = SU

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the lagoons could stimulate HABs. The potential for impacts to occur depends on a host of conditions, the timing of herbicide applications, volume of plant biomass, water and nighttime air temperatures, stratification of the lagoons, and plant photosynthesis and respiration levels.		occur at times when target aquatic weeds plants are in their early stages of growth so that the volume of decomposing plant material is minimized. The locations of test sites would be adjusted as needed to ensure that the targeted species are present for each herbicide application and ultraviolet light test, and areas dominated by native plant communities are avoided. The treatment area would be as small as possible given the objectives of the CMT. To minimize the biomass of plants killed by ultraviolet light treatment and the consequent release of nutrients that could stimulate HABs, an initial round of ultraviolet light treatment would be conducted in the spring to stunt plant growth so that plants would only be a few feet tall when they are treated again in the summer. **EH-6b Aeration:** Aeration technologies such as LFA would be implemented at each herbicide test site ~~immediately~~ after target aquatic weeds die back from the herbicide application. Aeration		

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		during plant decomposition would increase aerobic microbial degradation ~~of herbicide active ingredients~~ and reduce the risk of HABs by breaking up thermal stratification, reducing near-surface water temperature, and stabilizing pH conditions. The aeration systems would be continually operated until herbicide active ingredients and degradants are no longer detected above background concentrations. ~~and would continue through the summer and early fall to reduce oxygen depletion from plant decay.~~ **EH-6c Lanthanum Clay**: If HABs occur at a test site in response to phosphorus released during the plant decomposition that is expected to follow dieback from herbicide or UV-C light treatments, a bentonite clay product containing lanthanum (e.g., Phoslock) could be used to control the cyanobacteria. Lanthanum is a rare earth mineral with a strong affinity to bind with phosphorus. The product would be applied to the water surface at the test site		

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		where it would strip the water column of available phosphorus molecules while it settles to the bottom. The phosphorus would remain bound in the surface sediments and unavailable for growth of cyanobacteria or other phytoplankton, effectively starving the HAB of an essential nutrient.		
EARTH RESOURCES				
Issue ER-1: Suction Dredging and Dredge Materials Disposal. Effects to earth resources could occur under Action Alternative 2, as soft organic sediment in three test sites would be removed by suction dredging, potentially destabilizing docks and bulkheads. Effects could also occur if spills of dredged sediment (consisting of organic silt and fine sand, plant roots and other organic matter, and lagoon water) occur during transported by pipeline to the location of the old Tahoe Keys Water Treatment Plant for handling, dewatering, or during transport for ultimate disposal.	PP = NA AA1 = NA AA2 = PS NAA = NA	**ERM-1 Dredge/Spill Containment (AA2 only):** Spill control, containment and contingency plans would be developed for installing and operating a pipeline transporting aluminum-contaminated dredge spoils. Spills in the dredge handling area would by contained by installing barriers and impermeable layers. Performance specifications would be promulgated for the design of the pipeline to minimize the risks of leakage or other failures. Appropriate leak detection systems would be installed in the pipeline systems to quickly detect any leaks and shut systems down prior to significant contamination. Soils		PP = NA AA1 = NA AA2 = LTS NAA = NA

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		in material handling areas would be tested and the existing concrete tank would undergo an engineering evaluation to determine whether it is safe and suitable for storing dewatering effluent; portable Baker tanks would be used if it were found unsuitable. Secondary containment and liners would be employed as necessary to provide surface and ground water protection in the event of an accident. The effects of spill in transport would be remediated by clean-up operations. Any bulkheads or docks removed or destabilized by dredging would be fully mitigated by replacing them in kind, and any slopes that are destabilized would be mitigated by slope restabilization after the dredging test is completed. Speed limits and travel restrictions would be placed on roads used for dredge spoil transportation and disposal to reduce the potential for releases due to collisions and other accidents. These restrictions		

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		would need to be in place for at least six months based on current understanding.		
Air Quality and Greenhouse Gas Emissions				
Issue AQ-1: Compliance with the Basin Air Quality Plan. Conflicts with the applicable air quality plan or any effect on its implementation could affect compliance with air quality standards.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	No conflict with the Basin Air Quality Plan would occur, therefore no mitigation measures are proposed.		PP = LTS AA1 = LTS AA2 = LTS NAA = LTS
Issue AQ-2: Cumulatively Considerable Net Increases of Criteria Pollutants. Effects could occur if the Proposed Project or Alternatives resulted in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or State ambient air quality standard.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	Emissions associated with the Proposed Project and action alternatives are expected to be less than significant, therefore no mitigation measures are proposed.		PP = LTS AA1 = LTS AA2 = LTS NAA = LTS
Issue AQ-3: Exposure of Sensitive Receptors. If the Proposed Project or Alternatives exposed sensitive receptors to substantial pollutant concentrations, effects could occur.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	Emissions associated with the Proposed Project and action alternatives are expected to be less than significant, therefore no mitigation measures are proposed.		PP = LTS AA1 = LTS AA2 = LTS NAA = LTS
Issue GHG-1: Greenhouse Gas Emissions. CEQA requires the evaluation of the potential to generate greenhouse gas emissions, either directly or indirectly. The California Air Resources Board (CARB) has issued the draft Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (2008), which indicates that a project would be	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	Emissions associated with the Proposed Project and action alternatives are expected to be less than significant, therefore no mitigation measures are proposed.		PP = LTS AA1 = LTS AA2 = LTS NAA = LTS

