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STAFF REPORT

Date: January 19, 2022

To: TRPA Governing Board

From: TRPA Staff

Subject: Governing Board Certification of the Final Environmental Impact Statement and Approval of the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project, TRPA Project File No: EIPC2018-0011

Summary and Staff Recommendation:
Staff requests that the Governing Board (Board) hold a public hearing and take action on the following matters:

1. Certification of the Final Environmental Impact Statement (Final EIS). The Final EIS may be found online at: https://www.trpa.gov/wp-content/uploads/FEIR_FEIS.pdf
2. Findings in support of the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project, and;
3. The Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project

Staff recommends the Governing Board certify the Final EIS, make the necessary findings, and approve the proposed Tahoe Keys Lagoons Aquatic Weed Control Methods Test.

Required Motions:
In order to certify the Final EIS and approve the proposed project, the Board must make the following motions, based on the Final EIS, staff report and the complete administrative record:

1) A motion to make the findings required by the Tahoe Regional Planning Compact Article VII, Chapter 3 of the TRPA Code of Ordinances, and Article 6 of the Rules of Procedure, and certify the Final EIS for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project as set forth in Attachment A.

2) A motion to make the required Chapter 4, 60 and 80 findings as set forth in Attachment B.

3) A motion to approve the Tahoe Keys Lagoons Aquatic Weed Control Methods Test project as set forth in Attachment C.

The Final EIS may be found here: https://www.trpa.gov/major-projects/#keys

In order for the motions to pass, an affirmative vote of 5-9 (5 CA – 9 total) of the Board is required for each motion.

Advisory Planning Commission Recommendation/Discussion:
On January 18, 2022, the TRPA Advisory Planning Commission (APC) recommended the Governing Board certify the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Environmental Impact Statement and for staff to review the significance determination for Impact Issue **WQ-3: Dispersal of Aquatic Weed Fragments.** Table ES-1 *Summary of Impacts and Mitigation Measures* and 5-1 *Alternatives Comparison* identify WQ-3 as "Not Applicable". Staff is investigating this issue and will provide an update on the significance finding to the Governing Board. APC also recommended the Governing Board make the Compact Article VII findings for the Final EIS.

Background:
The Tahoe Keys is a residential development in the south shore area of Lake Tahoe, consisting of approximately 1,500 homes and approximately 170 acres of waterways connected to Lake Tahoe. These waterways are almost entirely infested with two aquatic invasive weeds: Eurasian watermilfoil and curlyleaf pondweed. Despite the concerted effort by the Tahoe Keys Property Owners Association (TKPOA) to control the infestation over the last forty years, the infestation continues to grow and spread and is a significant threat to Lake Tahoe's ecosystem and famed clarity.

Lake Tahoe's Aquatic Invasive Species (AIS) program is led by TRPA and is implemented in collaboration with over 40 public and private partners. Agencies, scientists, NGOs and private entities have worked together for more than 15 years to gain control and even locally eradicate satellite populations of weeds in iconic places such as Emerald Bay. However, the infestation in the Tahoe Keys is 30 times larger than any weed infestation the AIS program has tackled to date. Because of the size and complexity of this infestation and its ability to spread to so many other areas of the lake, this site is ranked as the #1 priority for control in the Lake Tahoe AIS Implementation Plan (University of Nevada, Reno 2015). The implementation plan also recommends the investigation of aquatic herbicide use to address the infestation within the Tahoe Keys.

In 2017, public and private resources and interests began to align to address this complex problem head on. Building on the previous success of the AIS program, partners have worked together to build a strong scientific foundation and develop a project that incorporates all available AIS control tools to fill much needed information gaps. The proposed project, the Tahoe Keys Control Methods Test (CMT) is a product of years of collaboration, rigorous environmental review, and public engagement.

Project Development:
In 2017, TKPOA submitted applications to TRPA and the Lahontan Regional Water Quality Control Board (Lahontan) proposing the use of aquatic herbicides to control the aquatic weeds. TRPA and Lahontan (collectively- the Lead Agencies) reviewed the original project proposal under an Initial Environmental Checklist (TRPA) and Initial Study (CEQA). TRPA and Lahontan hired an environmental consultant, TRC, to conduct the environmental analysis, which concluded that a TRPA Environmental Impact Statement (EIS) and CEQA Environmental Impact Report (EIR) were necessary to make the environmental impact determinations required.

In 2018 the lead agencies and TKPOA agreed to move forward with an EIS/EIR in tandem with a robust stakeholder and public engagement process. The collaborative process was essential in bringing all viewpoints to the table to develop a new project that addressed this lake-wide problem.

To begin the process, TRPA sought the services of an independent facilitator to conduct a stakeholder assessment. Interviews were conducted with over 40 stakeholders to understand the range of perspectives on AIS issues, challenges, opportunities, and proposed solutions to control weeds in the Tahoe Keys. This assessment concluded with a final report and recommendation to establish the Tahoe Keys Stakeholder Committee (SC) to guide and inform the development of the proposed project and a transparent environmental review process. The SC consists of multiple entities with different perspectives and areas of expertise including:

- TKPOA- project proponent
- TRPA- planning, regulatory, and implementation agency
- Lahontan- regulatory agency
- Tahoe Resource Conservation District- local expert in AIS plant control
- League to Save Lake Tahoe- environmental, non-profit organization
- Tahoe Water Suppliers Association- partnership of municipal water purveyors

One of the first tasks of the SC was to review TKPOA's proposed project and formal project application and provide feedback to TKPOA and the lead agencies on the approach. Based on this review and discussion, the SC agreed that more information on different weed control options was needed to determine a long-term AIS control strategy for this complex and large weed infestation. The SC worked together to develop the Tahoe Keys Control Methods Test (CMT) to take an integrated AIS control approach. This project would test multiple innovative/emerging treatment methods such as ultraviolet-C (UV-C) light and laminar flow aeration (LFA), along with aquatic herbicides. This test would then inform what future treatment plan might be most effective and appropriate to control the weed infestation in the entirety of the Tahoe Keys over the long term. The future treatment plan will require a separate permit and environmental analysis. The main goal of the test is to assess which methods could potentially achieve a large-scale knock-back of weeds that allows TKPOA to gain control over the weed infestation and maintain it with non-chemical methods. TKPOA and the SC agreed to this new approach, and TKPOA submitted a new project application for the Tahoe Keys CMT.

<u>Project Description:</u>
The Tahoe Keys CMT proposes a science-based, rigorous test to determine the efficacy of alternative aquatic weed control methods in the Tahoe Keys, both as stand-alone treatments and in combination. The approach would use certain methods to achieve an initial knockback of weeds in the first year of treatment called Group A methods. Subsequent Group B methods, all non-herbicidal, will be used to conduct spot treatments, to control reinfestations, in the second year of the test and beyond.

Control test methods are grouped as follows:

- **Group A** methods are herbicide and non-herbicide treatments to achieve extensive reduction in target aquatic weeds (targeting at least 75 percent reduction) within test sites. The Proposed

Project tests stand-alone one-time treatments using EPA and State of California approved aquatic herbicides, UV-C, and LFA, as well as combined herbicide and UV-C treatments. Group A herbicide methods would be tested only in the initial year of the test project. Non-herbicide Group A treatments may be extended to additional years if monitoring indicates further treatment may be useful. For example, UV-C may be repeated for a second year, while LFA testing is planned to extend over several years. In addition, UV-C could be employed as a follow-up Group B method for spot treatments.

- **Group B** methods are non-herbicide treatments that are applied locally to follow up Group A treatments and control residual target aquatic weeds. Group B methods are intended to be long-term sustainable control methods capable of maintaining aquatic weed control after initial Group A treatments have been applied to "knock down" the target aquatic weeds in the lagoons. For example, following a Group A herbicide treatment that achieves at least a 75% reduction in targeted aquatic weeds, Group B methods will be used to further control aquatic weeds and in no case would repeated use of herbicides be permitted. Group B methods may include such actions as spot treatments with ultraviolet light, bottom barriers, diver-assisted suction and diver hand pulling techniques. Use of Group B methods will be implemented in years 2-3, following Group A methods in year 1.

Lahontan Regional Water Quality Control Board Decision:
On January 13, 2022, The Lahontan Regional Water Quality Control Board unanimously approved the following items related to the Tahoe Keys Lagoons Aquatic Weed Control methods Test:

1. A resolution certifying the CEQA Environmental Impact Report
2. A resolution granting an Exemption to the Aquatic Pesticide Discharge Prohibition
3. Adoption of Waste Discharge Requirements and NPDES permit
4. Adoption of the Mitigation Monitoring and Reporting Program

Working Group Recommendation/Discussion:
The Tahoe Keys Stakeholder Committee (SC) issued a final report in December 2021 to summarize the shared and individual perspectives of SC members ahead of the final project decision by the lead agencies.

In the report, it is stated that SC members have developed shared and agreed upon perspectives on the following:

• **The Tahoe Keys aquatic weeds infestation is accelerating and poses a serious threat to Lake Tahoe if not controlled.** The ultimate goal is to achieve a major reduction in the mass of weeds, seed pods and nutrients so that water quality and the weed infestation can be actively maintained over time.

• **The development of the proposed project has been a thorough, scientifically rigorous, and inclusive process.** Extensive permit requirements have been developed by the lead agencies for planning, implementation, monitoring and reporting for the proposed project.

• **The environmental analysis determined that Lake Tahoe is not at risk from this proposed test of mixed methods.** At the request of public and stakeholders, the "no action" alternative was evaluated thoroughly, and stands out as the scenario of greatest threat to water quality in the Tahoe Keys Lagoons and for Lake Tahoe overall.

The final report can be found here: Tahoe Keys SC Final Report

Issues and Concerns:
Key Issues were raised during scoping and the public engagement process, mainly surrounding the threat of AIS to Lake Tahoe, impacts from the potential use of aquatic herbicides, the potential for future herbicide use, herbicide migration, and the need for an anti-degradation analysis.

These issues are discussed below:

- **AIS Threat to Lake Tahoe:** AIS are one of the greatest threats to Lake Tahoe. They out-compete native species and disrupt the lake's fragile ecosystem, including its famed water quality and clarity. The infestation at the Tahoe Keys compounds that threat due to its size and scale and its ability to spread to the rest of the lake. Under the No Project Alternative, significant and unavoidable impacts are likely due to continued dispersal of plant fragments and turion production that can spread outward of the Tahoe Keys, furthering the threat to all of Lake Tahoe. Almost all agree that something must be done to control the infestation in the Tahoe Keys, but how the infestation is addressed is an area of debate.
- **Impacts from the use of aquatic herbicides:** Some believe the use of aquatic herbicides are a danger to public health, non-target organisms and drinking water. The following points address those concerns:
    - The EIS determined the risk to public health, non-target organisms, and drinking water is less than significant. This is assured by following the established herbicide application protocols, use of mitigations (double turbidity curtains and aeration), employing real-time monitoring and implementing test treatments early in the growing season when the lake is filling and lake currents are flowing into the lagoons which will help to ensure herbicides are contained in the lagoons.
    - Only herbicides that do not cause harm to people or the environment and are registered by federal and state agencies are proposed for testing.
    - Protection of drinking water supplies is specifically evaluated as Issue EH-3, in Section 3.2 of the DEIR/DEIS. Based on these evaluations, there is virtually no risk to drinking water supplies as there are no direct potable water intakes within or adjacent to the Tahoe Keys lagoons. Public drinking water intakes are far enough away to not be impacted, and groundwater supply well intakes are far below the area of surface water and ground water interaction. Mitigations and resource protection measures, including the use of double turbidity curtains to impede the migration of herbicides outside the test area, will be in place to avoid detectable concentrations of herbicides outside of treatment areas. Rhodamine WT dye that is injected into the water with herbicides will be used to track the extent and duration of herbicide applications. The registered

compounds degrade quickly and the application concentrations being tested will be at levels lower than the maximum allowable application rate.

- **Future use of aquatic herbicides:** There is concern by some members of the public that an approval of aquatic herbicides for the proposed project would allow for their continued future use in other areas of Lake Tahoe. The following points address those concerns:
    - Any future use of aquatic herbicides outside of the proposed project must undergo a new environmental review and regulatory approval process by the lead agencies. A test of aquatic herbicide does not presuppose any future authorization or use of herbicide in the Keys or elsewhere.
    - The Draft permit specifically states the herbicides are only to be used as a single treatment in the first year of the test.

- **Herbicide spread outside the test area:** There is concern that if herbicides are used in the Tahoe Keys, they could spread outside the designated test locations. The following points address those concerns:
    - Any application of herbicides will occur in the spring when water flows are filling the Tahoe Keys lagoons from the lake, minimizing the potential for flows to leave the lagoons.
    - If applied, the herbicides selected for testing will quickly degrade and will be contained throughout the test behind turbidity curtains that impede their migration outside of the test sites and will be in place until monitoring indicates that the herbicides are not detected or are at or below receiving water limits.
    - Real-time monitoring during the test will be conducted to determine if herbicides have spread beyond designated test locations.
    - Mitigations and timing of treatment noted above will also prevent spread outside of treatment areas.
    - An emergency spill response plan is also required to address the potential of spills occurring outside of designated test areas.
    - All mitigations identified in the EIR/EIS are incorporated in the proposed project by Special Condition 2 of the Draft Permit.
- **Anti-degradation:** Lake Tahoe is designated an Outstanding Natural Resource Water (ONRW). The ONRW designation includes an "anti-degradation policy" that prohibits any long-term degradation, including projects intended to improve the environment. Environmental Protection Agency (EPA) guidance allows for short-term degradation to occur in these cases for "weeks to months, not years". In the case of aquatic herbicides, their breakdown products must also follow the EPA guidance. For the proposed project, Anti-Degradation is addressed in the EIR/EIS:
    - The EIR/EIS demonstrates that any of the proposed herbicides and their breakdown products would become undetectable within the parameters delineated by the EPA.

<u>Environmental Review:</u>

The lead agencies prepared a comprehensive joint CEQA/TRPA environmental document. The EIR/EIS examines the proposed project, two action alternatives and one no project alternative. The proposed project includes the use of aquatic herbicides along with non-herbicidal techniques including UV-C, LFA, bottom barriers, and diver assisted suction and hand pulling.

- Action Alternative 1 is similar to the Proposed Project but excludes the use of aquatic herbicides.
- Action Alternative 2 evaluates the use of hydraulic dredging to remove the plants, roots, seeds, and the loose organic sediment layer.
- The no project alternative considers the long-term ecological consequences to the Tahoe Keys lagoons and Lake Tahoe if no new weed control methods are employed.

