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STAFF REPORT

Date: October 16, 2019

To: TRPA Regional Plan Implementation Committee

From: TRPA Staff

Subject: Tahoe Keys Aquatic Weed Control Methods Test

Summary and Staff Recommendation:

Provide endorsement of the proposed project description and range of action alternatives to be analyzed in the Tahoe Keys Aquatic Weed Control Methods Test Environmental Impact Statement (EIS). Staff recommends that the Regional Plan Implementation Committee (RPIC) provide direction to move forward on preparation of the Draft EIS.

Project Description:

The Tahoe Keys lagoons are the site of the largest infestation of invasive aquatic weeds Eurasian watermilfoil and curlyleaf pondweed, in addition to a problem native species coontail (collectively target aquatic weeds). The Tahoe Keys is comprised of over 170 acres of waterways that are more than 90% infested with these target aquatic weeds. In order to address this significant problem, a collaborative approach was developed that included the development of a stakeholder committee. This committee includes representatives from TRPA and the Lahontan Regional Water Quality Control Board (Lahontan) as the Lead Agencies, the Tahoe Keys Property Owners Association as the project proponent, and the League to Save Lake Tahoe, the Tahoe Water Suppliers Association and the Tahoe Resource Conservation District. These stakeholders collaboratively developed a project description that was released in a Notice of Preparation on June 17, 2019 which kicked off the Scoping Period for the development of an Environmental Impact Statement (EIS). Scoping closed on August 2, 2019. During the Scoping Period, multiple public engagement events were held for the public to provide input: two in June in the south shore that served as official scoping meetings for TRPA and Lahontan, and one in July held in the north shore. These events allowed for public comment to be provided in multiple formats in addition to comments received via email and US mail. TRPA also maintains a project website www.tahoekeysweeds.org that allows information to be constantly available.

The goal of the Proposed Project and Action Alternatives is to test a range of large-scale and localized aquatic weed control methods suitable for management of aquatic weeds, to determine what combination of methods within the test areas will:

- Reduce target aquatic weed infestations as much and as soon as feasible.
- Bring target aquatic weed infestations to a level that can be managed with localized non-chemical treatment methods.
- Improve the water quality of the Tahoe Keys lagoons and reestablish native aquatic habitat.
- Improve navigation and enhance recreational benefits and aesthetic values.
- Reduce the potential for target aquatic weed re-infestation after initial treatment.

While not a specific goal, it is anticipated that reducing aquatic weed density in the Tahoe Keys lagoons will result in habitat conditions less favorable for invasive fish species.

As a result of ongoing input from the stakeholder committee and comments received during scoping, the project description and alternatives being proposed are included in this staff report for input and discussion with RPIC. The proposed project identifies a range of methods to be tested alongside one another in the Tahoe Keys environment to control target aquatic weeds. The efficacy and feasibility of the test will then inform which methods could be best suited to control target aquatic weeds in the Tahoe Keys for long-term management. Once the test process is complete, it is anticipated that a second or supplemental environmental document will need to be prepared for that long-term project.

The EIS considers the Proposed Project and two Action Alternatives for target aquatic weed control as well as the required No Action Alternative.