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considered less than significant if it meets minimum performance standards during construction and if the project, with mitigation, would emit no more than approximately 7,000 metric tons of carbon dioxide per year (MTCO2e/yr). The El Dorado County Air Quality Management District (EDCAQMD) currently uses CEQA guidance developed by the adjacent Sacramento Metropolitan Air Quality Management District (SMAQMD) (EDCAQMD, 2020), which states a GHG significance threshold of 1,100 MTCO2e/yr for the construction phase of all projects.				
HYDROLOGY				
Issue HY-1: Disposal of Dewatering Effluent. Under Action Alternative 2 (suction dredging) approximately 33 million gallons (i.e., 100 acre-feet) of dewatering effluent would be produced and would require disposal over a period of approximately six months. Discharge could occur to the South Lake Tahoe sanitary sewer system, if approved by the wastewater utility's Board of Directors, or to Lake Tallac, potentially affecting surface water levels and groundwater flows to the West Lagoon. These discharges could affect flooding.	PP = NA AA1 = NA AA2 = PS NAA = NA	For the Proposed Project and Action Alternative 1, no potential adverse effects to hydrology would occur, therefore no mitigation measures are proposed. **HY-1 Disposal of Dewatering Effluent (AA2 only):** For Action Alternative 2, mitigation includes discharging treated effluent to the sanitary sewer system, if approved. If discharge is made to Lake Tallac, dewatering effluent would be treated to meet water quality criteria and discharged in the late summer and early fall months, when water levels are		PP = NA AA1 = NA AA2 = LTS NAA = NA

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		lower and the risk of contributing to flood conditions would be negligible.		
WATER QUALITY				
Issue WQ-1: Water Temperature Effects. Short-term heating from ultraviolet light may occur during treatment. Where aquatic weed density is reduced by any of the treatment methods, a long-term increase in solar radiation penetration may add heat to the water. Increased water circulation during LFA operations is expected to eliminate thermal density stratification, leading to cooler waters near the surface and warmer waters at depth.	PP = LTS AA1 = LTS AA2 = LTS NAA = PS	~~**WQ1 Real-Time Temperature Monitoring and Adjustments to Treatment Rates:** Real-time temperature monitoring during the implementation of ultraviolet light testing or injection of hot water under bottom barriers would be used to determine whether the rates of ultraviolet light application or injection of hot water under barriers would need to be reduced.~~	**WQ1 Real-Time Temperature Monitoring and Adjustments to Treatment Rates:** Real-time temperature monitoring during the implementation of ultraviolet light testing or injection of hot water under bottom barriers would be used to determine whether the rates of ultraviolet light application or injection of hot water under barriers would need to be reduced.	PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Issue WQ-2: Sediment Disturbance and Turbidity. Sediment disturbance would be caused by suction dredging under Action Alternative 2, and by installation, startup, and removal of LFA systems; or installation and removal of bottom barriers under the Proposed Project or Action Alternative 1. These actions could cause short-term increases in turbidity and a temporary decline in water clarity within and near treatment areas. There is also a potential for short-term increased turbidity and decreased water clarity during suction dredging, from any accidental spills during transport and processing of dredge spoils, or during discharge of treated effluent from sediment	PP = LTS AA1 = LTS AA2 = PS NAA = PS	~~**WQ-2: Real-Time Turbidity Monitoring and Adjustments in Practices**. Divers would minimize sediment disturbance where employed in Group B activities (hand-pulling of weeds or removal of bottom barriers) because underwater visibility is necessary to carry out the work, and work would have to cease if the water became turbid. Turbidity monitoring would be conducted in association with these activities, and if permit limits could be~~	**WQ-2a: Real-Time Turbidity Monitoring and Adjustments in Practices.** Divers would minimize sediment disturbance where employed in Group B activities (hand-pulling of weeds or removal of bottom barriers) because underwater visibility is necessary to carry out the work, and work would have to cease if the water became turbid. Turbidity monitoring would be conducted in association with these activities, and if permit	PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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dewatering.		~~exceeded, the methods or pace of bottom barrier removal or other activities would be adjusted to achieve compliance with permit limits for turbidity.~~ **WQ-2b, WQ-5c, WQ-6b, WQ-7b: ~~Sediment Disturbance and~~ Turbidity** Controls for Dredging, Substrate Replacement, and Dewatering (AA2 only)**.** Under Action Alternative 2, impacts from suction dredging resuspension of the sediments in the water column would be minimized by optimizing the cutter head speed and movement with suction capacity, and using a moveable shield around and above the cutter head. Turbidity monitoring would indicate when engine speeds or auger pressures would need to be adjusted. These steps would also minimize the release of nutrients from disturbed sediment into the water column, reducing its availability to algae and minimizing the release of aluminum in sediments to the lagoon water. The rate and method of new sediment placement also would be	limits could be exceeded, the methods or pace of bottom barrier removal or other activities would be adjusted to achieve compliance with permit limits for turbidity.	

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		adjusted in response to monitoring. Silt curtains would be used to confine water quality impacts within test sites during dredging and substrate replacement. Performance specifications for sand or fine gravel used for substrate replacement would require testing prior to placement to ensure that the material did not contain excessive amounts of fine particles that could cause turbidity. Spill control and containment plans would be used to control accidental spills of dredge spoils and would include provisions for adequate storage for safe handling of dredge spoils during processing. No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced turbidity sufficiently to meet standards, as required by contract performance specifications. Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac.		