The EIR/EIS describes the detail of environmental effects that would result from each alternative. See Table ES-1 (appended hereto as Attachment D), Summary of Potential Impacts and Mitigation Measures for a list of the potential impacts and proposed mitigations for each of the alternatives based on resource areas.

All of the potentially significant impacts identified for the proposed project and both action alternatives can be mitigated to a less than significant level. Resource areas that are identified as potentially significant for the proposed project include: Environmental Health, Water Quality, and Aquatic Biology and Ecology.

Potential impacts associated solely with aquatic herbicide use, including health effects to applicators, discharge into receiving waters, and the introduction of toxic substances to the environment, are all associated with improper use or handling of the aquatic herbicides. All of these impacts can be mitigated to less than significant by use of trained applicators following a detailed plan with specified spill control measures. In addition, aquatic herbicide use that follows label-prescribed concentrations prevent acute or chronic toxicity to any non-target species. For the proposed project, aquatic herbicides will be deployed at half their label rates to minimize application down to what is deemed necessary to be effective and limit herbicide use.

Potential impacts to environmental health are shared by all alternatives which include impacts created by sediment disturbance that may cause impacts from Aluminum toxicity. Alum was added to the lagoons decades ago as a flocculant (no longer being used) and still remains in the sediment of some areas at elevated levels. All alternatives include some disturbance to sediment, however, this impact is mitigated to a less then significant level by the use of best management practices to minimize disturbance, turbidity curtains to contain treatment areas, and implementation of a spill control and containment plan to prevent leaks during the transport of dredge spoils.

Shared potential impacts related to water quality include changes in dissolved oxygen from weed dieback, increases in nitrogen and phosphorus levels due to weed dieback, and sediment disturbance. These impacts can be mitigated to less than significant by implementing control testing early when weed biomass is low, use of aeration, and testing and treating any dredge effluent before it is discharged (Alternative 2).

Shared potential impacts among the alternatives for aquatic biology include those to non-target organisms and macrophyte communities, and the potential introduction of new invasive species from test equipment. These are mitigated by surveys to avoid native plant communities and ensuring all equipment is inspected as part of Lake Tahoe's watercraft inspection program.

Formation of harmful algal blooms (HABs) is a phenomenon that is occurring more frequently in the lagoons (and in many areas of California). It is generally accepted that the annual dieback of weeds in the Tahoe Keys adds nutrients to the system that can encourage HAB outbreaks, along with warming temperatures globally, creating a more suitable environment for them to exist. As the proposed project and action alternative 1 both implement methods that kill weeds within the water column, the potential of nutrient releases exists with any of the methods proposed for use, be it herbicidal or not. To mitigate this potential impact, timing of treatments early in the growing season reduces this impact to less than significant as weed biomass is low, releasing less nutrients into the water column than during the normal dieback later in the season. If necessary, aeration would be used if increased occurrences of HABs due to treatment are observed.

Other potential impacts are specific to action alternative 2 due to dredging that include impacts to docks and bulkheads, which could be mitigated by replacing/restabilizing any affected infrastructure. Roads could also be impacted by the weight of trucks hauling dredged materials. This would be mitigated by ensuring the use of appropriately sized and weighted vehicles.

Only the no project alternative results in impacts that are significant and unavoidable. If the current trend continues, and no test project is implemented to find sustainable solutions, the aquatic weed infestation will continue to grow, spread, and will significantly impact and threaten the ecological health of nearshore areas around Lake Tahoe.

Public Comment:
A Notice of Availability (NOA) for the joint Draft EIR/EIS was issued to the California and Nevada State Clearinghouses on July 6, 2020. The notice initiated a 60-day public comment period. During that time, the lead agencies held two virtual public meetings on July 22, and August 12, 2020 to accept comments on the Draft EIR/EIS. During the public comment period, over 3,000 individuals, agencies and organizations provided comments on the Draft EIR/EIS. All comments have been considered, responded to, and/or incorporated into the Final EIR/EIS as appropriate. The comments and responses are included in Appendix A of the Final EIR/EIS. The overwhelming majority of comments were received as form letters via email, most of which stated their opposition to the use of herbicides for a variety of reasons including an overall position against herbicide use, their potential spread into the lake, concern over impacts to drinking water and health from the formation of cyanotoxins from HABs. While staff is respectful of the fears associated with use of herbicides, these general statements of concern do not constitute criticisms of the analysis in the EIS.

The Lead Agencies responded to comments on the adequacy of the EIR/EIS in two ways. First, Chapter 2 of the Final EIS/EIR contains 15 Master Responses addressing topics raised by multiple commenters. These Master Responses included the following:

- Master Response 1 - Alternatives: Responds to comments stating the agencies should approve one of the alternatives over the proposed project, or support for approving the proposed project. The response states that the EIR/EIS includes a reasonable range of alternatives, and that the proposed project, with mitigation will result in impacts that are less than significant.
- Master Response 2 - Alternatives: Responds to comments received regarding approval of herbicides should not occur and an approval will lead to future widespread herbicide use. The

response states that the test is designed to inform long term weed management and that any future herbicide use would require additional environmental analysis and agency approvals.

- Master Response 3 - Anti-degradation Analysis (AA): Commenters stated that the AA should have been included in the DEIR/DEIS. The AA is required as part of the NPDES permit however there is no requirement that the AA be completed with the DEIR/DEIS. The AA was made available along with the draft permit that included its own public comment period.
- Master Response 4 - Aquatic Weeds Management: Commenters questioned why 75% reduction of aquatic weeds was used as a performance metric. The 75% threshold is expected to allow Group B methods to maintain the reduction in aquatic weeds over time, preventing additional growth and spread into other areas of the lake.
- Master Response 5 – Mechanical Harvesting: Commenters suggested that the history of weed harvesting practices should have been included in the DEIR/DEIS, and it amplifies fragment spread. Harvesting is already permitted under Waste Discharge Requirements issued to TKPOA by Lahontan and serves to reduce weed height to prevent boat props from creating fragments. Harvesting activities include a routine fragment collection program.
- Master Response 6 – Cost Analysis: Commenters stated that cost information was missing from the DEIR/DEIS and is needed to make a decision. Costs are not necessary to evaluate environmental impacts.
- Master Response 7 – Environmental Health and Protection: Commenters stated that the dredging associated with Action Alternative 2 would create toxicity issues related to aluminum. An aluminum-based product was used as a flocculant in the Tahoe Keys lagoons decades ago, however mitigations identified in the EIR/EIS reduce the potential impact of aluminum toxicity to less than significant.
- Master Response 8 – General: Many commenters stated Lake Tahoe is a valuable resource and that it should be protected. These comments were noted, and the purpose of the test is to protect Lake Tahoe.
- Master Response 9 – Use of Herbicides: Numerous comments were received objecting to herbicide use. The response refers to the analysis concluding that with mitigation, all aspects of the CMT can be implemented with less than significant impacts. Mitigations include timing of treatments – early when water is flowing into the lagoons to prevent escape from the lagoons and limit HABs, and when weed biomass is low to prevent concentrated nutrient releases; Use of turbidity curtains to prevent herbicides from leaving test sites; and continual monitoring will be conducted to track herbicide fate and transport.
- Master Response 10 – Public Participation: Some commenters suggested the DEIR/DEIS was insufficient, and recirculation is needed. The response states that the DEIR/DEIS was prepared with the appropriate level of analysis to allow decision makers to make an informed decision that accounts for the level of potential environmental impact the proposed project and alternatives present.
- Master Response 11 – Restoration: Commenters stated that restoration of the Tahoe Keys to a wetland should have been included as an alternative. The DEIR/DEIS addresses this issue and identifies that it would impact beneficial uses of the lagoons, impact non-target species, and does not fulfil the purpose and need to test a variety of treatment methodologies.
- Master Response 12 – Protect Lake Water Quality: Many commenters shared personal experiences at Lake Tahoe and that it is a special place deserving protection. The two lead

agencies are both charged with protecting the numerous environmental standards at Lake Tahoe and the CMT is designed with complete protection and mitigation measures and will inform the long-term protection of water quality. Further, the test can be implemented with less than significant impacts.

- Master Response 13 – Water Quality Objectives: Commenters stated that herbicides will violate water quality objectives immediately after they are applied to the water. The analysis demonstrates that any herbicides would become undetectable within weeks, consistent with the standards established for Outstanding National Resources Waters. Further, the Sixth Circuit Court of Appeals confirmed USEPA's position that pesticides (including aquatic herbicides) are not generally considered pollutants when the pesticides is intentionally applied to water with an intended purpose.
- Master Response 14 – Water Supply: Commenters stated concerns of herbicides entering the drinking water supply. The EIR/EIS concludes that potential impacts to drinking water supplies are less than significant before mitigation due to a variety of factors- distance of water supply intakes, the fate and environmental persistence of herbicides and degradants, dilution, and the timing and concentrations of their proposed use. Further, the analysis concludes that there would be "no impact" to the filtration exemption for water suppliers that take water directly from the lake.
- Master Response 15 – Regulatory: The response addresses comments regarding NEPA. This analysis was performed under CEQA and TRPA environmental review processes and not subject to NEPA.

In addition to Master Responses, Section 3.3 of the Final EIR/EIS includes responses to every specific, unique comment timely received. Some comments of note were received from a group identified as Beyond Pesticides (both as a group and as individuals in form letters), The league to Save lake Tahoe, the Tahoe Water Suppliers Association (TWSA), and the Sierra Club.

Beyond Pesticides, a not-for-profit organization, expressed concern on health effects from cyanotoxins due to herbicide use. The EIR/EIS identifies the potential for cyanotoxins because of HABs occurring. HABs are a phenomenon observed more frequently in Lake Tahoe and throughout California, and are not solely attributed to herbicide use. HABs likely develop due to high nutrient concentrations and increased water temperatures. The EIR/EIS states that any weed treatment method has the potential to create conditions that are suitable for HABs. In fact, ultraviolet light treatments may have a greater potential to do so. The EIR/EIS includes mitigations that reduce the likelihood of HAB occurrences, and also help dissipate them should they occur. These mitigations reduce the impacts of HABs to less than significant. Notably, HABs occur within the Keys and lake without aquatic weed treatments and the test is designed to mitigate impacts from HABs should they occur in test areas. It is outside the scope of the purpose of the proposed test to seek a solution to HAB occurrence throughout the Keys or lake.

Beyond Pesticides also commented on nutrient inputs into the lagoons from landscape fertilizer use and exhaust emissions contributing to eutrophication and weed proliferation. TKPOA has implemented a nonpoint source management program to control and limit runoff nutrient inputs. In addition, the analysis revealed that nutrient inputs from stormwater and landscape runoff are a small percentage

compared to the nutrients being returned to the system by the annual die-off of plants. Thus, even fully eliminating runoff inputs is not expected to control weeds.

The League to Save Lake Tahoe provided both written and oral comments on the need to test all methods, that the EIS/EIR is comprehensive, and that they questioned under CEQA the determination that Action Alternative 1 is designated as the environmentally superior alternative.

The TWSA provided written comments that addressed a variety of topics including their concern of herbicide use and availability of the anti-degradation analysis, which are responded to in Master Responses 1 and 3. They also raised concern about the socio-economic impact to the Drink Tahoe Tap brand from herbicide use and site an impact to another brand from a "detection" of herbicides in their spring source. Socio-economic impacts are not within the scope of an EIR/EIS. Further, the impacts to drinking water are shown to be less than significant before mitigation.

The Sierra Club provided comments as well that addressed a variety of topics. Some examples include their opposition to herbicide use, the range of alternatives in the document, adequacy of the EIR/EIS, availability of the anti-degradation analysis, herbicide use would violate water quality objectives, and the formation of harmful algal blooms, all of which are responded to in detail in the Master Responses to the EIS/EIR. They also characterized nutrient availability and that controlling fertilizer use and stormwater runoff would suppress weeds. The analysis shows that the weeds themselves are the main source of nutrients, and very little is from upland sources. The Sierra Club suggested blocking off the Tahoe Keys lagoons as a mitigation during a test. The EIR/EIS documents the potential significant impacts that action would have, most notably the lack of fresh water entering the lagoons and thereby increasing the potential for HABs.

Regional Plan Compliance:

Certification of the Final EIS is appropriate. As described above, the Final EIS considers a reasonable range of alternatives that are consistent with the Purpose and Need of the EIS and are sufficient to foster informed decision making, public awareness and participation. All potentially significant impacts can be mitigated to less than significant. All other environmental topics analyzed resulted in either no impact or less than significant impact before mitigation, or that the issue was not applicable. All timely comments received on the DEIR/DEIS have been responded to. Based on information in the record, TRPA staff has determined that the proposed test project is consistent with attaining and maintaining Thresholds and a finding of no significant effect can be made.

APC and TRPA staff recommend the Governing Board find the Final EIS to be adequate and prepared in conformance with TRPA requirements for Environmental Impact Statements as put forth in the Tahoe Regional Planning Compact and the TRPA Code of Ordinances and Rules of Procedure. And to further make the necessary Compact - Article VII(d) findings. The appropriate findings are set forth in Attachment A.

TRPA staff also recommends that the Governing Board make the necessary Code Chapter 4, 60 and 80 findings and approve the proposed Tahoe Keys Lagoons Aquatic Weed Control Methods Test project as set forth in Attachments B and C. The key Code finding is Section 60.1.7.B.3, which requires "[n]o

detectable concentration of any pesticide shall be allowed to enter any stream environment zone, surface water, or ground water unless TRPA finds that application of the pesticide is necessary to attain or maintain the environmental threshold standards." As set forth in Attachment B findings and described in this staff report, control of AIS in the Keys is of paramount importance to both AIS and Water Quality Thresholds. TRPA Threshold Standards as they relate to aquatic invasive species (AIS) aims to reduce the abundance and distribution of existing AIS. The Tahoe Keys represents the largest and most complex infestation and is the number one priority for control. Given the expanse, the sheer amount of biomass that has grown and proliferated over time, and the complexity (e.g., the variability of conditions throughout the lagoons of the Keys), no single method previously used in other areas of the lake to control AIS appears adequate for effectively treating the infestation in the Tahoe Keys. Therefore, a test of multiple methods both new and not fully proven, including aquatic herbicides (pesticides), in addition to previously used methods (e.g., bottom barriers and diver assisted suction) is necessary to inform what a holistic treatment program would include to improve environmental threshold standards.

Contact Information:

For questions regarding this agenda item, please contact Dennis M. Zabaglo, Aquatic Resources Program Manager, at (775) 589-5255 or dzabaglo@trpa.gov.