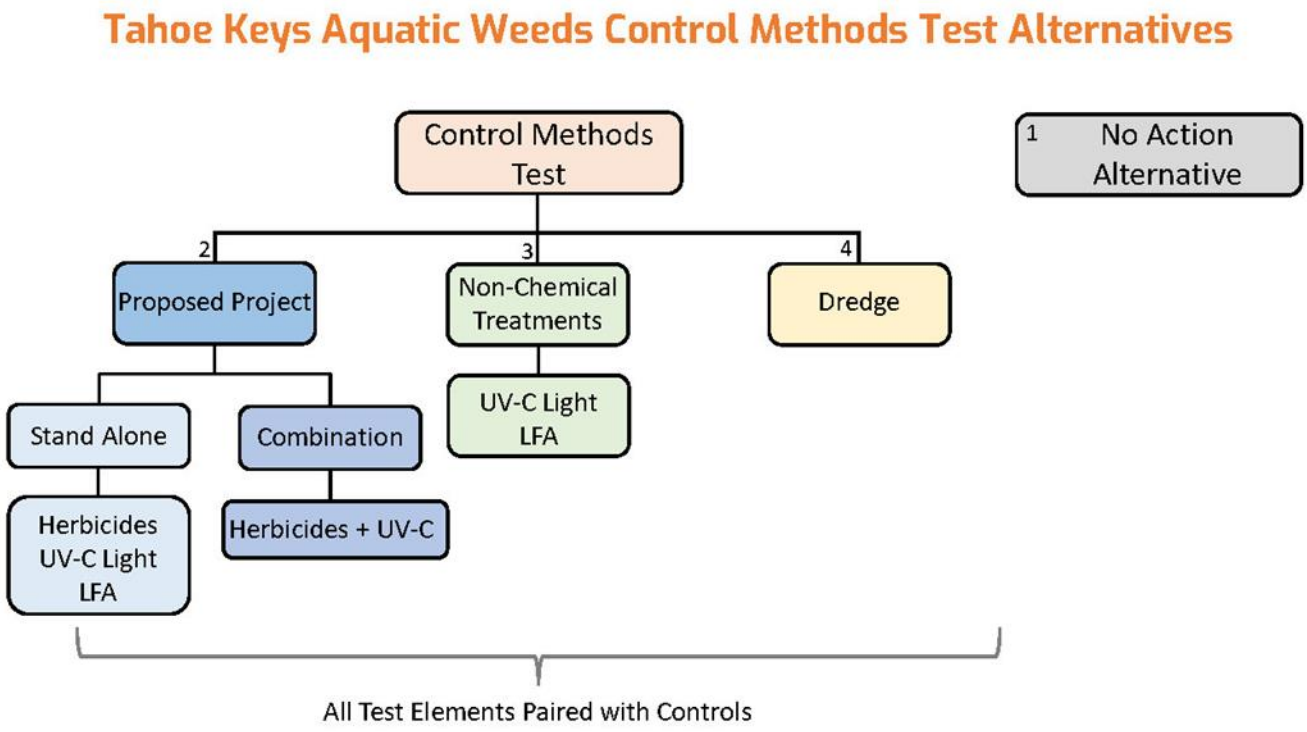
1. **Proposed Project:** The Proposed Project consists of a program to test alternative aquatic weeds control methods, both as stand-alone treatments and in combination. Control methods are divided into two groups:
    a. **Group A** methods are large-scale chemical and non-chemical treatment methods designed to achieve extensive reduction in target aquatic weeds (targeting 75% reduction). The Proposed Project tests stand-alone treatments using aquatic herbicides, UV light, and LFA, as well as combined herbicide and UV light treatments.
    b. **Group B** methods are localized treatments deploying proven techniques to follow up Group A treatments and control residual target aquatic weeds. Group B methods may include such actions as UV light spot treatments, laminar flow aeration, bottom barriers, diver-assisted suction and diver hand pulling techniques.

    In addition to aquatic weeds control methods, a variety of mitigation methods have been considered and would be applied during tests, as described below. Mitigation measures will be prescribed to reduce expected impacts identified through the environmental evaluation. Additional mitigation measures may be implemented as needed, based on monitoring results.

2. **Non-Chemical Treatments:** A second action alternative would consist of testing only non-chemical methods of aquatic weed control. Under this alternative, no treatments with herbicides would be considered, but all other elements of the test program would be as described above for the Proposed Project.

3. **Bottom Substrate Removal and Replacement in the Tahoe Keys Lagoons:** This action alternative would consist of direct reclamation at selected test locations in the Tahoe Keys lagoons through dredging or wet excavation of the bottom layers of organic material and underlying sediment to remove the roots of aquatic weeds, followed by placement of a new layer of bottom sediment (e.g., coarse sand). The thickness of soft organic sediment in the existing 6-acre LFA area in the Main Lagoon was found to be approximately 2- to 5-feet thick, in pre-project monitoring. To reduce the substrate that provides the most suitable rooting medium for aquatic weeds and to be effective in limiting re-infestation, it may be necessary to remove nearly all of this material. It will also be important to remove most of the soft sediment to create a more solid foundation for the placement of coarser and denser sediment.

4. **No Action:** This required alternative would consider the long-term risk and consequences to the Tahoe Keys lagoons and Lake Tahoe of undertaking no new weed control activities in the Tahoe Keys lagoons. Under this alternative only existing control methods would be employed by TKPOA and individual property owners (e.g., bottom barriers, diver-assisted hand pulling, the existing LFA project, mechanical harvesting, and weed fragment control). Because herbicide and UV light applications would not be tested under this alternative, it is assumed that these methods for aquatic weed control would not be used in the foreseeable future.



Four criteria were used to screen and select alternative and considered a range to techniques. See Attachment A *Selection Criteria.* Multiple methodologies were screened using this criterion.

The Proposed Project and Action Alternatives would test the safety, efficacy, compatibility, and utility of methods to control target aquatic weeds and is proposed to be conducted at selected sites within the Tahoe Keys lagoons. These sites have been selected to produce triplicate testing of methods to produce scientific rigor and to ensure that a suite of conditions that are present within the lagoons are represented.