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Issue WQ-3: Dispersal of Aquatic Weed Fragments. Fragments may incidentally break off from aquatic plants during herbicide applications, ultraviolet light treatments, and placement of LFA systems, and suction. Floating plant fragments may escape, cause nuisance or adversely affect beneficial uses.	PP = NA AA1 = NA AA2 = LTS NAA = PS	~~**WQ-3: Dispersal of Aquatic Weed Fragments (AA2).** Performance specifications for sand or gravel used for substrate replacement would require that the material not contain excessive amounts of organic matter that could increase amounts of floating materials.~~	**WQ-3: Dispersal of Aquatic Weed Fragments (AA2 only).** Performance specifications for sand or gravel used for substrate replacement would require that the material not contain excessive amounts of organic matter that could increase amounts of floating materials.	PP =NA AA1 = NA AA2 = LTS NAA = SU
Issue WQ-4: Changes in pH. Short-term changes in pH could result from the introduction of herbicide products in treatment areas. Long-term beneficial changes in pH fluctuation could result from reduced photosynthesis, respiration and decomposition as dense aquatic weed beds are controlled. Increased water circulation and oxygenation of deep waters during LFA operation could also improve pH conditions.	PP = LTS AA1 = LTS AA2 = LTS NAA = PS	~~**WQ4 Real-Time pH Monitoring and Adjustments to Treatment Rates:** If real-time monitoring of pH indicates that permit limits are exceeded, herbicide rates would be adjusted until compliance with permit limits for pH is demonstrated.~~	**WQ4 Real-Time pH Monitoring and Adjustments to Treatment Rates:** If real-time monitoring of pH indicates that permit limits are exceeded, herbicide rates would be adjusted until compliance with permit limits for pH is demonstrated.	PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Issue WQ-5: Changes in Dissolved Oxygen Concentrations. Rapid dieback of dense aquatic weed beds from testing herbicide applications or ultraviolet light could result in significant changes to DO conditions within and near test sites. This could cause biochemical oxygen demand (BOD) from decomposing plants to decrease DO concentrations during the normal growing season for aquatic plants. Herbicide products could also create short-term chemical oxygen demand during applications. Offsetting beneficial effects may result where LFA increases water circulation and	PP = PS AA1 = PS AA2 = PS NAA = PS	**WQ5a Timing and Limited Extent of Testing:** The overall reduction in aquatic weed biomass from testing control methods is generally expected to reduce oxygen depletion at test sites. Herbicide applications would occur in the late spring when target weed species are in their early stages of growth and plant biomass is minimal, and the timing would be adjusted based on pre-application		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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improves low-oxygen conditions in the deeper portions of the water column during summer thermal stratification.		macrophyte surveys. This timing is expected to minimize the biomass of decaying vegetation, mitigating the effects of oxygen depletion and nutrient release that could occur from dieback of mature plants. Similarly, ultraviolet light applications would include an early-season treatment to stunt plant growth, reducing the decaying biovolume that could contribute to reduced DO in the summer. Effects would also be mitigated by the limited size of test sites. **WQ5b Aeration**: LFA or other aeration systems would be deployed in herbicide test sites ~~immediately~~ after plant dieback to increase aerobic microbial degradation ~~of the herbicides~~ and offset the potential for BOD from plant decomposition that could cause low DO impacts. If real-time monitoring indicated that DO was not meeting permit requirements at an ultraviolet light test site, an LFA system would be deployed to aerate during the period of plant decay and ensure that DO impacts		

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		were not significant **WQ-2b, WQ-5c, WQ-6b, WQ-7b: Turbidity Controls for Dredging, Substrate Replacement, and Dewatering (AA2 only).** Under Action Alternative 2, impacts from suction dredging resuspension of the sediments in the water column would be minimized by optimizing the cutter head speed and movement with suction capacity, and using a moveable shield around and above the cutter head. Turbidity monitoring would indicate when engine speeds or auger pressures would need to be adjusted. These steps would also minimize the release of nutrients from disturbed sediment into the water column, reducing its availability to algae and minimizing the release of aluminum in sediments to the lagoon water. The rate and method of new sediment placement also would be adjusted in response to monitoring. Silt curtains would be used to confine water quality impacts within test sites during dredging and substrate replacement.		

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		Performance specifications for sand or fine gravel used for substrate replacement would require testing prior to placement to ensure that the material did not contain excessive amounts of fine particles that could cause turbidity. Spill control and containment plans would be used to control accidental spills of dredge spoils and would include provisions for adequate storage for safe handling of dredge spoils during processing. No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced turbidity sufficiently to meet standards, as required by contract performance specifications. Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac.		
Issue WQ-6: Increases in Total Phosphorus Concentrations. Short-term increases in lagoon total phosphorus concentrations could result from sediment disturbance during suction dredging or LFA installation, or during the initial operation of	PP = PS AA1 = PS AA2 = PS NAA = PS	**WQ6a Timing and Limited Extent of Testing:** The overall reduction in aquatic weed biomass from testing control methods is generally expected to reduce the		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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LFA systems circulating deep waters to the surface. Release of phosphorus from decaying aquatic plants to the water column could be accelerated during and after ~~weed control~~herbicide or UV treatments, which could increase concentrations during those periods but lead to lower concentrations from aquatic plant dieback in the fall. Long term, phosphorus release from decaying plants would be reduced where dense aquatic weed beds are successfully treated.		release of TP from macrophytes at test sites. Herbicide applications would occur in the late spring when target weed species are in their early stages of growth and plant biomass is minimal, and the timing would be adjusted based on pre-application macrophyte surveys. This timing is expected to minimize the biomass of decaying vegetation, mitigating the effects of nutrient release that could occur from dieback of mature plants. Similarly, ultraviolet light applications would include an early-season treatment to stunt plant growth, reducing the decaying biovolume that could contribute to reduced TP in the summer. Effects would also be mitigated by the limited size of test sites. ~~**Discharge of Treated Effluent (AA2):** No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced phosphorus sufficiently to meet standards, as required by contract performance specifications.~~		