Attachments:

A. EIS Certification Findings
B. Required Findings Chapters 4, 60, & 80
C. Draft Permit
    Exhibit 1: Map
D. Final EIS Table ES-1 Summary of Impacts and Mitigation Measures
E. Tahoe Keys Stakeholder Committee Final Report
F. Tahoe Science Advisory Council (TSAC) Tahoe Keys Memorandum
G. Comment Letters

Attachment A

EIS Certification Findings

ATTACHMENT A: EIS CERTIFICATION FINDINGS

The following findings in Chapter 3: *Environmental Documentation*, Chapter 4: *Required Findings*,Chapter 60: *Water Quality*, and Chapter 80: *Shorezone* of the TRPA Code of Ordinances must be made in order to approve the project:

Chapter 3 Required Findings for Environmental Impact Statement

Certification Findings: Pursuant to TRPA Rules of Procedure, Certification is defined as a finding that the final Environmental Impact Statement (EIS) is in compliance, procedurally and substantively, with Article VII of the Compact, Chapter 3 of the Code, and Article 6 of the Rules of Procedure. The following Certification Findings have been prepared for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Environmental Impact Report/Environmental Impact Statement (EIR/EIS).

These Certification findings are divided into two sections (A & B). *Section A* includes the findings for: (1) the requirements for preparation of an EIS pursuant to Code Section 3.7.1 and TRPA Compact VII(a)(1, 3, and 4) and VII(b); (2) minimum contents of an EIS pursuant to Code Section 3.7.2 and TRPA Compact VII(a)(2); (3) inclusion of Other Data and Information pursuant to Code Section 3.7.3 and TRPA Compact VII(c); (4) Draft EIS requirements of Rules of Procedure 6.13; and (5) Final EIS requirements of Rules of Procedure 6.14. Section B includes the Compact Article VII(d) and Code of Ordinances Section 3.7.4 findings for each significant effect identified in the Environmental Impact Statement for the project.

A. (1) Code Section 3.7.1 (see also TRPA Compact VII(a)(1), (3) and (4))

3.7.1 Preparation of EIS

When preparing an EIS, TRPA shall:

A. Utilize a systematic interdisciplinary approach that integrates natural and social sciences and the environmental design arts in planning and decision making that may have an impact on man's environment;

B. Study, develop, and describe appropriate alternatives to recommended courses of action for any project that involves unresolved conflicts concerning alternative uses of available resources;

C. Consult with and obtain the comments of any federal, state, or local agency that has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate federal, state, and local agencies that are authorized to develop and enforce environmental standards shall be made available to the public and shall accompany the project through the review processes; and

D. Consult the public during the environmental impact statement process and solicit views during a public comment period of not less than 60 days.

RATIONALE: The EIR/EIS consulting team, TRC and Environmental Science Associates, utilized a multidisciplinary team of experts and a systematic interdisciplinary approach in the preparation of the EIS, which insures the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making that may have an impact on man's environment; The document includes a reasonable range of action alternatives consistent with the requirements of the Tahoe Regional Planning Agency (TRPA) ordinances and procedures, and the California Environmental Quality Act (CEQA); the consultant team consulted with and obtained comments from representative federal, state and local agencies which have jurisdiction by law or special expertise with respect to any environmental impact involved with the project's location and sphere of influence; and the Lahontan Regional Water Quality Control Board (Lahontan), and TRPA, distributed the Draft Document to various public agencies, the California and Nevada State Clearinghouses, citizen groups, and interested individuals for a 60-day public review period, from July 6, 2020 to September 3, 2020.

(2) Code Section 3.7.2 (see also TRPA Compact VII(a)(2))

Contents of EIS

An EIS shall include, at a minimum, the following:

- Description of the project;
- The significant environmental impacts of the proposed project;
- Any significant adverse environmental effects that cannot be avoided should the project be implemented;
- Alternatives to the proposed project;
- Mitigation measures that must be implemented to assure meeting standards of the region;
- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity;
- Any significant irreversible and irretrievable commitments of resources that would be involved in the proposed project should it be implemented; and
- The growth-inducing impact of the proposed project.

RATIONALE: The EIR/EIS includes a description of the proposed project and project alternatives. The EIR/EIS includes identification of potential environmental impacts of the proposed project and the project alternatives; through the analysis of the EIR/EIS no adverse environmental effects that cannot be avoided were identified (all potential impacts can be reduced to a level of insignificance through mitigation measures and/or resource protection measures); the EIR/EIS includes an analysis of three action alternatives, including the proposed project alternative, and a no-project

alternative. The EIR includes an analysis of all proposed mitigation measures which must be implemented to assure meeting standards of the region; the EIR/EIS includes an analysis of the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; the EIR/EIS includes an analysis of any significant irreversible and irretrievable commitments of resources which would be involved in the proposed project should it be implemented; and the EIS includes an analysis of the growth-inducing impact of the proposed project and alternatives.

(3) Code Section 3.7.3 (see also TRPA Compact VII(c))

Inclusion of Other Data and Information

An environmental impact statement need not repeat in its entirety any information or data that is relevant to such a statement and is a matter of public record or is generally available to the public, such as information contained in an environmental impact report prepared pursuant to the California Environmental Quality Act or a federal environmental impact statement prepared pursuant to the National Environmental Policy Act of 1969. However, such information or data shall be briefly described in the environmental impact statement and its relationship to the environmental impact statement shall be indicated.

RATIONALE: The EIR/EIS refers to the entirety of information and data which are relevant to the preparation of the document and are a matter of public record or are generally available to the public. All relevant information or data referred to in the EIR/EIS includes a brief summary of the information or data and explains its relationship to the EIS.

(4) Rules of Procedure 6.13

DRAFT EIS

Upon a determination of the scope of the EIS, a draft EIS shall be prepared. The draft EIS shall include, at a minimum, the elements listed in subsection 3.7.2 of the Code and a list of all federal, state, and local agencies or other organizations and individuals consulted in preparing the draft.

RATIONALE: A draft EIR/EIS was prepared and it included all of the elements listed in subsection 3.7.2 of the Code and a list of all federal, state, and local agencies or other organizations and individuals consulted in preparing the draft.

6.13.1 Summary

A draft EIS in excess of 30 pages shall include a summary, preferably less than ten pages in length, which identifies at a minimum:

A. A brief project description;

B. Each significant adverse effect with a summary of proposed mitigation measures or alternatives that would reduce or avoid that effect; and

C. Areas of controversy known to TRPA.

RATIONALE: The draft EIR/EIS exceeds 30 pages and included a summary with a brief project description; a table with each adverse effect with a summary of proposed mitigation measures or alternatives that would reduce or avoid that effect; and areas of controversy known to TRPA.

6.13.2 Comment Period

The draft EIS shall be circulated for public comment for a period not less than 60 days. TRPA may hold a public hearing on a draft EIS.

RATIONALE: The draft EIR/EIS was circulated for public comment for a period not less than 60 days, between July 6, 2020, and September 3, 2020.

6.13.3 Notice of Comment Period

The comment period shall not commence before the date of publication of a notice in a newspaper whose circulation is general through the region. The notice shall include a brief description of the project or matter under consideration, the date the comment period commences, the date by which comments must be received, and that copies of the draft EIS may be obtained by contacting TRPA and are available for public review at TRPA's offices. Copies of the draft EIS shall be mailed to California and Nevada state clearinghouses and appropriate federal agencies, on or before the beginning date of the comment period. Notice of the comment period shall be given to affected property owners pursuant to Article 12 of these Rules.

RATIONALE: Notice of the comment period was accomplished as described in Rule of Procedure 6.13.3.

6.13.4 Request for Comments

TRPA shall request comments on draft EISs from any federal, state or local agency that has jurisdiction by law or special expertise with respect to any environmental impact involved. Notice of a request for comments shall be given by deposit of the request, in the U.S. Mail, first class mail, postage prepaid. Notice shall be given no later than the date the comment period commences. Separate notice under this section is not necessary if notice of the draft EIS has been given to the Agency pursuant to subsection 6.13.3 above.

RATIONALE: Requests for comments on the draft EIR/EIS from any federal, state or local agency that has jurisdiction by law or special expertise with respect to any environmental impact involved was accomplished through the Notice of Comment Period set forth in Rule of Procedure 6.13.3 or a Request or Comments under Rule of Procedure 6.13.4, or both.

6.13.5 Extension of Comment Period

TRPA may extend the comment period for good cause. Notice of extension shall be posted at TRPA offices. TRPA is not required to respond to late comments but may elect to do so.

RATIONALE: The draft EIR/EIS was circulated for public comment between July 6, 2020, and September 3, 2020, and the comment period was not extended.

(5) Rules of Procedure 6.14

6.14 FINAL EIS

6.14.1 At the conclusion of the comment period, TRPA shall prepare written responses to all written comments received during the comment period, and may respond to oral or late comments. The response to comments may be in the form of a revision to the draft EIS, or may be a separate section in the final EIS that shall note revisions to the draft EIS, if any. The final EIS shall include, at a minimum:

A. The draft EIS, or a revision;

B. Comments received on draft, either verbatim or in summary;

C. The responses to comments; and

D. A list of persons, organizations, and agencies commenting in writing on the draft EIS.

6.14.2 The final EIS may incorporate by reference computer data recorded on disk, videotape, slides, models, and similar items provided summaries of such items are included in the final EIS. The final EIS may also include oral testimony given at APC or Board hearings.

RATIONALE: The final EIR/EIS includes the draft EIR/EIS, comments received on the draft EIR/EIS, responses to the comments received, and a list of persons, organizations and agencies commenting in writing on the draft EIR/EIS.

REQUIRED FINDINGS FOR THE PROPOSED PROJECT

B. COMPACT ARTICLE VII(D) AND CHAPTER 3 FINDINGS

When acting upon matters that would result in a significant environmental effect, the Compact and Code require that separate written findings are made for each significant effect identified in the environmental impact statement (Compact Article VII[d], Chapter 3 of the Code of Ordinances). For each significant effect one of two findings must be made:

1. Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level; or

2. Specific considerations, such as economic, social, or technical, make infeasible the mitigation measure or project alternatives discussed in the environmental impact statement on the project.

The EIR/EIS identified a number of potentially significant environmental effects (or impacts) that the Tahoe Keys Lagoons Aquatic Weeds Control Methods Test Project will cause or contribute to. These significant effects can be avoided or substantially lessened through the adoption of feasible mitigation measures, and some can be avoided or substantially lessened by resource protection measures incorporated into the proposed project test design (resource protection measures are part of how activities in the project or alternatives were planned). The Governing Board's findings with respect to the proposed project's potentially significant effects and mitigation measures are set forth in the following discussions.

These discussions do not attempt to describe the full analysis of each environmental impact contained in the EIR/EIS. Instead, they provide a summary description of each impact, describe the applicable mitigation measures identified in the EIR/EIS, previously adopted by Lahontan, and now adopted by the Governing Board, and state the Governing Board's findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental findings and conclusions can be found in the draft EIR/EIS and final EIR/EIS, or elsewhere in the record, and these findings hereby incorporate by reference the discussion and analysis in those documents supporting the EIR/EIS's determinations regarding the proposed project's impacts and mitigation measures designed to address those impacts. In making these findings, the Governing Board ratifies, adopts, and incorporates into these findings the analysis and explanation in the draft EIR/EIS, the final EIR/EIS, or elsewhere in the record, and ratifies, adopts, and incorporates in these findings the determinations and conclusions of the draft EIR/EIS and final EIR/EIS relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these findings.

The Governing Board has adopted all of the mitigation measures identified in the following discussions. Some of the measures identified are also within the jurisdiction and control of other agencies. To the extent any of the mitigation measures are within the jurisdiction of other agencies, the Governing Board finds those agencies should implement those measures within their jurisdiction and control.

ENVIRONMENTAL HEALTH

1. **Potentially Significant Effect: Herbicide Applicator Exposure and Health (Issue EH-1).**

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level.

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

There is a risk to the health of workers handling and applying herbicide products unless precautions are taken to protect them. Endothall is toxic if inhaled, may be harmful if swallowed, and may cause skin irritation or serious eye damage. Triclopyr is not metabolized by humans but is excreted unchanged in the urine. Triclopyr does not pose an inhalation risk but can cause skin irritation or eye corrosion.

Given that the Proposed Project includes a one-time application of herbicides at several test sites, only the risks of acute exposure to the herbicides were evaluated since no chronic exposures over months or years are likely to occur as part of the Proposed Project. The potential acute effects of the herbicides were determined by a review of the available literature, as well as Safety Data Sheets from the herbicide manufacturers.

The registration labels and Safety Data Sheets for each herbicide product specify the proper methods for handling and applying the chemicals, personal protective clothing requirements, and other precautions to protect workers, all of whom must be certified by the State as qualified applicators.

Applicator Qualifications (Mitigation EH-1) reduces potential impacts to a less than significant level by requiring that 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.

2. Potentially Significant Effect: Detectable Concentrations of Herbicides and Degradants in Receiving Waters. (Issue EH-2).

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCITON BY MITIGATION

Detectable concentrations of discharged herbicides and their degradants would be controlled as a temporary condition allowable only for weeks to months. Potential impacts from accidental spills or overapplication are reduced to less than significant through the following mitigation measures:

Spill Prevention and Response Plan (Mitigation EH-2, EH-3a, EH-4): 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.

Aeration (Mitigation EH-6b): Aeration technologies would be implemented at each herbicide test site after target aquatic weeds die back from the herbicide application. Aeration during plant decomposition would increase aerobic microbial degradation 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.

3. **Potentially Significant Effect: Introduction of Toxic Substances into the Environment. (Issue EH-4).**

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCITON BY RESOURCE PROTECTION MEASURE

The herbicides proposed for 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.

Spill Prevention and Response Plan (Mitigation EH-2, EH-3a, EH-4): A spill prevention and response plan would be implemented by a QAL holder to minimize and contain any spills during herbicide mixing and application.

4. **Potentially Significant Effect: Short-term Increases in Aluminum Concentrations. (Issue EH-5).**

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCITON BY MITIGATION

The sediments in the Tahoe Keys lagoon bottom have pre-existing high concentrations of aluminum. Short-term increases of aluminum concentrations in lagoon water may occur in treatment areas during sediment disturbance caused by project activities such as installation, startup and removal of aeration systems, or installation and removal of bottom barriers and turbidity curtains. The potential for concentrations of aluminum to reach levels associated with toxicity to aquatic life is a function of the amount of turbidity in the water from disturbed sediment. Samples analyzed as part of the baseline study showed that disturbance of sediments could potentially result in total recoverable aluminum concentrations that exceed the short-term exposure criteria and cause harm to aquatic life.