SOURCE: DigitalGlobe, 2016

Tahoe Keys Lagoons Restoration Program EIR/EIS, D180990

ESA

A three-year test program is proposed:

- During the first year Group A methods would be used to reduce the population of the target aquatic weeds, with a target reduction of 75% in the treatment areas.
- First-year treatment would be followed by monitoring and two years of treatments applying Group B aquatic weed management methods to eliminate or manage residual aquatic weed populations.
- No mechanical harvesting would be performed in treatment and control areas during the methods test.

Three sites will be monitored as controls for the testing program (Figure 2). The control sites will 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. No weed control methods would be applied at control sites during the methods test, and no mechanical harvesting or fragment control would be implemented within these sites. 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.

During the two years following Group A method applications (years 2 and 3 of the Control Methods Test), follow-up non-chemical Group B maintenance actions would be applied to all treatment sites. The range of follow-up treatment methods include:

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

- Localized UV-C light treatments
- Localized suction dredging

The stakeholder committee has provided input at multiple steps in the process and to inform this approach The Stakeholder Committee agrees deploying a controlled methods test to inform long-term management options is the best path forward for this EIS. There is broad support for this range of alternatives and no significant concerns have been raised. Detailed feedback is still being received on the project description, including testing protocols, however it is not anticipated that there will be a need to make major revisions to the proposed project.

To date, significant water quality data has been collected during 2019 that will be used to provide background information and existing conditions that will inform the analysis and any needed mitigations. Next steps in the process are for the technical consultant to continue the environmental analysis for an administrative draft of the EIS to be submitted to the Lead Agencies in January 2020. The Draft EIS is scheduled to be initially presented to the TRPA Governing Board in April 2020 and released for public comment in June 2020.

Contact Information: If you have questions regarding this item, please contact Dennis Zabaglo, Principal Environmental Specialist, at (775) 589-5255 or dzabaglo@trpa.org.

Attachment:
A. Selection Criteria

Attachment A

Selection Criteria

Tahoe Keys Aquatic Weed Control Methods Test Alternatives Selection Criteria

Four criteria were used to screen and select alternatives:

1. Ability to meet project goals and objectives

Project Goals and Objectives are set forth in Section 1.2 of the EIR/EIS. This criterion considers whether a project alternative will meet these goals and objectives, and related performance measures. If the alternative was considered unable to meet a majority of the goals and objectives, it was eliminated from further consideration.

This criterion incorporates consideration of the efficiency and efficacy of methods to control aquatic weeds. For this EIR/EIS it also filters methods according to whether they require testing in the Tahoe Keys lagoons.

2. Feasibility

This criterion includes considerations of timeframe, cost, technology, and other social and legal factors. Cost as an element of feasibility includes the direct costs of the project, as well as the costs of environmental review and permitting, mitigation, and long-term management and monitoring.

The California Environmental Quality Act (CEQA §15364) and the Tahoe Regional Planning Agency both define feasible as "Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

Based on CEQA case law, the screening of alternatives considered whether "the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project" and "whether the marginal costs of the alternative as compared to the cost of the proposed project are so great that a reasonably prudent [person] would not proceed" (Uphold Our Heritage v. Town of Woodside (2007) 147 Cal.App.4th 587, 600 (Woodside)."

3. Level of impacts

This criterion considers the extent of impacts and the degree to which potentially significant impacts can be avoided or mitigated. It also considers whether the residual (unmitigable) impacts of the project are large relative to other alternatives. It considers the risks and unintended consequences potentially posed by the project to the extent that they can be reasonably foreseen. This criterion does not use quantitative measures of the potential level of impacts, since such measures are to be developed in the evaluation of alternatives once they are selected.

The impacts of alternatives were considered in the context of the permitting decisions that the Lead Agencies would need to make. For example, the Lahontan Regional Water Quality Control Board will need to decide whether to grant the project an exemption to the prohibition on using

aquatic herbicides in the Lake Tahoe basin. Approval of an exemption would require the following assurances:

- Treatment and application area: no long-term degradation of water quality; only temporary non-attainment of beneficial uses.
- Receiving Waters: protection of beneficial uses and compliance with water quality objectives, limiting any lowering of water quality to the shortest possible time.
- Restoration: within two years of the last treatment non-target aquatic life and benthic communities within project area must be restored to pre-project or better condition.
- Duration of water quality degradation: limit adverse impacts to shortest time possible, that is, within "weeks-to-months, not years".

4. Similarity to other alternatives carried forward

This criterion recognizes that while a representative range of alternatives must be considered, it is not necessary to evaluate every variation within that range. Some alternatives were eliminated from consideration because they are similar enough to those carried forward that the number of alternatives did not need to be multiplied by their inclusion.