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		~~Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac.~~ ~~Mitigation measures to meet project permit limits for turbidity (WQ-2) would also be effective in controlling nutrient entrainment in the water column from sediment resuspension.~~ **WQ-2b, WQ-5c, WQ-6b, WQ-7b:** Turbidity Controls for Dredging, Substrate Replacement, and Dewatering (AA2 only). Under Action Alternative 2, impacts from suction dredging resuspension of the sediments in the water column would be minimized by optimizing the cutter head speed and movement with suction capacity, and using a moveable shield around and above the cutter head. Turbidity monitoring would indicate when engine speeds or auger pressures would need to be adjusted. These steps would also minimize the release of nutrients from disturbed sediment into the water column, reducing its		

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		availability to algae and minimizing the release of aluminum in sediments to the lagoon water. The rate and method of new sediment placement also would be adjusted in response to monitoring. Silt curtains would be used to confine water quality impacts within test sites during dredging and substrate replacement. Performance specifications for sand or fine gravel used for substrate replacement would require testing prior to placement to ensure that the material did not contain excessive amounts of fine particles that could cause turbidity. Spill control and containment plans would be used to control accidental spills of dredge spoils and would include provisions for adequate storage for safe handling of dredge spoils during processing. No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced turbidity sufficiently to meet standards, as required by contract performance specifications.		

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		Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac. **WQ-6c and WQ-7c Effluent Treatment to Remove Phosphorus or Nitrogen (AA2 only):** No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced phosphorus sufficiently to meet standards, as required by contract performance specifications. Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac. Mitigation measures to meet project permit limits for turbidity (WQ-2) would also be effective in controlling nutrient entrainment in the water column from sediment resuspension.		
Issue WQ-7: Increases in Lagoon Water Total Nitrogen Concentrations. Short-term increases in lagoon water total nitrogen concentrations could result from sediment disturbance during suction	PP = PS AA1 = PS AA2 = PS NAA = PS	**WQ-7a Timing and Limited Extent of Testing:** The overall reduction in aquatic weed biomass from testing control methods is		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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dredging or LFA installation, or during the initial operation of LFA systems circulating deep waters to the surface. Release of nitrogen from decaying aquatic plants to the water column could also be accelerated during and after weed control treatments, which could increase concentrations during those periods but lead to lower concentrations from aquatic plant dieback in the fall. Long term, a reduction in nitrogen release from decaying plants would be accomplished where dense aquatic weed beds are successfully treated.		generally expected to reduce the release of TN from macrophytes at test sites. Herbicide applications would occur in the late spring when target weed species are in their early stages of growth and plant biomass is minimal, and the timing would be adjusted based on pre-application macrophyte surveys. This timing is expected to minimize the biomass of decaying vegetation, mitigating the effects of oxygen depletion and nutrient release that could occur from dieback of mature plants. Similarly, ultraviolet light applications would include an early-season treatment to stunt plant growth, reducing the decaying biovolume that could contribute to reduced TN in the summer. Effects would also be mitigated by the limited size of test sites. **WQ-2b, WQ-5c, WQ-6b, WQ-7b: Turbidity Controls for Dredging, Substrate Replacement, and Dewatering (AA2 only).** Under Action Alternative 2, impacts from suction dredging resuspension of the sediments in the water column		

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		would be minimized by optimizing the cutter head speed and movement with suction capacity, and using a moveable shield around and above the cutter head. Turbidity monitoring would indicate when engine speeds or auger pressures would need to be adjusted. These steps would also minimize the release of nutrients from disturbed sediment into the water column, reducing its availability to algae and minimizing the release of aluminum in sediments to the lagoon water. The rate and method of new sediment placement also would be adjusted in response to monitoring. Silt curtains would be used to confine water quality impacts within test sites during dredging and substrate replacement. Performance specifications for sand or fine gravel used for substrate replacement would require testing prior to placement to ensure that the material did not contain excessive amounts of fine particles that could cause turbidity. Spill control and containment plans		

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		would be used to control accidental spills of dredge spoils and would include provisions for adequate storage for safe handling of dredge spoils during processing. No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced turbidity sufficiently to meet standards, as required by contract performance specifications. Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge to the sanitary sewer system or Lake Tallac. **WQ-6c Effluent Treatment to Remove Phosphorus or Nitrogen (AA2 only):** No discharge of dewatering effluent would be allowed until monitoring has demonstrated that treatment systems reduced phosphorus sufficiently to meet standards, as required by contract performance specifications. Treatment system designs could include settling and flocculation in batches stored in tanks for testing before discharge		