Best Management Practices (Mitigation EH-5a) reduces potential impacts to a less than significant level by requiring 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.

5. **Potentially Significant Effect: Harmful Algal Blooms (HABs). (Issue EH-6).**

A risk exists that the dieback and decay of aquatic weeds consequent upon test activities, and subsequent release of nutrients to the waters of 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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCITON BY MITIGATION

Environmental conditions in freshwater environments can lead to rapid increases in the biomass of single-celled photosynthetic bacteria (cyanobacteria), resulting in a HAB. HABs have been reported in Tahoe Keys lagoons in recent years, including 2017 to 2019. Past detections of cyanotoxins have reached caution levels at Tahoe Keys.

As a result of the Proposed Project, conditions may become increasingly favorable or less favorable for HABs. Because HABs are not always predictable and because the conditions that cause cyanobacteria to produce cyanotoxins are not well understood, there remains some uncertainty about whether the release of nutrients from aquatic weed treatments could increase the risk of HABs and potentially affect people and the environment. Continuation of the existing programs to monitor and warn people

at Tahoe Keys when cyanotoxins are present will continue to be effective in protecting against any additional risks of exposure to cyanotoxins.

Potential impacts from HABs are reduced to less than significant through the following mitigation measures:

Timing and Size of Treatments (Mitigation EH-6a): Spring aquatic plant surveys would be conducted to ensure that herbicide treatments 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.

Aeration (Mitigation EH-6b): Aeration technologies would be implemented at each herbicide test site after target aquatic weeds die back from the herbicide application. Aeration during plant decomposition would increase aerobic microbial degradation 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.

Lanthanum Clay (Mitigation EH-6c): 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 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.

WATER QUALITY

1. **Potentially Significant Effect: Changes in Dissolved Oxygen Concentrations (Issue WQ-5).**

Rapid dieback of dense aquatic weed beds from testing herbicide applications or ultraviolet light could result in significant changes to dissolved oxygen (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 Laminar Flow Aeration (LFA) increases water circulation and improves low-oxygen conditions in the deeper portions of the water column during summer thermal stratification.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

Rapid dieback of dense aquatic weed beds from testing herbicide applications or UV light could result in significant changes to DO conditions within and near test sites. The primary concern is that BOD from decomposing plants could decrease DO concentrations during the normal growing season for aquatic plants, particularly given the lack of DO contributed from the photosynthesis of living plants. There is also a potential for herbicide products to create a short-term chemical oxygen demand during applications, although this is determined to be less of a concern than BOD from decomposing plants.

Based on information from other studies, any measurable changes in lagoon DO from herbicide applications would likely be restricted to within and adjacent to the test sites, and no effect would be expected on DO in Lake Tahoe. LFA tests sites may also have improved DO conditions due to increased water circulation and improved low oxygen conditions that characterize the deep portions of the water column during summer thermal stratification.

Potential impacts from changes in dissolved oxygen concentrations are reduced to less than significant through the following mitigation measures:

Timing and Limited Extent of Testing (Mitigation WQ-5a): 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 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.

Aeration (Mitigation WQ-5b): LFA or other aeration systems would be deployed in herbicide test sites immediately after plant dieback to increase aerobic microbial degradation 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 were not significant.

2. Potentially Significant Effect: Increases in Total Phosphorus Concentrations (Issue WQ-6).

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 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 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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

Short-term increases in lagoon water total phosphorus concentrations could result from sediment disturbance during LFA installation, or during the initial operation of LFA systems circulating deep waters to the surface. A temporary increase in TP in the water column is expected during the weeks following aquatic plant dieback from herbicide treatment. Release of phosphorus from decaying aquatic plants to the water column could also be accelerated during and after UV light application, which could increase concentrations during those periods.

Increased total phosphorus (TP) in the water column within and adjacent to treatment areas is expected due to remineralization processes that are likely to occur concurrent with the decomposition of plants at test sites. While not all of the TP content of decomposing plants would be available in the water column, it is likely that perhaps 50 percent of the TP would transition into the water column during decomposition, with most of this remineralization likely occurring within the first 20 days after plant dieback (Walter 2000). The potential internal increases in TP from project activities would be a concern in the lagoons both for compliance with WQO criteria and also for increased productivity of phytoplankton and risk of HABs.

Because herbicide and UV light treatments would prevent the plants from reaching full biomass, there would be a reduction in the transfer of TP from plant tissues to the lagoon water that would otherwise occur when the plants naturally die back in the fall, so overall TP loading from decomposing plants would not increase, accumulate with impacts from other projects, or contribute to a declining trend or affect an already degraded resource.

Potential impacts from changes in total phosphorus concentrations are reduced to less than significant through Mitigation Measure WQ-6a, the timing, and limited size of treatment areas.

Timing and Limited Extent of Testing (Mitigation WQ-6a): The overall reduction in aquatic weed biomass from testing control methods is generally expected to reduce the 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 preapplication 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.

3. Potentially Significant Effect: Increases in Lagoon Water Total Nitrogen Concentrations (Issue WQ-7).

Short-term increases in lagoon water total nitrogen (TN) concentrations could result from sediment disturbance during suction 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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

Short-term increases in lagoon water total nitrogen concentrations could result from sediment disturbance during 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 if dense aquatic weed beds are successfully treated.

Increased TN in the water column is expected due to remineralization processes that are likely to occur concurrent with the decomposition of plants at test sites. While not all of the TN content of decomposing plants would be available in the water column, it is likely that perhaps 60 percent of the TN would transition into the water column during decomposition, with most of this remineralization likely occurring in the first two to three weeks. In the West Lagoon, increases in TN in the water column would likely occur, and as a colimiting nutrient with phosphorus, TN increases would be expected to increase the abundance of phytoplankton in the water column. The degree of phytoplankton response is likely to correlate with the amount of nutrient uplift associated with plant decomposition and TN remineralization, and the amount of TN remineralization is expected to correlate with the amount of aquatic plant biomass that is treated at any given time. With herbicide treatments proposed to occur in the late spring when aquatic plants are early in their growth and biomass is minimal, and when the water is still cool from snowmelt runoff and low nighttime temperatures, the risk of nutrient uplift resulting in algal blooms (including HABs) can be minimized. Similar to TP, the lack of correlation between TN concentrations and indicators of phytoplankton biomass in Lake Tallac suggests that an uplift in TN concentrations from plant decay presents less of a risk for algal blooms than in the West Lagoon.

A temporary increase in TN in the water column is expected during the weeks following aquatic plant dieback from herbicide treatment.

Because herbicide and UV light treatments would prevent the plants from reaching full maturity, there would be reduction in the release of nitrogen from plant tissues to the lagoon water compared to when full-grown plants naturally die back in the fall, so overall TN loading from decomposing plants would not increase, accumulate with impacts from other projects, or contribute to a declining trend or affect an already degraded resource.

Potential impacts from changes in TN concentrations are reduced to less than significant through Mitigation Measure WQ-7a, the timing, and limited extent of treatment areas.

Timing and Limited Extent of Testing (Mitigation WQ-7a): The overall reduction in aquatic weed biomass from testing control methods is 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 preapplication 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.

AQUATIC BIOLOGY AND ECOLOGY

1. **Potentially Significant Effect: Effects on Non-Target Aquatic Macrophyte Species (Issue AQU-1).**

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

Native aquatic plant species in the West Lagoon include leafy pondweed (Potamogeton foliosus), nitella (Nitella sp., a macroalga), elodea (Elodea canadensis), and Richard's pondweed (P. richardsonii) (TKPOA 2019). Native aquatic plants in Lake Tallac include most of the same species (Richard's pondweed is not known to occur); in addition, watershield (Brasenia schreberi) is found along the margins.

The application of aquatic herbicides can directly affect non-target plant species due to direct contact with the herbicide within the designated treatment site or adjacent open water areas. Existing information on the selectivity of the proposed aquatic herbicides, including manufacturer's labels and peer reviewed literature, was used to evaluate their potential to impact non-target aquatic plants. The magnitude of short-term impacts to these species from herbicides 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. Tryclopyr herbicide is selective to Eurasian watermilfoil and is not reported to have lethal effects on the non-target macrophytes known to occur in the lagoons. The extent of herbicide-only sites is 13.3 acres, or 7.7percent of the lagoons, of which 8.2 acres or less than five percent are proposed for application of endothall.

Potential direct effects to non-target macrophyte species could occur through the use of UV light treatments and implementation of some Group B methods. The use of UV light and bottom barriers can be non-selectively lethal to non-target aquatic plants and could result in changes to community composition.

Potential impacts to non-target aquatic macrophytes are reduced to less than significant through Mitigation Measure AQU-1 spring macrophyte surveys. These surveys will result in adjustment of the test sites to avoid areas dominated by native or non-target plant communities.

Macrophyte Surveys (Mitigation AQU-1): 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.

2. Potentially Significant Effect: Effects on Sensitive Aquatic Macrophyte Species (Issue AQU-3).

No aquatic plant species occur in the vicinity of the Tahoe Keys lagoons 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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

The primary sensitive macrophyte species of concern in the Project area is watershield, a California Native Plant Society (CNPS) 2B.3 ranked sensitive plant species that is known to occur in Lake Tallac. Plants ranked 2B are considered rare, threatened or endangered in California but more common elsewhere, and plants with a threat rank of 3 are considered “not very threatened in California.” Watershield has not been found in the Tahoe Keys lagoons. There is potential for herbicides to impact watershield in Lake Tallac. The abundance of watershield in macrophyte surveys from Lake Tallac has ranged from 0-percent to 32- percent since monitoring began in 2015.

Potential impacts to sensitive aquatic macrophyte communities are reduced to less than significant through the following Mitigation Measure AQU-1. Spring macrophyte surveys are required to adjust testing locations to better target dense beds of target species and avoid native, non-target and sensitive plant communities.

Macrophyte Surveys (Mitigation AQU-1): Although the drift of endothall from the treatment sites in Lake Tallac 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.

3. **Potentially Significant Effect: Changes in Aquatic Macrophyte Community Composition (Issue AQU-4).**

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.

FINDING

(1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less-than-significant level

RATIONALE AND EVIDENCE SUPPORTING IMPACT REDUCTION BY MITIGATION

Native aquatic plant species in the West Lagoon include leafy pondweed (Potamogeton foliosus), nitella (Nitella sp., a macroalga), elodea (Elodea canadensis), and Richard's pondweed (P. richardsonii) (TKPOA 2019). Native aquatic plants in Lake Tallac include most of the same species (Richard's pondweed is not known to occur); in addition, watershield (Brasenia schreberi) is found along the margins of Lake Tallac.

The application of aquatic herbicides can directly affect non-target plant species due to direct contact with the herbicide within the designated treatment site or adjacent open water areas. Existing information on the selectivity of the proposed aquatic herbicides, including manufacturer's labels and peer reviewed literature, was used to evaluate their potential to impact non-target aquatic plants. The magnitude of short-term impacts to these species from herbicides 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. Tryclopyr herbicide is selective to Eurasian watermilfoil and is not reported to have lethal effects on the non-target macrophytes known to occur in the lagoons. The extent of herbicide-only sites is 13.3 acres, or 7.7percent of the lagoons, of which 8.2 acres or less than five percent are proposed for application of endothall.

Potential direct effects to non-target macrophyte species could occur through the use of UV light treatments and implementation of some Group B methods. The use of UV light and bottom barriers can be non-selectively lethal to non-target aquatic plants and could result in changes to community composition.

Potential impacts to non-target macrophyte community composition are reduced to less than significant through the following Mitigation Measure AQU-1. These surveys will result in adjustment of the test sites to avoid areas dominated by native or non-target plant communities.

<u>Macrophyte Surveys (Mitigation AQU-1):</u> 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.

Attachment B

Required Findings Chapters 4, 60, & 80

Attachment B: Required Findings- Chapters 4, 60, & 80

Chapter 4 Threshold Findings

Finding 4.4.1.A:

The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, plan area statements and maps, the Code, and other TRPA plans and programs.

Rationale:

The project is located within the shorezone of Lake Tahoe where scientific study projects are listed as a special use. This project implements the Tahoe Keys Lagoons Aquatic Weed Control Methods Test project (EIP Project Numbers 01.03.01.0007 & 01.03.01.0008) included in the Lake Tahoe Environmental Improvement Program. As an EIP Project, the primary objective of the project is to implement a test of invasive aquatic weed control in portions of the Tahoe Keys lagoons, to inform the design of a future holistic control program once the test has been completed. The proposed test project will provide information on how to promote water quality, recreation and fisheries Threshold Standards consistent with the Goals and Policies of the Conservation Element and the Code of Ordinances.

The proposed project as conditioned in the draft permit (see Attachment C) is compliant with all provisions of the Regional Plan and will not adversely affect its implementation including all applicable goals and policies, local plans (i.e., plan area statements, community plans, and area plans) adopted for the purpose of implementing the Regional Plan and their maps, the TRPA Code, and other TRPA plans and programs (as amended).

Finding 4.4.1.B:
The project will not cause the environmental threshold carrying capacities to be exceeded.

Rationale:

Based on the analysis in the Tahoe Keys Lagoons Aquatic Weed Control Methods Test EIS, implementation of the Tahoe Keys Lagoons Aquatic Weed Control Methods Test project would not cause the environmental threshold carrying capacities to be exceeded. The proposed test is designed to inform further attainment and maintenance of Threshold Standards by providing information on how to best control the largest infestation of invasive aquatic weeds. Removal of these species can improve water quality by reducing nutrient loads, formation of algal blooms, and organic sediments that result from continual die off of plants, all of which impact turbidity and clarity. Removal of these species will also improve fisheries by reducing habitat preferred by invasive fish species, replacing it with increased native habitat for native fish species.

Finding 4.4.1.C:

Wherever federal, state, or local air and water quality standards apply for the region, the strictest standards shall be attained, maintained, or exceeded pursuant to Article V (d) of the Tahoe Regional Planning Compact.

Rationale:

The Tahoe Keys Lagoons Aquatic Weed Control Methods Test project does not affect or change the federal, state, or local air and water quality standards applicable to the Region. As disclosed in the EIS (Section 3.1.1.3 Air Quality and Greenhouse Gas, Section 3.1.1.4 Hydrology, and Section 3.1.1.5 Water Quality), these standards were used as criteria of significance where applicable and no unmitigable air quality and water quality impacts were found. Although waters of the Tahoe Keys lagoons are understood to be out of attainment for turbidity standards generally, based on the Tahoe Keys Lagoons Aquatic Weed Control Methods Test EIS, no applicable federal, state or local air or water quality standard would be further exceeded with implementation of the Tahoe Keys Lagoons Aquatic Weed Control Methods Test project.

Lake Tahoe is designated as an Outstanding National Resource Water (ONRW) which carries an anti-degradation policy (40 CFR 131.12) which prohibits degradation of such ONRW waterbodies, but allows for short-term degradation of "weeks to months, not years." As part of the NPDES permit issued by Lahontan, an anti-degradation analysis was included to confirm compliance with the policy. On January 13, 2022, the Lahontan Board approved the NPDES permit and associated analysis:

> *The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Due to the one-time nature, duration, effect, and low volume of discharge expected from the application of endothall, triclopyr, Rhodamine WT and lanthanum-modified clay regulated under this Order, water quality changes in the ONRW will be short-term and temporary, will not permanently degrade water quality, and will protect the existing uses in the ONRW. Therefore, the water quality of the ONRW is maintained and protected.*

Finding 4.4.2:

In order to make the findings required by subparagraph 4.4.1, TRPA evaluated the proposed project pursuant to the provisions of subsection 4.4.2.

Rationale**:**

In making the findings required by subparagraph 4.4.1, TRPA evaluated the proposed project pursuant to the provisions of subsection 4.4.2 and found that it would not negatively impact a compliance measure, resource capacity, target date or interim target date, threshold, or Environmental Improvement Program (EIP) project.

Chapter 60 Water Quality- Pesticide Use Findings

Finding 60.1.7.B.3:

No detectable concentration of any pesticide shall be allowed to enter any stream environment zone, surface water, or ground water unless TRPA finds that application of the pesticide is necessary to attain or maintain the environmental threshold standards.

Rationale:

TRPA Threshold Standards as the relate to aquatic invasive species (AIS) aims to reduce the abundance and distribution of existing AIS. The Tahoe Keys represents the largest and most complex infestation and is the number one priority for control. Given the expanse, the sheer amount of biomass that has grown and proliferated over time, and the complexity (e.g., the variability of conditions throughout the lagoons of the Keys), no single method previously used in other areas of the lake to control AIS appears adequate for effectively treating the infestation in the Tahoe Keys. Therefore, a test of multiple methods both new and not fully proven, including aquatic herbicides (pesticides), in addition to previously used methods (e.g., bottom barriers and diver assisted suction) is necessary to inform what a holistic treatment program would include to improve environmental threshold standards.

Chapter 80 Shorezone Findings

Finding 80.3.2.A

The project will not adversely impact littoral processes, fish spawning habitat, backshore stability, or on-shore wildlife habitat, including waterfowl nesting areas.

Rationale:

The proposed test project is intended to test invasive aquatic plant treatment methods that would provide information to improve fish spawning habitat. The proposed test occurs entirely within the water of the Tahoe Keys Lagoons and will not impact littoral processes, backshore stability or on-shore wildlife habitat.

Finding 80.3.2.B

There are sufficient accessory facilities to accommodate the project.

Rationale:

The project is located within the shorezone of Lake Tahoe where scientific study projects are listed as a special use, and such scientific study is not required to be accessory to an approved upland use. The test project will require the use of vessels to perform most of the project activities. The nearby Tahoe Keys Marina or access ramps operated by TKPOA will be available for to launch vessels needed for project activities.

Finding 80.3.2.C:

The project is compatible with existing shorezone and lakezone uses or structures on, or in the immediate vicinity of, the littoral parcel; or that modifications of such existing uses or structures will be undertaken to assure compatibility.

Rationale:

The project will require the use of temporary turbidity curtains to contain aquatic herbicides within the treatment areas. Once the herbicides degrade, the turbidity curtains will be removed. While the curtains are in place, recreational boat passage will be restricted, however that impact is limited due to the early season implementation (Spring season), and temporary and are considered to be less than significant. No modifications to existing uses or structures are proposed.

Finding 80.3.2.D:

The use proposed in the foreshore or nearshore is water dependent.

Rationale:

The proposed test is to collect information on a variety of aquatic weed control methods- aquatic herbicides, ultraviolet light treatments by a vessel, laminar flow aeration, benthic berries, diver hand pulling and suction of aquatic weeds- and is therefore water dependent.

Finding 80.3.2.E

Measures will be taken to prevent spills or discharges of hazardous materials.

Rationale:

Hazardous materials will not be used in conjunction with the project. While aquatic herbicide use is regulated, they are not classified as “hazardous”. However, application of herbicides will be conducted by qualified persons, following a spill prevention and response plan.

Finding 80.3.2.F

Construction and access techniques will be used to minimize disturbance to the ground and vegetation.

Rationale:

All project area access will be through existing boat ramps and no ground disturbance is proposed.

Finding 80.3.2.G

The project will not adversely impact navigation or create a threat to public safety as determined by those agencies with jurisdiction over a lake's navigable waters.

Rationale:

Project activities will be mainly conducted from on the water vessels following all US Coast Guard safety and navigation requirements. Project activities are proposed for early in the boating season, minimizing conflicts with recreational boats. Notifications to boaters and area homeowners will occur prior to project activities commencing.

Finding 80.3.2.H

TRPA has solicited comments from those public agencies having jurisdiction over the nearshore and foreshore and all such comments received were considered by TRPA, prior to action being taken on the project.

Rationale:
Comments were solicited from public agencies during the release of the Draft Environmental Impact Statement. Comments were received from the following:

US Army Corps of Engineers:

- Compliance with Section 404 of the Clean Water Act for discharge of dredged or fill material into the waters of the US.
    - TKPOA currently has approvals for bottom barrier use, issued under Waster Discharge Requirements through Lahontan.

US Environmental Protection Agency:

- Recommends that the Final EIS contain information concerning post-application monitoring of Endothall and Triclopyr if they are proposed to be used in the CMT. Such monitoring should be for endothall acid and degradates of Triclopyr- triethylamine salt.
    - EPA recommendations will be followed. The NPDES permit monitoring requirements include analyses for endothall acid triethylamine salt.
- Recommends that the FEIS consider increased cyanotoxin monitoring at testing sites and measures to restrict public access to testing sites during periods of maximum HAB risk during the CMT. The FEIS should describe in detail the public notification and access restrictions that will be imposed if monitoring detects the presence of cyanotoxins.
    - Cyanobacteria monitoring is required in the NPDES permit (Lahontan) monitoring reporting program and notification procedures are associated with the State Board guidelines that Tahoe Keys Property Owners Association are already following.
- Recommends that lead agencies enlist the participation of the Tahoe Science Advisory Council (TSAC) in developing and/or peer reviewing both the experimental design and the effectiveness monitoring program of the selected CMT.
    - TSACE provided input on the analysis and proposed project test design, and concluded that the Tahoe Keys Lagoons Aquatic Weed Control Methods Test

DRAFT EIR/EIS, as a whole, has thoroughly considered the importance and urgent need for controlling aquatic invasive plants in the Tahoe Keys. Various approaches and alternatives that could be utilized for plant control for this situation and their potential impacts have been well-researched and presented in a logical way. The document is well written, transparent in its findings and includes sufficient data analysis to proceed with projects that seek to control plants. Based on this work, sustainable solutions should be developed before the situation worsens both in the Tahoe Keys and then the broader body of Lake Tahoe.

    - The biological recovery portion of the Mitigation Monitoring Reporting Program (App B FEIS) was peer reviewed through the TSAC and concluded that the monitoring program was more than adequate to evaluate the recovery of benthic macroinvertebrates.

- Recommends that measures to minimize aquatic weed dispersal, including bubble curtains, seabins, and boat back-up stations, be included in the CMT project. We recommend requiring use of the boat back-up stations during the project, and that their effectiveness be monitored and evaluated.
    - TKPOA's Waste Discharge Requirements include an Integrated Management Plan (IMP) to address aquatic weed management (DEIS Section 1.1.3.2). Ongoing measures to control plant fragments and the monitoring and reporting of these activities are required elements of the IMP that would continue regardless of implementation of the CMT or other alternatives.

City of South Lake Tahoe:

- No issues of the project were identified but identified inconsistencies in correctly identifying services provided by the City of South Lake Tahoe and the South Tahoe Public Utility District.
    - The Final EIS (Chapter 4) was corrected to accurately reflect services provided by the City and those provided by the South Tahoe Public Utility District.

Finding 80.3.3.A

The project, and the related use, is of such a nature, scale, density, intensity, and type to be appropriate for the project area, and the surrounding area.

Rationale:

The project proposes to test aquatic weed treatments to gain information on larger scale treatments meant to improve the uses of the waterways.

Finding 80.3.3.B

The project, and the related use, will not injure or disturb the health, safety, environmental quality, enjoyment of property, or general welfare of the persons or property in the neighborhood, or in the Region.

Rationale:

The Tahoe Keys Lagoons Aquatic Weed Control Methods Test EIS identified potential impacts to Environmental Health, Water Quality and Aquatic Biology and Ecology (See Table ES-1 of the EIS). Mitigations proposed for these environmental issues reduce all impacts to less than significant.

Finding 80.3.3.C

The applicant has taken reasonable steps to protect the land, water, and air resources of both the applicant's property and that of surrounding property owners.

Rationale:

Proposed actions will have no impact or less than significant impacts to land and air resources to the applicant's or surround property owners. Potential water quality impacts identified in the Tahoe Keys Lagoons Aquatic Weed Control Methods Test EIS can be mitigated to less than significant and are described in the Rationale above.

Finding 80.3.3.D

The project, and the related use, will not change the character of the neighborhood, detrimentally affect or alter the purpose of any applicable plan area statement, community, redevelopment, specific, or master plan.

Rationale:

The proposed project is a test to obtain information of future aquatic weed control for the entirety of the Tahoe Keys, which is intended to improve the conditions within the neighborhood. The proposed test project will not change the character of the neighborhood, detrimentally affect or alter the purpose of any applicable plan area statement, community, redevelopment, specific, or master plan.

Attachment C

Draft Permit

TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
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DRAFT PERMIT

PROJECT DESCRIPTION: Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project

PROJECT NUMBER: 510-101-00 FILE No: EIPC2018-0011

PERMITTEE: Tahoe Keys Property Owners Association

CITY/LOCATION: City of South Lake Tahoe / Tahoe Keys West Lagoon and Lake Tallac

Having made the findings required by Agency ordinances and rules, the TRPA Governing Board approved the project on January 26, 2022, subject to the conditions found in this permit.

This permit shall expire on January 26, 2025, without further notice unless project implementation has commenced prior to this date and diligently pursued thereafter. Commencement of project activities consists of beginning project implementation. Diligent pursuit is defined as completion of the project within the approved project implementation schedule. The expiration date shall not be extended unless the project is determined by TRPA to be the subject of legal action that delayed or rendered impossible the diligent pursuit of the permit.

NO PROJECT ACTIVITIES SHALL COMMENCE UNTIL:

(1) TRPA RECEIVES A COPY OF THIS PERMIT UPON WHICH THE PERMITTEE(S) HAS ACKNOWLEDGED RECEIPT OF THE PERMIT AND ACCEPTANCE OF THE CONTENTS OF THE PERMIT;
(2) ALL PRE-PROJECT IMPLEMENTATION CONDITIONS OF APPROVAL ARE SATISFIED AS EVIDENCED BY TRPA'S ACKNOWLEDGEMENT OF THIS PERMIT;
(3) THE PERMITTEE HAS OBTAINED ALL REQUIRED PERMITS/AUTHORIZATIONS FOR THE LAHONTAN WATER QUALITY CONTROL BOARD. THE TRPA PERMIT AND THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD PERMIT ARE INDEPENDENT OF EACH OTHER AND MAY HAVE DIFFERENT EXPIRATION DATES AND RULES REGARDING EXTENSIONS; AND
(4) A TRPA PRE-PROJECT IMPLEMENTATION INSPECTION HAS BEEN CONDUCTED WITH THE PROPERTY OWNER AND/OR THE CONTRACTOR.

_____ _____

TRPA Executive Director/Designee Date

PERMITTEE'S ACCEPTANCE: I have read the permit and the conditions of approval and understand and accept them. I also understand that I am responsible for compliance with all the conditions of the permit and am responsible for my agents' and employees' compliance with the permit conditions. I also understand that if the property is sold, I remain liable for the permit conditions until or unless the new owner acknowledges the transfer of the permit and notifies TRPA in writing of such acceptance. I also understand that certain mitigation fees associated with this permit are non-refundable once paid to TRPA. I understand that it is my sole responsibility to obtain any and all required approvals from any other state, local or federal agencies that may have jurisdiction over this project whether or not they are listed in this permit.

Signature of Permittee(s)_____ Date_____

PERMIT CONTINUED ON NEXT PAGE

TRPA FILE EIPC2018-0011
PROJECT NUMBER 530-101-00

Required plans determined to be in conformance with approval: Date:_____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-project implementation conditions of approval as of this date:

_____ _____

TRPA Executive Director/Designee Date

SPECIAL CONDITIONS

1. This permit authorizes a program to test a range of aquatic weed control methods, both as stand-alone treatments and in combination as described in Lahontan Regional Water Quality Control Board Order XXX. (Water Board Order X). The Tahoe Keys Lagoons Aquatic Weed Control Methods Test (CMT) Project is referred to in this permit as the "Project". The CMT treatments are grouped as Group A and Group B methods. Group A methods are initial treatments, both herbicide and non-herbicide, intended to achieve reduction in target aquatic weeds by 75 percent within CMT sites. The Project tests stand-alone treatments using aquatic herbicides, ultraviolet light, and laminar flow aeration (LFA), as well as combined herbicide and ultraviolet light treatments.

   The CMT will be implemented at selected sites within the Tahoe Keys West lagoon and Lake Tallac. Permit Exhibit 1 shows the currently anticipated locations of the sites for testing Group A and Group B methods. The CMT site may be adjusted based on (1) flow conditions between the Tahoe Keys West Lagoon and Lake Tahoe; (2) hydroacoustic scans; and (3) physical macrophyte sampling/surveys in the West Lagoon and Lake Tallac. A total of 21 test sites are proposed for treatment using Group A methods (herbicides, ultraviolet light, both herbicide and ultraviolet light, or LFA) in year one of the CMT. An additional three sites will be monitored as control/reference sites for comparison.