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		to the sanitary sewer system or Lake Tallac. Mitigation measures to meet project permit limits for turbidity (WQ-2) would also be effective in controlling nutrient entrainment in the water column from sediment resuspension.		
Aquatic Biology and Ecology				
Issue AQU-1: Effects on Non-Target Aquatic Macrophyte Species. Non-target plant species could be affected by direct contact with herbicides or through exposure to ultraviolet light treatments or implementation of some Group B methods. The magnitude of short-term impacts depends on the herbicide applied, with endothall being a less-selective contact herbicide that would likely result in the greatest impacts to non-target species.	PP = PS AA1 = PS AA2 = PS NAA = PS	**AQU-1 Macrophyte Surveys:** Spring macrophyte surveys would be used as a basis to adjust testing site boundaries to better target dense beds of target species and avoid native plant communities.		PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Issue AQU-2: Competitive Exclusion of Aquatic Macrophytes Due to Increased Growth of Curlyleaf Pondweed. If the application of aquatic herbicides favors the more competitive nuisance plants such as curlyleaf pondweed, this species could expand as other aquatic weeds are reduced at test sites, leading to the competitive exclusion of native species.	PP = LTS AA1 = NA AA2 = NA NAA = NA	~~Pre-treatment surveys would help focus the test sites on target species, thus implementation of Group A methods is expected to reduce the competitive pressure exerted by curlyleaf pondweed.~~	**AQU-1 Macrophyte Surveys:** Pre-treatment surveys would help focus the test sites on target species, thus implementation of Group A methods is expected to reduce the competitive pressure exerted by curlyleaf pondweed.	PP = LTS AA1 = NA AA2 = NA NAA = NA
Issue AQU-3: Effects on Sensitive Aquatic Macrophyte Species. No aquatic plant species occur in the vicinity of the Tahoe Keys lagoons	PP = PS AA1 = NA AA2 = NA	**AQU-1 Macrophyte Surveys:** Although the drift of endothall from the treatment sites in Lake Tallac		PP = LTS AA1 = NA AA2 = NA

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that are identified by TRPA as sensitive, or which are listed under federal or state Endangered Species Acts (ESA). Watershield (a 2B.3 California Rare Plant Bank [CRPR] sensitive species) is known to occur in Lake Tallac where endothall treatments are proposed. There is the potential for impacts to watershield due to drift of aquatic herbicides as part of Group A methods associated with the Proposed Project.	NAA = NA	may contact watershield, there is no published evidence that it would cause substantial adverse effects. Pre-treatment surveys described for AQU-1 would be implemented. These measures to avoid watershield in Lake Tallac, are expected to avoid effects on sensitive macrophyte species.		NAA = NA
Issue AQU-4: Changes in Aquatic Macrophyte Community Composition. Potential direct and indirect effects to the non-target macrophyte community could occur as the result of the Project, including both Group A and Group B methods. The threshold of significance for this issue area would be a substantial change or reduction in the diversity or distribution of the non-target macrophyte community.	PP = PS AA1 = PS AA2 = PS NAA = PS	**AQU-1 Macrophyte Surveys:** Spring macrophyte surveys would be used as a basis to adjust testing site boundaries to better target dense beds of target species and avoid adverse changes in macrophyte community composition.		PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Issue AQU-5: Effects on the Aquatic Benthic Macroinvertebrate Community. Potential direct and indirect effects to the benthic macroinvertebrate community could include the loss of organisms as a result of exposure to ultraviolet light, through placement of bottom barriers, and/or through entrainment associated with suction dredging. Potential indirect adverse effects could result from short-term water quality degradation associated with vegetation decomposition.	PP = LTS AA1 = LTS AA2 = LTS NAA = PS	All treatments would be temporary and localized. Implementation of Group A methods would not be expected to result in a substantial change or reduction in the diversity or distribution of the aquatic BMI community, and no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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Issue AQU-6: Effects on Special-Status Fish Species. Toxicity tests indicate that the herbicides proposed for use in the Tahoe Keys lagoons are not toxic to fish and BMI species and the USEPA has determined that the herbicides would have no significant acute or chronic impact on fish or BMI when recommended rates are used. Ultraviolet light treatments could result in temporary effects on special-status fish if they are present in the immediate treatment areas; however, fish would be expected to quickly move away to avoid exposure. LFA would be expected to generally improve water quality, which could result beneficial, albeit small, effects to fish species.	PP = LTS AA1 = LTS AA2 = LTS NAA = PS	Lahontan Cutthroat Trout would not be expected to be present and Tui Chub would only be expected to occur as a small number of individuals, if at all. Both species would be anticipated to sense the treatment activity (i.e., disturbance) and move away to avoid becoming trapped, entrained, and/or affected by temporary habitat disturbance, as long as adequate habitat space is available for their movement. All treatments would be temporary and localized. Implementation of Group A methods would not be expected to result in a substantial reduction in numbers or reduced viability of special-status fish species and no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Issue AQU-7: Effects on Fish Movement that would Block Access to Spawning Habitat. Potential direct and indirect effects could occur if access to spawning habitat were blocked or delayed during the implementation of the Proposed Project or alternatives.	PP = LTS AA1 = LTS AA2 = LTS NAA = NA	No significant potential to block fish movements was identified and no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = NA
Issue AQU-8: Effects on the Suitability of Habitat for Native or Recreationally Important Game Fish Species. Potential effects to the suitability of habitat for native or recreationally	PP = LTS AA1 = LTS AA2 = LTS NAA = PS	No significant effects on habitat for native or recreationally important game fish species identified and		PP = LTS AA1 = LTS AA2 = LTS NAA = SU