   The total area proposed for treatment with Group A methods is 41.5 acres (not including 3 control/reference sites), divided among 21 sites. The total area authorized (per Water Board Order XX) to be treated with herbicides is 16.9 acres, including those test sites where herbicides would be used alone or in combination with ultraviolet light treatments. The approved site number, treatment type, area and area of herbicide treatment, subject to Lahontan Water Board final approval, are:

Site Number	Treatment Type	Area (ac)	Herbicide Treated Area
1	Herbicide	1.5	1.5
2	Herbicide	1.5	1.5
3	Herbicide	2.1	2.1
5	Herbicide	2.2	2.2
8	Herbicide	1.6	1.6
9	Herbicide	1.5	1.5

Site Number	Treatment Type	Area (ac)	Herbicide Treated Area
10	Herbicide/Ultraviolet Combination	2.0	0.7
11	Herbicide/Ultraviolet Combination	1.6	0.5
12	Herbicide/Ultraviolet Combination	1.9	0.7
13	Herbicide/Ultraviolet Combination	1.7	0.6
14	Herbicide/Ultraviolet Combination	2.0	0.7
15	Herbicide/Ultraviolet Combination	1.2	0.4
16	Control	1.8	0.0
17	Control	2.2	0.0
18	Control	1.5	0.0
19	Herbicide	1.0	1.0
20	Herbicide	1.0	10
21	Herbicide	0.9	0.9
22	Ultraviolet Light	1.5	0.0
23	Ultraviolet Light	1.6	0.0
24	Ultraviolet Light	1.8	0.0
25	Laminar Flow Aeration	4.1	0.0
26	Laminar Flow Aeration	6.1	0.0
27	Laminar Flow Aeration	2.7	0.0
Total acreage (not including Control Sites)		**41.5**	**16.9**

Notes: The numbers 4, 6 and 7 are not used in the site numbering.
See Permit Exhibit 1 for site number locations.

The CMT site locations may be adjusted based on the results of spring macrophyte surveys and Lahontan Water Board final approval to ensure that target weed infestations are dominant in treatment areas. Exhibit 1 illustrates the location and size of each of the 21 proposed treatment sites and identifies the three control sites.

Only a single treatment with aquatic herbicides will occur at all herbicide test sites in late spring of the first year of the test program. Ultraviolet light treatments will extend through the summer and possibly into the fall of the first year. Based on efficacy monitoring results, a second year of ultraviolet light treatments may be necessary to achieve the 75 percent target species biomass reduction. LFA will be installed by the spring of the first year and operated year-round for the entire three-year test program, with monitoring each year to determine progress toward the 75 percent target reduction. The effects of Group A treatments will be monitored and Group B methods may be implemented for up to two subsequent years to manage residual aquatic weed populations in attempts to achieve CMT objectives.

Adjustments to the CMT site locations may be permitted in concert with adjustments to the final Aquatic Pesticide Application Plan (APAP) submitted to, and approved by the Water Board, but adjustments will not result in expansion of the total area to which aquatic herbicides are applied (16.9 acres). Treatment areas and receiving waters (i.e., waters outside of treatment areas) for the Project are located within the Tahoe Keys West Lagoon and Lake Tallac. No treatment areas are located in the East Lagoon or Lake Tahoe proper. Areas of the West Lagoon with herbicide

testing sites will be isolated from other areas of the lagoon using double turbidity curtain barriers, and thus also be isolated from the West Channel and Lake Tahoe. Non-herbicide Group A treatments (i.e., ultraviolet light (ultraviolet-C) and LFA) may be extended to additional years if monitoring indicates further treatment may be needed.

Group B methods are non-herbicide maintenance treatments applied to the test sites to follow up Group A treatments and control regrowth of or residual target aquatic weeds. Group B methods will include such actions as spot treatments with ultraviolet light, bottom barriers, diver-assisted suction, and diver hand pulling techniques. Use of Group B methods will be implemented in years 2 and 3, following Group A methods. The selection of Group B methods will be informed by the decision tree shown below (see Condition 23) and consideration of site conditions including bottom morphology or other physical obstructions.

Mechanical harvesting will continue to be performed at control sites during the testing period as needed to maintain vessel hull clearances in navigation lanes. Harvesting represents a baseline condition of the test project. The current program of mechanical harvesting and fragment control methods will also continue during this period in areas of the lagoons outside of test sites.

2. This permit incorporates by reference the Mitigation Monitoring and Reporting Program approved by Lahontan Water Board and TRPA as part of the 2021 Final EIR/EIS.

3. This permit incorporates by reference all requirements, terms, and conditions of the California Regional Water Quality Control Board Lahontan Region Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for Tahoe Keys Property Owners Association Tahoe Keys Lagoons Aquatic Weed Control Methods.

4. Prior to permit acknowledgement, the following conditions of approval must be satisfied:

   A. The permittee shall submit final project implementation plans showing all final treatment areas, sizes, and treatment types to TRPA for review and approval.

   B. The permittee shall comply with the final Mitigation, Monitoring and Reporting Program approved by Lahontan Water Board and TRPA .

   C. A Resource Protection Implementation and Monitoring Plan shall be submitted to TRPA for review and approval.

   D. The permittee shall submit a project implementation schedule to TRPA for review and approval. The schedule shall identify each major element of the project to be implemented by calendar year.

5. All project activities shall be performed consistent with the Proposed Project Alternative described in the 2020 Tahoe Keys Lagoons Aquatic Weed Control Methods Test Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), as modified by the 2021 Final EIR/EIS.

6. Three sites shall be monitored as controls for the testing program (see Permit Exhibit 1 for locations). The control sites shall be of a similar size (1.5 to 2.2 acres each) as the proposed

treatment sites and exhibit a similar plant distribution and abundance. The control sites are the ONLY CMT sites where harvesting will be conducted in a manner similar to that used in the rest of the NON-CMT areas of the West Lagoon. No new weed control methods shall be applied at control sites during the methods test. Information on treatment performance and environmental effects from treatment site monitoring will be compared using similar monitoring at control sites to evaluate the significance of differences in plant populations and environmental conditions resulting from treatments.

7. Detailed hydroacoustic and physical aquatic macrophyte surveys will be completed in the test and control sites in the spring and submitted to TRPA prior to initiating the testing program as soon as water conditions allow. These survey results will provide information on the species composition and biovolumes of macrophytes and will be used to decide (1) final test site locations and boundaries to minimize effects on non-target species, and (2) which of the proposed herbicides to apply at each herbicide test site to best match the target species present. This requirement will be implemented consistent with Lahontan Water Board permit requirements.

Stand-Alone Test of Aquatic Herbicides

8. Each application of an herbicide at an individual test site shall occur in a single day and monitoring for herbicide residues would continue both within treatment areas and in adjacent receiving waters consistent with Lahontan Water Board discharge permit requirements. Monitoring would continue until the herbicide active ingredient and degradate concentrations (i.e., chemical compounds resulting from herbicide degradation) are non-detectable.
9. The approved herbicides, application methods and target plants per product labels are:

Herbicide* Active Ingredient (Product Name)	**USEPA Reg. No.**	**Application Method (s)**	**Target Plants per Product Labeling**
Endothall (Aquathol K) Contact-type	USEPA Reg. No. 70506- 176	Drop hoses	Eurasian watermilfoil Coontail Curlyleaf pondweed
Triclopyr (Renovate 3 [liquid] or OTF [granular])	USEPA Reg. No. 67690-42	Drop hoses (liquid) or granular spreader (solid)	Eurasian watermilfoil

No adjuvants (i.e., additives to enhance herbicide activity) shall be used. Only products approved for use in California shall be used.

10. Double turbidity curtains shall be used as barriers to block the movement of dissolved herbicides from test treatment areas into receiving waters (supplemented by ongoing monitoring to assure the effectiveness of the barriers within the limits prescribed by regulation) and prevent the movement of the herbicides toward the channel connecting the West Lagoon to Lake Tahoe. Turbidity curtains shall be suspended from floating booms stretched across lagoon channels and anchored to the shore and lagoon bottom. (See Permit Exhibit 1 for locations for required double turbidity curtain barriers). All double turbidity curtains shall be maintained in a condition that ensures their effectiveness is maintained until no longer needed. Damage to double turbidity

curtains by events such as weather, boat traffic, and/or vandalism shall be immediately reported to the TRPA Environmental Compliance Officer.

11. A licensed applicator shall apply proposed herbicides in compliance with product labeling and Lahontan Water Board permit conditions to achieve the proper concentrations, proper methods of application, proper equipment, protective clothing, and proper disposal of product containers after use. Registered labels and Safety Data Sheets (SDS) for each proposed aquatic herbicide can be found in the approved Aquatic Pesticide Application Plan (APAP). As required by California State law, aquatic herbicide applications will be made only by a Qualified Applicator Certificate Holder (QAL) approved by the California Department of Pesticide Regulation (CDPR). Staff directed by the QAL shall have knowledge of the proper selection, use, and calibration of the equipment used during the application of aquatic herbicides. The QAL shall follow all Best Management Practices (BMPs), monitoring, reporting, and contingency measures set forth in the APAP. The APAP provides all of the details for aquatic herbicide applications, including containment, monitoring, and contingency measures, and shall be prepared by the project proponent as part of the project NPDES permit requirements. As a condition of the contract with the QAL, the permittee shall receive written documentation and verification of the QAL's training, including any staff used for the project. In addition, proof of liability insurance coverage is required of all contractors that do work for the permittee. These documents shall be in possession of the permittee before any herbicides are applied and shall be made available to staff of TRPA and the Lahontan Water Board at least 30 days before herbicide tests begin.

Stand-Alone Tests of Ultraviolet Light

12. Treatments with ultraviolet light shall be performed through deployment of boats or towed barge-mounted ultraviolet light arrays, by appropriately trained staff, and with associated safety precautionary protocols. Ultraviolet light application shall utilize targeted ultraviolet-C light.

13. Initial ultraviolet light treatments shall occur spring to early summer with the array approximately two to three feet off the lagoon bottom, to stunt growth when the plants are small. A second treatment shall occur later in the season and, in the case of curlyleaf pondweed, will be used to cause mortality before turions have matured and become viable. A final round of treatments may occur late in the season as needed. The light array shall be kept at least one foot above the bottom sediment and any debris or obstructions to prevent turbidity-causing sediment disturbance.

14. Docks and pilings shall remain in place during ultraviolet light operations, and, in those sites designate for "UV-C only" treatments, the ultraviolet light equipment shall work under and around recreational boats to the extent practicable within each treatment area.

Stand-Alone Tests of Laminar Flow Aeration

15. Laminar flow aeration shall utilize microporous ceramic disks placed throughout the area to be aerated. The disks shall be connected by self-sinking hoses connected to an air compressor. Air is pumped through the system, creating a circulation of oxygenated water from near the water surface to the bottom of the water column and upper layers of bottom sediments. This non-turbulent laminar flow increases water circulation and oxygen levels within the lagoon treatment area, particularly at the bottom of the water column where dissolved oxygen is typically the lowest. The use of additional microbes is not permitted.

16. Three test sites shall be treated with LFA. LFA treatment will involve the temporary installation of five to 10 ceramic air diffusers on the bottom of the channel at each treatment site, together with weighted airlines. The diffusers and airlines will be connected to a land-based electrically powered air compressor, which will be placed in a sound-reducing cabinet.

Combination Test of Ultraviolet Light and Herbicides

17. The combination ultraviolet and herbicide test treatment sites will entail application of a single herbicide (endothall or triclopyr) in the dock-to-shoreline zone of a site, and ultraviolet light treatment within the larger central zone. The combination sites will include triplicate sites (three sites), both for the use of endothall and for the use of or triclopyr.

18. The total approved area proposed to be treated with ultraviolet light within the combination sites is 6.8 acres, where ultraviolet light treatment will cover about two-thirds of the combination sites and herbicides will be applied to the other third of these sites.

Use of Group B Methods

19. Group B methods are anticipated to be implemented following the testing of Group A methods, depending on the target aquatic weeds present, size of infestation, and location of infestation. Where the target plant biovolume reduction does not achieve the 75% reduction goal for Group A methods, that site will be considered a failed test and Group B follow-up maintenance would not be performed. During the Spring of the year following Group A testing at each site, hydroacoustic and macrophyte surveys will be performed to determine the size of the regrowth or remaining infestation. Group B methods would be implemented during the 2 years following Group A tests as necessary.

20. The approved follow-up Group B treatment methods are:

    - Diver-assisted suction/hand pulling
    - Bottom barriers (without hot water, steam, or acetic acid injections)
    - Localized spot treatment with ultraviolet light

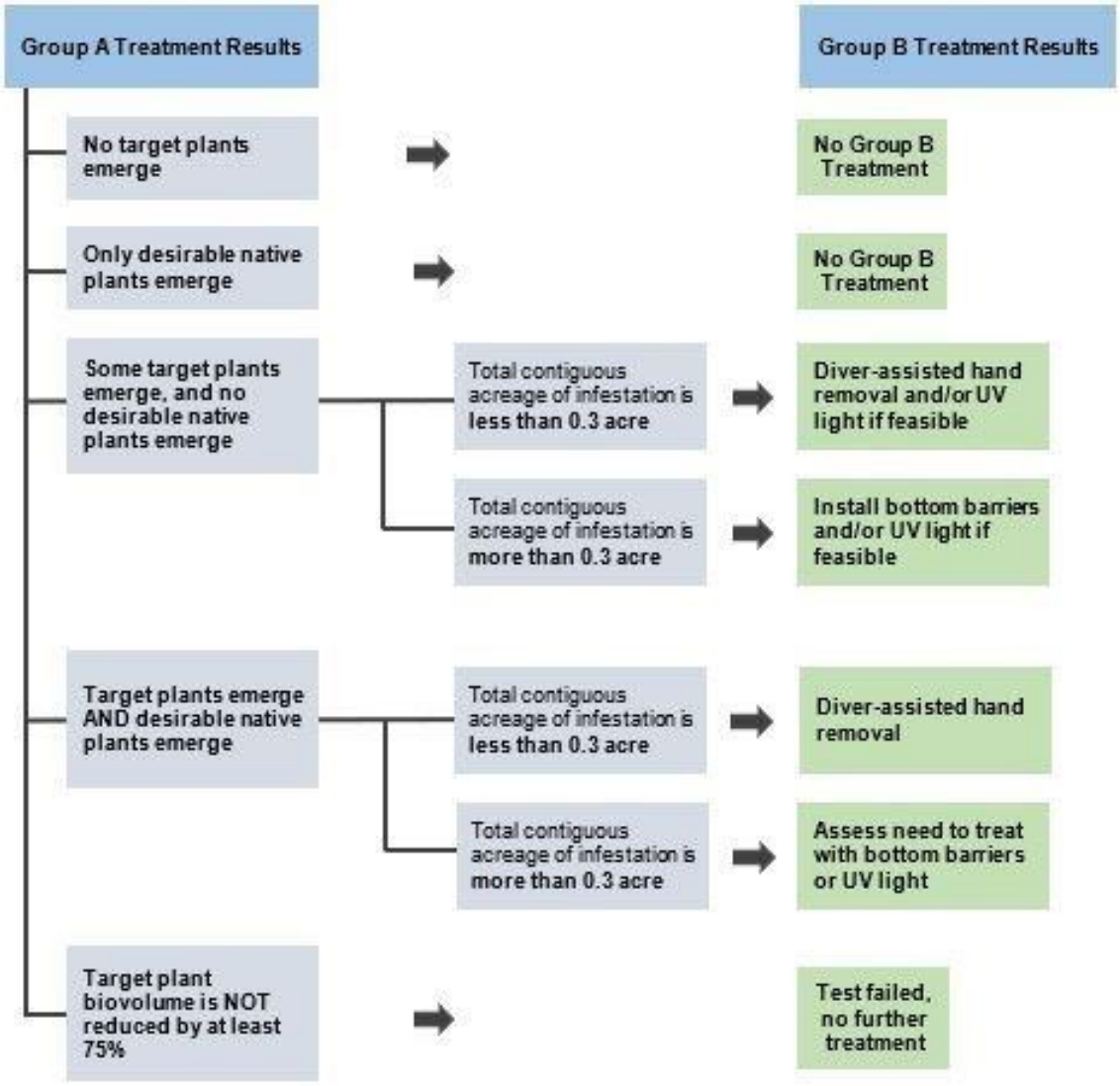
    The deployment of the follow-up Group B maintenance actions will depend on:

    - the effectiveness of the primary (Group A) treatment (i.e., total biovolume of target aquatic plants remaining to be controlled);
    - the extent (size) of infestation, and

- limitations and constraints to the Group B treatment based on lagoon morphology or physical obstructions.