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important game fish species could include short-term degradation of habitat associated with herbicide treatments, ultraviolet light, through the placement of bottom barriers, increases in turbidity associated with suction dredging, and changes in submerged aquatic vegetation, which provides important habitat structure for certain fish species.		no mitigation is required.		
Issue AQU-9: Effects Associated with the Introduction or Spread of Aquatic Invasive Species. Potential effects associated with the introduction or spread of aquatic invasive species could include the introduction of aquatic invasive species associated with equipment and personnel implementing the control methods. All of the control methods could result in the release and transport of aquatic weed seed and propagules to areas outside of the Tahoe Keys where aquatic invasive weed species have not yet become established.	PP = LTPS AA1 = LTPS AA2 = LTPS NAA = PS	The existing watercraft inspection program, and permit conditions requiring cleaning and inspection of all in-water equipment, would minimize risks for introduction or spread of AIS.		PP = LTS AA1 = LTS AA2 = LTS NAA = SU
Terrestrial Biology and Ecology				
Issue TE-1: Short-Term Effects on Terrestrial Habitats and Species. Short-term effects to terrestrial species and habitat may arise from disturbance or alteration of the existing habitat. Upland habitats that may be affected include ruderal and disturbed areas adjacent to the old Water Treatment Plant on the south shore of Lake Tallac. Wildlife species which utilize open water for foraging could be affected. Impacts may	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	~~**Field Reconnaissance and Monitoring**. Prior to initiating the test program, TKPOA will conduct a pre-test field reconnaissance of potentially affected terrestrial, riparian, and aquatic (benthic and littoral zones), habitat and species. This will include the test sites and buffer zones appropriate to each~~	**MM-BIO-1** Field Reconnaissance and Monitoring: Prior to initiating the test program, TKPOA will conduct a pre-test field reconnaissance of potentially affected terrestrial, riparian, and aquatic (benthic and littoral zones), habitat and species. This will include the test	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS

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include: Introduction and spread of invasive plant species within terrestrial, riparian, and wetland habitats. Damage or mortality of special-status plants or altered extent of special-status plant habitat. Disturbance to sensitive communities, including jurisdictional wetlands and riparian vegetation. Injury or mortality of special-status wildlife individuals or otherwise protected species. Disruption to wildlife habitat including extent of special-status wildlife habitat. Interference with wildlife movement. Disturbance caused by dredge and replacement substrate.		~~potentially affected species. The occurrence of any sensitive or listed species and/or habitat will be recorded. If sensitive receptors are observed, an evaluation will be made as to the potential impacts. If direct or indirect impacts are possible, coordination will be initiated with the appropriate federal (USFWS) or state (CDFW) agency to determine further mitigation to avoid impacts. Examples of mitigation measures could include environmental tailboards prior to the start of work, the establishment of exclusionary zones (i.e., around active nests), and/or assigning biological field monitors with stop work authority if impacts to receptors are possible. Should work stop based on discovery of sensitive or listed species, and TKPOA will consult with appropriate agencies to determine next steps prior to work restarting.~~	sites and buffer zones appropriate to each potentially affected species. The occurrence of any sensitive or listed species and/or habitat will be recorded. If sensitive receptors are observed, an evaluation will be made as to the potential impacts. If direct or indirect impacts are possible, coordination will be initiated with the appropriate federal (United States Fish and Wildlife Service [USFWS]) or state (CDFW) agency to determine further mitigation to avoid impacts. Examples of mitigation measures could include environmental tailboards prior to the start of work, the establishment of exclusionary zones (i.e., around active nests), and/or assigning biological field monitors with stop work authority if impacts to receptors are possible. Should work stop based on discovery of sensitive or listed species, and TKPOA will consult with appropriate agencies to determine next	

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			steps prior to work restarting.	
Issue TE-2: Effects on Non-Target Riparian and Wetland Habitats and Species. Riparian and wetland species and habitats could be affected if herbicide applications affect non-target species; if LFA changes current riparian or habitat conditions; or if the discharge of dewatering effluent from test dredging affects water levels in Lake Tallac or Pope Marsh.	PP = LTS AA1 = LTS AA2 = PS NAA = LTS	Mitigation measures would be the same as those identified for Issues HY-1 and AQU-1(AA2 only).	MM-BIO-2: Routine monitoring of the ecotonal areas within Lake Tallac outside and adjacent to the herbicide treatment areas will be performed during the duration of the Proposed Project.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS
LAND USE				
Issue LN-1: Physical Division of an Established Community. Effects could occur if an established community were physically divided.	PP = NI AA1 = NI AA2 = NI NAA = NI	No new development would occur; therefore, there would be no impacts and no mitigation are required.		PP = NI AA1 = NI AA2 = NI NAA = NI
Issue LN-2: Conflicts with Land Use Plans, Policies, or Regulations. Conflicts with a land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect, could affect compliance. Potential conflicts evaluated include the environmentally mitigating policies and regulations listed in the TRPA Code of Ordinances, the Plan Area Statement (PAS) for Tahoe Keys (PAS-102), and the City of South Lake Tahoe General Plan.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	No conflicts with land use plans, policies or regulations would occur, and no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = LTS
Issue LN-3: Inclusion of Unpermitted Land Uses. Effects could occur if the Proposed Project or alternatives led to land uses that were not permitted under the PAS for Tahoe Keys, or if it resulted in expansion or intensification of an	PP = NI AA1 = NI AA2 = NI NAA = NI	No change in existing land uses would occur, including intensification of any existing land use. Therefore, there would be no impacts and no mitigation is		PP = NI AA1 = NI AA2 = NI NAA = NI

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existing non-conforming use.		required.		
RECREATION				
Issue RE-1: Obstruction of Direct Private Access to Lake Tahoe Recreational Boating. Recreational boat passage may be obstructed for Tahoe Keys property owners or their guests (e.g., vacation rentals) by turbidity curtains or other barriers placed in the Tahoe Keys lagoons during the proposed CMT or dredge and substrate replacement test. The threshold of significance is defined as a permanent loss of direct recreational boating access from the Tahoe Keys, including during the recreational boating season (from Memorial Day weekend through Labor Day weekend).	PP = LTS AA1 = NA AA2 = LTS NAA = PS	~~**REC-1 Public Noticing:** An information campaign would target home-owners, renters, and rental agencies, to provide advance notice on any public access or recreational restrictions during the test period. The campaign would employ emails, flyers, letters, TKPOA's periodical (The Breeze), and social media to provide announcements and project summaries three to six months in advance of proposed actions. Signage would be displayed by TKPOA 30 days prior to project implementation, throughout project implementation and 14 days after project completion. Notices will be posted in publicly visible locations immediately adjacent to test sites and at the intersection of Tahoe Keys Blvd and Venice Drive, to inform property owners and visitors about the project and current status of waterways.~~ ~~**REC-2 Timing for Placement and Removal of Barriers:** Herbicide treatments would be timed to allow~~	**REC-1 Public Noticing:** An information campaign would target home-owners, renters, and rental agencies, to provide advance notice on any public access or recreational restrictions during the test period. The campaign would employ emails, flyers, letters, TKPOA's periodical (The Breeze), and social media to provide announcements and project summaries three to six months in advance of proposed actions. Signage would be displayed by TKPOA 30 days prior to project implementation, throughout project implementation and 14 days after project completion. Notices will be posted in publicly visible locations immediately adjacent to test sites and at the intersection of Tahoe Keys Blvd and Venice Drive, to inform property owners and visitors about the project and current status of waterways.	PP = LTS AA1 = NA AA2 = LTS NAA = SU

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		~~treatments to be completed before the onset of the peak recreational boating season if possible. As soon as monitoring shows that acceptable limits of herbicides and degradation products are reached, barriers would be removed. For Action Alternative 2, barriers would remain in place for up to 4.5 months at each dredge site, and no provision is made for their early removal.~~ ~~**REC-3 Swimming and Other Direct Water Contact Restriction:** As part of the information campaign noted above, property owners and visitors would be alerted regarding the need to avoid direct water contact.~~	**REC-2 Timing for Placement and Removal of Barriers:** ~~.~~ Herbicide treatments would be timed to allow treatments to be completed before the onset of the peak recreational boating season if possible. As soon as monitoring shows that acceptable limits of herbicides and degradation products are reached, barriers would be removed. For Action Alternative 2, barriers would remain in place for up to 4.5 months at each dredge site, and no provision is made for their early removal. **REC-3 Swimming and Other Direct Water Contact Restriction:** ~~.~~ As part of the information campaign noted above, property owners and visitors would be alerted regarding the need to avoid direct water contact.	
Issue RE-2: Increased Use of Tahoe Keys Marina and Other Facilities. Recreational boat launches may be displaced to the Tahoe Keys Marina and other nearby launching facilities during the period that barriers are placed within the Keys to implement the CMT.	PP = LTS AA1 = NA AA2 = LTS NAA = NA	No significant issues would occur for the Proposed Project and Action Alternatives; no mitigation is required.		PP = LTS AA1 = NA AA2 = LTS NAA = NA

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Issue RE-3: Inconsistency with TRPA Recreation Thresholds. Environmental analysis considers two thresholds: R-1. High Quality Recreational Experience and R-2. Public's Fair Share of Resource Capacity.	PP = LTS AA1 = NA AA2 = LTS NAA = PS	No significant issues would occur for the Proposed Project and Action Alternatives; no mitigation is required.		PP = LTS AA1 = NA AA2 = LTS NAA = PS
Utilities				
Issue UT-1: Effects on Water Supply. Effects could occur if herbicide residues and degradants reached water supply intakes on Lake Tahoe, and led to the loss of filtration exemption for purveyors drawing from the lake. An impact could occur if turbidity increased in nearshore shallows near drinking water intakes as a result of the dieback and decay of aquatic weeds.	PP = NI AA1 = NA AA2 = NA NAA = PS	Due to dilution, no detectable concentration of herbicides or degradants attributable to the test program would occur at drinking water intakes, and therefore no impact would occur and no mitigation is required. TKPOA has proposed contingency plans, including monitoring and alert systems to be implemented if necessary to remove herbicides and other chemicals to treat the potable water before distribution.		PP = NI AA1 = NA AA2 = NA NAA = SU
Traffic and Transportation				
Issue TR-1: Generation of New Daily Vehicle Trips. The Project would have a potentially significant impact if it generated more than 100 new daily trip ends (one-way vehicular trips), as defined by TRPA Code 65.2.	PP = LTS AA1 = LTS AA2 = LTS NAA = NI	Because the Proposed Project and action alternatives would generate less than the threshold minimum number of trips, no mitigation is required. ~~Further, prior to commencement of work under Action Alternative 2, TKPOA would coordinate with the City of South Lake Tahoe Public Works Roads~~	Prior to commencement of work under Action Alternative 2, TKPOA would coordinate with the City of South Lake Tahoe Public Works Roads Division for the operation of heavy vehicles on City streets and would submit an application for a transportation permit and/or a	PP = LTS AA1 = LTS AA2 = LTS NAA = NI