Permit continued on next page

21. The decision tree for selecting Group B (follow-up) treatment methods is:



22. The permittee shall submit annual efficacy monitoring reports for three years from the date of project implementation. Effects of the CMT treatments on plant biovolume, plant species composition, and water quality within the CMT test areas shall be compared with reference (control) sites, consistent with, and as described in the Lahontan Order No. R6T-2022-PROPOSED NPDES and MMRP. Specific efficacy monitoring for the CMT Project will determine if the following CMT goals and objectives are achieved, including the following:

- Reduction of 75% in total invasive and nuisance plant biomass ("biovolume") within treated sites.
- Increase in occurrence and percent composition of native plants relative to non-native plants.
- Reduction of non-native plant and fish habitat, therefore improving habitat for native species.

- Improved water quality in the test sites, such that water quality objectives set forth in Lahontan Waste Discharge Requirements No. R6T-2014-0059 are more frequently met, therefore improving water quality and associated clarity. This includes the following:
- Reduction in suspended nitrogen, phosphorus, and total dissolved solids in the fall months during normal senescence;
- Improvement in clarity of the water as measured by turbidity; and
- Improve water column pH stability in all test areas to achieve pH values between 7.0 and 8.4.
- Maintenance of the three (3)-foot vessel hull clearance.
- Improved recreational and aesthetic values.

23. The permittee will submit efficacy monitoring reports by March 1 annually for the length of the Project, not to exceed 3 years. All waste materials generated by Project implementation activities shall be removed from the Project area and deposited only at approved points of disposal. Any refuse accidentally deposited in lake waters shall be immediately removed and disposed of appropriately.

24. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this permit approval, or take other appropriate action.

25. Any normal construction activities creating noise in excess to the TRPA noise standards shall be considered exempt from said standards provided all such work is generally conducted between the hours of 7:00 A.M. and 6:30 P.M.

26. Any change to the Project requires approval (except for TRPA exempt activities) of a TRPA plan revision or permit prior to the changes being made to any element of the Project. Failure to obtain prior approval for modifications may result in monetary penalties.

27. To the maximum extent allowable by law, the Permittee agrees to indemnify, defend, and hold harmless TRPA, its Governing Board (including individual members), its Planning Commission (including individual members), its agents, and its employees (collectively, TRPA) from and against any and all suits, losses, damages, injuries, liabilities, and claims by any person (a) for any injury (including death) or damage to person or property or (b) to set aside, attack, void, modify, amend, or annul any actions of TRPA related to this permit. The foregoing indemnity obligation applies, without limitation, to any and all suits, losses, damages, injuries, liabilities, and claims by any person from any cause whatsoever arising out of or in connection with either directly or indirectly, and in whole or in part (1) the processing, conditioning, issuance, administrative appeal, or implementation of this permit; (2) any failure to comply with all applicable laws and regulations; or (3) the design, installation, or operation of any improvements, regardless of whether the actions or omissions are alleged to be caused by TRPA or the Permittee.

    Included within the Permittee's indemnity obligation set forth herein, the Permittee agrees to pay all reasonable fees of TRPA's attorneys and all other reasonable defense costs and expenses as incurred, including reimbursement of TRPA as necessary for any and all reasonable costs and/or fees incurred by TRPA for actions arising directly or indirectly from issuance or

implementation of this permit. TRPA will have the sole and exclusive control (including the right to be represented by attorneys of TRPA's choosing) over the defense of any claims against TRPA and over their settlement, compromise, or other disposition. Permittee shall also pay all costs, including attorneys' fees, incurred by TRPA to enforce this indemnification agreement. If any judgment is rendered against TRPA in any action subject to this indemnification, the Permittee shall, at its expense, satisfy and discharge the same.

END OF PERMIT

Permit Exhibit 1: Tahoe Keys Lagoons Aquatic Weeds Control Methods Test Project Map

Attachment D

Final EIS Table ES-1 Summary of Impacts and Mitigation Measures

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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IMPACT ISSUES	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	RESOURCE PROTECTION MEASURES	SIGNIFICANCE AFTER MITIGATION
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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

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		~~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

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		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

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		~~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

Attachment E

Tahoe Keys Stakeholder Committee Final Report

TAHOE KEYS STAKEHOLDER COMMITTEE FINAL REPORT
DECEMBER 2021

PURPOSE OF THIS DOCUMENT

Since November 2018, the Tahoe Keys Stakeholder Committee (SC) has been a forum for collaborative discussion about the goals, design, and review of a Tahoe Keys Control Methods Test (CMT), including discussions around understanding the history of the problem, opportunities and challenges, as well as proposed solutions.

This report is intended to summarize the shared perspectives as well as individual perspectives of SC members ahead of the final project decision by the lead agencies. Each organization represented on the SC has engaged in the regulatory process and continues to share formal comments at the appropriate milestones in the NEPA, CEQA and Tahoe Regional Planning Agency (TRPA) environmental analysis. Each SC representative plans to individually represent their interests to decision makers as they consider the proposal for the CMT in early 2022.

OVERVIEW OF STAKEHOLDER COMMITTEE WORK

In 2018, the Tahoe Keys Property Owners Association (TKPOA), TRPA and the Lahontan Water Board initiated an environmental review process for assessing different aquatic invasive weed treatment options to address the 172-acre infestation in the Tahoe Keys lagoons. A core team of key stakeholders unanimously selected Zephyr Collaboration as an independent facilitator and an intensive stakeholder process was launched, beginning with interviews of over 40 individuals and small groups to assess interests, concerns, and questions regarding weeds management. The October 2018 Stakeholder Assessment Report summarizes stakeholder interests and perspectives and includes recommendations for a collaborative, transparent, inclusive stakeholder process to inform what has been described as one of the biggest environmental challenges facing Lake Tahoe.

Following the assessment, the SC was established to collaboratively guide and inform the development of a proposed project. SC representatives include the lead agencies - TRPA and Lahontan Water Board - as well as TKPOA, the League to Save Lake Tahoe, the Tahoe Resource Conservation District, and the Tahoe Water Suppliers Association.

A broader Stakeholder Consultation Circle (SCC) comprised of over twenty partner agencies and key stakeholders was also formed and convened at key milestones to ensure engagement of diverse interests throughout the process.

ENGAGEMENT ACTIVITIES

The SC met twenty (20) times between November 2018 and December 2021 to foster discussions and feedback on the Tahoe Keys CMT. SC members were also important participants in

workshops with the SCC, as well as in public meetings, online webinars and open houses. A sequence of SC activities includes:

- **Understanding Stakeholder Interests** (2018)
  - Discuss interests and desired outcomes of the collaborative process and project
  - Gain agreement and clearly define project goals
  - Inform the design of public and stakeholder engagement
  - Inform the development of a project website and FAQs
- **Collaboratively Developing a Project Proposal** (2019)
  - Collective determination of the need for a test of treatment methods specifically for the Tahoe Keys lagoons
  - Inform data collection needs
  - Participation in the scoping and public comment periods for the EIR/EIS
- **Scientific Analysis and Public Outreach** (2020)
  - Review results from baseline studies 2019-2020
  - Review and discuss EIR/EIS alternatives for analysis
  - Collaborative technical workshops on findings of the EIR/S including nutrient sources and cycling in the Tahoe Keys lagoons
  - Field trips and site visits with partner agencies and the public
- **Developing Draft Permit Conditions and Monitoring Protocols** (2021)
  - Review of project monitoring protocols
  - Group review of draft NPDES permit
  - Participation in public open house events and help producing digital content for public and stakeholder education

STAKEHOLDER COMMITTEE ACCOMPLISHMENTS

The Tahoe Keys Stakeholder Committee was instrumental in bringing different viewpoints to understanding the Tahoe Keys weeds challenge, the proposed project design and associated environmental analysis. The committee met nearly monthly between November 2018 – June 2019 and approximately quarterly between July 2019 – December 2021. Accomplishments include:

- **Developing a shared understanding of the problem and stakeholder interests:** The SC shared information with each other on the weeds problem in the Tahoe Keys, the lake-wide aquatic invasive species control program, the history of management and projects to date, and the different stakeholder perspectives on finding solutions. They all agreed that this is a lake-wide problem, and all have an interest in being part of the solution.
- **Developing the proposed test project:** The SC agreed that the project should focus on testing a variety of methods in the unique conditions of the Tahoe Keys lagoons to inform a larger-scale treatment plan. In this way, TKPOA worked with the SC to redesign their proposed project into the Control Methods Test.
- **Developing a schedule and public engagement process:** The SC worked together to develop a schedule to meet the needs of the project and give the opportunity for robust public engagement. The SC augmented the stakeholder and public outreach which included development of a project website, public meetings, multi-media sources of information such as newsletters and videos, and outreach to a broad range of interested partner agencies and organizations through the Stakeholder Consultation Circle.

- **Providing feedback on the scope of the environmental analysis:** Stakeholder and public outreach influenced the lead agencies to design the EIR/S and regulatory review in the following ways:
    - Include a thorough analysis of the No Action Alternative
    - Include an alternative based on dredging and physical modifications to the lagoons
    - Expand the testing of non-chemical and experimental treatments such as ultra-violet light (UVC) and laminar flow aeration (LFA)
    - Recruit independent review of the environmental analysis by members of the Tahoe Science Advisory Council
- **Providing input on the design of expanded experimental tests of UVC and LFA in the Tahoe Keys during the summer of 2020:** In response to stakeholder feedback, the SC worked to help develop expanded tests to increase the body of knowledge in how these experimental and emergent technologies might be effective in the unique environment of the Tahoe Keys lagoons.
- **Providing feedback on the Mitigation and Monitoring Plan (MMP):** In the event permits for the CMT are granted by the lead agencies, a robust MMP has been developed with Stakeholder Committee input.

STAKEHOLDER COMMITTEE SHARED PERSPECTIVES

At the culmination of this 3-year SC process, SC members have developed shared and agreed upon perspectives on the following:

- **The Tahoe Keys aquatic weeds infestation is accelerating and poses a serious threat to Lake Tahoe if not controlled.** The ultimate goal is to achieve a major reduction in the mass of weeds, seed pods and nutrients so that water quality and the weed infestation can be actively maintained over time.
- **The development of the proposed project has been a thorough, scientifically rigorous, and inclusive process.** Extensive permit requirements have been developed by the lead agencies for planning, implementation, monitoring and reporting for the proposed project.
- **The environmental analysis determined that Lake Tahoe is not at risk from this proposed test of mixed methods.** At the request of public and stakeholders, the "no action" alternative was evaluated thoroughly, and stands out as the scenario of greatest threat to water quality in the Tahoe Keys Lagoons and for Lake Tahoe overall.

INDIVIDUAL STAKEHOLDER COMMITTEE PERSPECTIVES

All but one member organization of the SC agree herbicides should be tested as a method for initial knock-back of weeds and nutrients (Group A), to be followed by maintenance through non-chemical methods (Group B). Members of the Tahoe Water Suppliers Association maintain concern with testing herbicides, although individual TWSA members have a spectrum of positions related to the project. While they express general confidence in the testing, monitoring and mitigation protocols, they seek to avoid any risk of losing consumer confidence in the quality of the drinking water, water filtration exemptions, or impacts to their trademarked brand, Drink Tahoe Tap.

SC members were each asked to summarize their perspectives on the following topics:

1) Public and Stakeholder Engagement, 2) Environmental and Regulatory Review, 3) Design of the Controlled Methods Test, and 4) Monitoring Plan for Controlled Methods Test. Committee member perspectives are given below in their own words (lead agencies not included):

Q1: **Public and Stakeholder Engagement**
How well were you able to represent your interests? Can you describe examples of your comments or questions being considered in environmental review and test design? Do you have perspectives on the overall quality of public and stakeholder engagement? What evidence do you see of stakeholder and public engagement influencing the design and review of a controlled methods test? What else do you have to say about stakeholder engagement?

SC Member Responses:

- The Stakeholder Engagement process has been well facilitated. The project has been refined over time to include many of the non-chemical technical options suggestions.
- The collaborative process provided an exceptional platform for all the interests and concerns to be heard and addressed and fully vetted, promoting a clear united front in solving the Lake Tahoe invasive weeds problem. It is an extraordinary example of public and private parties working successfully together to solve a common problem.
- I was very effectively able to represent my organization's interests in a welcoming environment. The concept of a standalone test was something we advocated for far before the stakeholder process started so it was nice to see that happen. One-time use of herbicide followed by non-chemical was something we wanted to see. Public and stakeholder engagement went above and beyond what was expected but likely what was needed. The tahoekeysweeds.org website was an excellent addition to outreach. Many public meetings were conducted well and located in appropriate locations. People that were interested in participating had many opportunities and methods to do so. Expansion of UV test site size, analyzing dredging, in-depth analysis of the "no action alternative" were all examples of public input being incorporated.
- Our interests lie in using the best possible science and in working closely with public and partner partners to implement aquatic invasive species control projects. Over time, we were able to represent our interests. For example, we provided insight on the likelihood of effectiveness of using specific plant control methods on a small scale vs. a large scale. The Stakeholder Committee actively and genuinely solicited new science and information, listened to the public's overall and specific concerns, and as a result made the difficult decision to switch gears from proposing use of multiple methods of plant control in the Tahoe Keys lagoons to the pursuit of the control methods test. This decision is direct evidence of stakeholder and public engagement influence. In the design and review of the Control Methods Test, stakeholders were given the opportunity at every meeting to voice concerns and provide input and ideas. Some ideas weren't best addressed in the design of the Controlled Methods Test itself but were addressed through other means. For example, these regular meetings provided an opportunity to share information and coordinate on existing plant control projects occurring in and adjacent to the Tahoe Keys lagoons.

Q2: **Environmental and Regulatory Review**
How do you know whether the environmental review is thorough and draws upon the best available information? Are you satisfied with the level of peer review of the approach to

environmental review? What is your level of confidence in the findings and conclusions of environmental review? What else do you have to say about environmental review?

SC Member Responses:

- Many factors played into me knowing the environmental review was thorough and draws upon best available information; 1) extensive additional baseline monitoring was added to the project after the stakeholder meetings began so that is the best available info, 2) involvement of TSAC in some form of project review, 3) compiling and making available all/most previous work done in the Keys, 4) incorporating information provided by stakeholders, 5) numerous meetings and discussions with EA consultants at stakeholder meetings, 6) conducting a full EIS for a test. Yes, I am satisfied with the level of peer review. It was unfortunate the environmental review became so fragmented between the EIS (TRPA) and Lahontan. Very confident in the findings and conclusions. Checks all boxes.
- The review process has been thorough. The anti-degradation analysis determined that the use of herbicides as proposed would not produce a long-term degradation to water quality. It was presented in a manner which states that NOT using herbicides could itself have long term quality degradation; based on the "clear, blue water" standard (Order No. RST-2022-{TENT} Pages G-4, G-17). The analysis assumes we know all the possibilities of risk of that substance at this time. We know a lot, but not all. Historically, there is a list of chemicals which were determined safe, then not safe after the fact. We simply do not agree with this finding as presented.
- The proposed project benefits from having many years of study and observation in the Tahoe Keys lagoons by experts in the field and more recently a suite of data collected by consultants directly involved in this project. There are still some questions about how the Control Methods' Test proposed single use of herbicides can accurately simulate what might be proposed in the future. We don't have experience with herbicide application in Lake Tahoe that demonstrates a single treatment can meet objectives to reduce the plant extent and density to a level where other physical control methods could control the plant population. Plants can likely be controlled to a degree that the infestation is not spreading into Lake Tahoe and the extent and density of plants within the Tahoe Keys lagoons is greatly reduced annually. The target of 75 percent reduction may be achievable, but the tougher question will be over what period of time this can be maintained and does reduction mean elimination and killing of 100% of the plant biomass including roots, or reduction in vegetative biomass over a shorter period of time. The project proposed a robust monitoring program that will provide data to address these questions.
- Having background in limnology, toxicology, pharmacology and a lifetime career in analyzing study designs and conclusions, I find the proposed CMT study to be one of the most well thought out and robust in design, scope and monitoring I have seen in my life. I clearly have great confidence in the findings and conclusions produced by the study. Adopting the CMT plan as submitted is critical for best understanding the most successful path in controlling, managing and hopefully solving the invasive weeds in all of Lake Tahoe.

Q3: **Design of the Controlled Methods Test**

Do you feel the Controlled Methods Test as currently proposed will yield useful information about the best methods for managing aquatic weeds in Tahoe Keys Lagoons? If you have preferences

for any changes to the Controlled Methods Test, please describe those here along with the reasons for the desired change(s).

SC Member Responses:

- Yes, the CMT will yield useful information as currently proposed as long as it includes all methods at the same time (not phased as some have suggested). It would have been nice to have Group A methods (chemicals and UV light) overlayed on sites where LFA was either already operating or would be operating during the CMT. It is likely from all knowledge and previous experience with LFA that it takes several years to have an effect and is more of a long-term maintenance method than an actual control method. We are missing a huge opportunity to give other Group A methods (UV and herbicides) a chance to succeed and for the entire three-year test to succeed without having LFA operating throughout the sites.
- We are hoping to see great results from laminar flow and UV. Our group still supports Alternative 2 non-chemical testing only. We know the herbicides will kill weeds. It's an unusual approach to only apply herbicide once, then try non-chemical methods in years 2/3 - most chemical use is repeated and ongoing.
- Yes, absolutely, the monitoring proposed for this project is well designed, realistic and will be executed by specialists who understand the challenges of working in the Keys and have experience doing so. If HABs and presence of cyanotoxins occur during testing, it will be important to understand if there is a relationship between control methods test activities and the bloom, or if there are other variables contributing to the outbreak. This could be difficult to determine.
- As a member of the TKPOA Water Quality Committee, I have worked closely with the scientists who are a part of the design and execution of the monitoring data collection. Utilization of the most current tools to optimize data collection from every conceivable aspect coupled with timely analytics offers me great confidence in the assessment of both treatment efficacy and ecologic safety.

Q4: **Monitoring Plan for Controlled Methods Test**
Please describe your impressions of the plans for application of treatment methods, measuring the efficacy of different methods, monitoring water quality during testing, and actions for detecting and mitigating unintended impacts to water quality during testing.

SC Member Responses:

- Well-developed and thorough monitoring and mitigation.
- Application of treatment methods is thorough, precautionary (minimizes chemicals) and innovative (one-time use of herbicides only). Measuring of efficacy of different methods is sufficient. Unclear what will happen if success criteria from year 1 are not met. How do you proceed at those sites in years 2 and 3? Is there a chance to modify in year 2 and still see if success can occur? Water quality monitoring is above and beyond what is likely needed but we are making sure water quality is protected which is job number one. Detection and mitigation methods/plans are sufficient and there are adequate safeguards in place to ensure the Lake is protected. Nice job on this section.
- The monitoring plan for the proposed project is extensive and well-designed. Execution will take a high level of coordination and commitment throughout the project. The

successful application of treatment methods will require adequate funding, and timing of contracts so methods can be implemented at the appropriate time of year. A tremendous amount of effort has been expended on the design and timing of the tests and an equal amount of effort should be spent on ensuring contracts are in place so equipment can be purchased, and work can move forward as planned. Supply chain delays and shortages could affect the schedule so contracting is a priority and contingency plans are important. In terms of our impressions for the work being executed once contracts are in place and the monitoring is underway, we have a high level of confidence that required water quality monitoring during testing will be conducted as planned, and that detecting and mitigating impacts to water quality will also be addressed in a timely manner as planned.

- The treatment methods, monitoring detail and scope and measures for detecting and mitigating unintended impacts to water quality during testing are extremely well thought out and offer greatest assurance of providing top quality information along with unmatched environmental and ecologic safety.

FUTURE STAKEHOLDER COMMITTEE ROLE

The proposed project that is before decision makers in early 2022 is one step in a long timeline to manage the Tahoe Keys weed infestation and solving the lake-wide AIS problem. There is a desire by Stakeholder Committee members to continue their role in finding solutions in the Tahoe Keys. Based on the outcomes of the project decision, potential future roles the SC could play are:

- Meet periodically during CMT implementation to review monitoring data and provide input on conclusions and next steps
- Help inform an adaptive management strategy based on scientific data
- Share information about ongoing treatment results lake-wide
- Help inform/develop a long-term recommended strategy based on CMT results

Attachment F

Tahoe Science Advisory Council (TSAC) Tahoe Keys Memorandum

January 19, 2021

TAHOE SCIENCE ADVISORY COUNCIL DOCUMENT REVIEW: Tahoe Keys Lagoons Aquatic Weeds Control Methods Test Draft Environmental Impact Report/Environmental Impact Statement

Two Tahoe Science Advisory Council representatives, Dr. Sudeep Chandra and Dr. Alexander Forrest, reviewed the Tahoe Keys Lagoons Aquatic Weed Control Method Test Draft Environmental Impact Report/Environmental Impact Statement. On August 18, 2020, they provided verbal feedback to the agency partners (e.g. Tahoe Regional Planning Agency) and the environmental consultant, Zephyr Collaborations, who developed the document for the agencies and the Tahoe Keys Property Homeowners Association.

The following is a summary of findings and recommendations after document review and a statement of conclusion by the Tahoe Science Advisory Council members who reviewed the report.

Summary of findings and recommendations:

- The environmental assessment is comprehensive. The documents include approaches and impacts that should be considered if no action is taken.
- Given the increased stress on the Lake Tahoe ecosystem from aquatic invasive species (AIS), the role invasive plants play in creating habitat for other invasive species (e.g. warmwater fishes), and the expansion of the latest plant invader, Curly Leaf Pondweed, to grow in the main lake, the reviewers believe it is critical to adopt new approaches to control invasive plants at much larger spatial scales than previously considered. In short, the “no action” alternative poses significant threats to the nearshore water quality and ecology of the lake.
- The impacts of the current state of AIS in the Tahoe Keys far outweighs the impacts and benefits that could be seen using the tools analyzed.
- The draft environmental assessment appropriately considers the potential impacts of what can happen to the main lake if the invasion issue is not addressed in the Tahoe Keys. Data collection comparisons over multiple years make it clear that there are little to no sensitive or endangered species concerns related to this project.
- In addition, the document includes water quality analyses regarding the different components of the nutrient pools in the Tahoe Keys, indicating that there is minimal concern of water quality impact in the long-term as associated with this project. In short, the analyses related to water quality including nutrient pools (e.g. sediment, water) is sufficient.
- The approaches suggested for plant control estimation are thought to be the best available for a project/system of this size.
- The evaluation of the use of herbicides and degradants is sufficient. There is ample literature and testing of the proposed herbicides outside of Lake Tahoe waters. The scientific literature supports the application of herbicides as a tool that should be tested at Lake Tahoe.
- Quantifying circulation patterns is an important component of the study to justify the use of herbicides and their impacts along with understanding water quality. The environmental analysis adequately assesses the circulation patterns across different parts of the Tahoe Keys and is a portion of this work that was highlighted.

- The data supporting the use of the ultraviolet tool is sufficient. Testing this tool in addition to herbicides is warranted.

Statement of Conclusion:

Dr. Sudeep Chandra and Dr. Alexander Forrest conclude that the Tahoe Keys Lagoons Aquatic Weed Control Methods Test DRAFT EIR/EIS, as a whole, has thoroughly considered the importance and urgent need for controlling aquatic invasive plants in the Tahoe Keys. Various approaches and alternatives that could be utilized for plant control for this situation and their potential impacts have been well-researched and presented in a logical way. The document is well written, transparent in its findings and includes sufficient data analysis to proceed with projects that seek to control plants. Based on this work, sustainable solutions should be developed before the situation worsens both in the Tahoe Keys and then the broader body of Lake Tahoe.

Attachment G

Comment Letters

December 13, 2021

Joanne Marchetta,
Tahoe Regional Planning Agency
128 Market Street
Stateline, NV 89410

Re: Tahoe Keys Weeds Control Test

The Lake Tahoe Marina Association, as an organization representing all the California and Nevada marinas on Lake Tahoe, is highly focused on the health and beauty of the Lake. Not only are the marinas dependent on the sparkling blue waters, but the management and staff of all of the marinas have a high level of pride in the pristine environment in which we live and work. We see all aquatic invasive species as a real and present danger to the health of Lake Tahoe. We have monitored the years of scientific research and numerous tests and attempts to control invasive species up to this point. Some of our marinas have and continue to volunteer as test sites for new and innovative approaches.

Now, like many others we recognize that the problem is continuing to grow, and the threat to the Lake is more dire than at any time in the past. A more intensive search for solutions and implementation of such solutions is a critical step towards insuring the future beauty of Lake Tahoe. We see the Tahoe Keys as a natural focal point for such efforts. While aquatic invasive species have been found in many locations around the lake, nowhere is the problem more concentrated than in the waterways that are isolated from the main body of the lake.

We have reviewed the Draft NPDES Permit and conclude that the "Tahoe Keys Lagoons Aquatic Weed Control Methods Test" is a reasonable, safe and necessary step, and we offer the full support of the Lake Tahoe Marina Association.

Sincerely,

M. Elie Alyeshmerni, President

Subject: Tahoe Keys herbicide and UV trials for aquatic weed control

Dear Tahoe decision makers,

This letter is written in strong support of the proposal to do a herbicide and UV trial applications to several of the sealed off Tahoe Keys Lagoons. Over my sixty years of research as former Director of the UC Davis Tahoe Research Group I have watched the aquatic weed problem in the Tahoe Keys escalate until it has become a lake wide problem. Over the years the aquatic weed fragment from mowing have taken hold around the margins of the lake and particularly in marinas. Invasive warm fish from the Keys have followed these patches of weeds and now can be observed as far from the keys as Star Harbor on the north shore.

Over many years the Lahontan Water Control District has required a strict ban on the use of any herbicides in the basin and this was a reasonable, conservative course of action before the Keys weed problem became so critical. I have tried over the last decade to convince the leadership that it was time to consider the reality of the aquatic weed problem and take more drastic action. Over the years herbicides which degrade in days not weeks have been developed and would be used in the current application. The UV light weed eradication trials needs to be further tested at the same time which I understand will be tested with and without herbicides. I have seen objections expressed as if the lake was to be poisoned when in fact the keys is the controlled target and the areas treated are to be double screen in order to contain the herbicide test application areas and not allow aquatic herbicide to enter the lake.

Climate Change should also be considered in support of a decision to allow for the proposed controlled test treatments. Tahoe is measurably warming with the weed choked warmer pockets in lagoons warming more than the lake. These warmer areas are already promoting the growth of cyanobacteria which tend to flourish by benefiting from warmer water, nutrients and lack of circulation from the massive weed growth. It is important to note that these cyanobacteria produce neurotoxins that are harmful to both humans and animals and are a serious indication of the eutrophication of our waterways. One positive step that the Keys could also take to suppress toxic algal growth is to do away with irrigated and fertilized grass lawns.

In summary I believe that the time has come to allow this testing of what promises to be a more effective water management of the Tahoe Keys. It is important to give lake science a chance to prove that this is not only a safe and desirable approach but also a very important one for the good of Tahoe, our increasingly threatened lake ecosystem.

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