Table ES-1 Summary of Impacts and Mitigation Measures

IMPACT ISSUES	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	RESOURCE PROTECTION MEASURES	SIGNIFICANCE AFTER MITIGATION
B = Beneficial **NI** = No impact **LTS** = Less than significant **PS** = Potentially Significant **SU** = Significant and Unavoidable **NA** = Not Applicable **PP** = Proposed Project **AA1** = Action Alternative 1 **AA2** = Action Alternative 2 **NAA** = No Action Alternative				
		~~Division for the operation of heavy vehicles on City streets, and would submit an application for a transportation permit and/or a traffic control plan, as required.~~	traffic control plan, as required.	
Issue TR-2: Changes in Demand for Parking. An impact could occur if changes to parking facilities or new demand for parking affected the ability of Tahoe Keys property owners or members of the general public to find parking spaces in reasonable proximity to their destination.	PP = LTS AA1 = LTS AA2 = LTS NAA = NI	Because the Proposed Project and action alternatives would not generate a significant amount of demand for parking in relation to that available in the area, no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = NI
Issue TR-3: Effects on Roads and Level of Service. Effects could occur if there were a substantial impact on the condition or level of service of existing road segments along the planned haul routes for sediment and clean substrate could occur, or if patterns of circulation were altered, or if traffic hazards to vehicles, bicyclists or pedestrians were to increase.	PP = LTS AA1 = LTS AA2 = ~~LTS~~ PS NAA = NI	Because no existing roadways would be modified or closed for the Project, and further because truck trips for Action Alternative 2 would utilize trucks appropriately sized for the roadways, no impacts are expected to occur, and no mitigation would be required. TR-3 (AA2 only): Further, prior to commencement of work under Action Alternative 2, TKPOA would coordinate with the City of South Lake Tahoe Public Works Roads Division for the operation of heavy vehicles on City streets. As required by the City, TKPOA would submit a program for minimizing damage to the road surface as a		PP = LTS AA1 = LTS AA2 = LTS NAA = NI

Table ES-1 Summary of Impacts and Mitigation Measures

IMPACT ISSUES	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	RESOURCE PROTECTION MEASURES	SIGNIFICANCE AFTER MITIGATION
B = Beneficial **NI** = No impact **LTS** = Less than significant **PS** = Potentially Significant **SU** = Significant and Unavoidable **NA** = Not Applicable **PP** = Proposed Project **AA1** = Action Alternative 1 **AA2** = Action Alternative 2 **NAA** = No Action Alternative				
		result of the project.		
Issue TR-4: Effects on Water Traffic. The Project could have a potentially significant impact if it would alter waterborne traffic. The dredge and ultraviolet light alternatives would each deploy a single small barge.	PP = LTS AA1 = LTS AA2 = LTS NAA = NI	Because the travel paths of the barges under the Proposed Project and Action Alternative 2 are not expected to significantly alter existing waterborne traffic, and because there are no commercial transportation services in the Project area, no impacts would occur and no mitigation is required.		PP = LTS AA1 = LTS AA2 = LTS NAA = NI
NOISE				
Issue NO-1: Short-Term Noise Associated with Dredging and Substrate Replacement. The Proposed Project and Action Alternative 2 could cause short-term noise impacts, similar to a construction project.	PP = LTS AA1 = LTS AA2 = LTS NAA = LT~~LTS~~	The type of noise expected to be generated by the Proposed Project or Action Alternative 1 is considered exempt under local noise ordinances, and no mitigation is required. ~~For Action Alternative 2, the following measures would be implemented:~~ **~~NO-1 Work During Daylight Hours:~~** ~~Action Alternative 2 activities will occur only during daylight hours between 8:00 a.m. and 6:30 p.m.~~ **~~NO-2 Maintenance and Muffling of Equipment:~~** ~~All equipment used during performance of Action Alternative 2 will be maintained in good working order and fitted with~~	For Action Alternative 2, the following measures would be implemented: **NO-1 Work During Daylight Hours:** Action Alternative 2 activities will occur only during daylight hours between 8:00 a.m. and 6:30 p.m. **NO-2 Maintenance and Muffling of Equipment:** All equipment used during performance of Action Alternative 2 will be maintained in good working order and fitted with factory-installed muffling devices throughout the duration of the project.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS

Table ES-1 Summary of Impacts and Mitigation Measures

IMPACT ISSUES	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	RESOURCE PROTECTION MEASURES	SIGNIFICANCE AFTER MITIGATION
B = Beneficial **NI** = No impact **LTS** = Less than significant **PS** = Potentially Significant **SU** = Significant and Unavoidable **NA** = Not Applicable **PP** = Proposed Project **AA1** = Action Alternative 1 **AA2** = Action Alternative 2 **NAA** = No Action Alternative				
		~~factory-installed muffling devices throughout the duration of the project~~.		
CULTURAL RESOURCES				
Issue CR-1: Traditional Native American Resources and Values. Potential effects were determined through consultation with the affected Indian Tribe; identified concerns include effects cause by unanticipated discovery of cultural resources, or a lack of awareness by consultants and construction workers.	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS	~~On November 15, 2018, the United Auburn Indian Community provided a written request for consultation and recommendations for mitigation measures. These measures included an Unanticipated Discovery Plan, Awareness Training for workers, and an associated Tribal Cultural Resources Awareness brochure to be included in the Proposed Project Mitigation Monitoring Plan. Incorporation of the Unanticipated Discovery Plan, Awareness Training, and Associated Awareness brochure into the final Mitigation Monitoring Plan for the Proposed Project will satisfy AB 52 compliance for the United Auburn Indian Community and meet mitigation requirements.~~	On November 15, 2018, the United Auburn Indian Community provided a written request for consultation and recommendations for mitigation measures. These measures included an Unanticipated Discovery Plan, Awareness Training for workers, and an associated Tribal Cultural Resources Awareness brochure to be included in the Proposed Project Mitigation Monitoring Plan. The Water Board agreed to include the Tribe's requested measures in the MMRP. ~~Incorporation of the Unanticipated Discovery Plan, Awareness Training, and Associated Awareness brochure into the final Mitigation Monitoring Plan for the Proposed Project will satisfy AB 52 compliance for the United Auburn Indian Community and meet mitigation requirements.~~	PP = LTS AA1 = LTS AA2 = LTS NAA = LTS