

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

MEETING OF NOVEMBER 18-19, 2020

ITEM 7
WORKSHOP - TAHOE KEYS LAGOONS AQUATIC WEED CONTROL METHODS TEST PROJECT

CHRONOLOGY	
September 6, 2012	State of California Office of Administrative Law approves amendment to the Water Quality Control Plan for the Lahontan Region establishing a waste discharge prohibition and exemption criteria for aquatic pesticide application to surface waters in the Lahontan Region.
August 11, 2015	Tahoe Keys Property Owners Association (TKPOA) holds the Tahoe Keys Weed Management Plan Expert Panel and Public Workshop.
April 2018	Joint Lahontan Water Board and TRPA Initial Environmental Checklist and California Environmental Quality Act (CEQA) Initial Study completed for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project (Project).
July 25, 2018	TKPOA submits supplemental permit application information for the Project.
March 8, 2019	Lahontan Water Board staff accepts Phase I Monitoring Program Peer Review Panel for the Project.
June 17, 2019	Notice of Preparation released for the Project's Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS).
June 25-July 16, 2019	CEQA Scoping Meetings for the Project conducted.
August 2, 2019	45-day public comment period for the EIR/EIS Notice of Preparation closes.
July 6, 2020	Draft EIR/EIS released for 60-day public comment period.
September 3, 2020	Public comment period for Draft EIR/EIS closes.

BACKGROUND
The Tahoe Keys Lagoons have been experiencing increasing growth of aquatic invasive plant (AIP) infestations over many years (85-95 percent of the Tahoe Keys Lagoons' wetted surface was infested with Eurasian milfoil and/or curlyleaf pondweed, 2014 – 2016) to the point that the AIP infestation is not only impairing

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multiple beneficial uses and adversely affecting the cold water ecosystem within the Tahoe Keys Lagoons, but is now presenting an increasing threat of AIP infestations spreading to Lake Tahoe. A 2015 report prepared by the University of Reno Biology Department for the Lake Tahoe Aquatic Invasive Species Coordination Committee identifies the Tahoe Keys Lagoons as the highest priority area requiring treatment for aquatic invasive species, including AIP species. The report included recommendations to implement an integrated program including both non-chemical and chemical (herbicide) treatment methodologies given the abundance of AIP in the lagoon system.

In response to these conditions, the Tahoe Keys Property Owners Association (TKPOA) submitted a proposal that through a collaborative process has been revised to the current Integrated Control Methods Test (CMT) project proposal. The current proposal's purpose is to evaluate the effectiveness of multiple AIP treatment methodologies, including chemical and non-chemical methodologies and combinations of both, to identify methodologies that will: 1) quickly reduce the AIP biomass 2) bring the AIP infestation to a level that can be managed by non-chemical treatment methodologies, 3) improve water quality, 4) improve recreational benefits, and 5) reduce re-infestation. Concurrent evaluation of the chemical and non-chemical treatment methodologies is necessary in order to produce comparative results that will assist TKPOA, regulatory agencies, and others in making decisions regarding the combination of future treatment methodologies TKPOA will use to control AIP species. The future combination of treatment methodologies may or may not include chemical treatments, and decisions made regarding the proposed CMT Project do not obligate the regulatory agencies to approve chemical treatment methodologies in the future. The TKPOA proposal also included a request for a Water Quality Control Plan for the Lahontan Region (Basin Plan) aquatic pesticide discharge prohibition exemption (BPE) for testing aquatic herbicides and an individual National Discharge Elimination System (NPDES) permit application for applying aquatic herbicides as part of the Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project (Project).

The Project proposes to test both chemical and non-chemical aquatic AIP treatment methodologies. Aquatic herbicides are proposed to be applied at multiple locations within the Tahoe Keys Lagoons and Lake Tallac during Year 1 of the three-year project. Non-chemical treatment methodologies will be implemented and evaluated during Years 1 – 3 with an emphasis on evaluating rapid knock down effectiveness during Year 1 and ability to manage any regrowth during Years 2 and 3. The Tahoe Keys Lagoons are hydrologically connected to Lake Tahoe, which has been designated as an Outstanding National Resource Water (ONRW). The Tahoe Keys Lagoons are approximately 150 acres in size, of which approximately 130 acres are hydrologically connected to Lake Tahoe.

The Project proposes evaluating several AIP treatment methodologies suitable for large-scale treatments including the aquatic herbicides triclopyr and endothall, ultraviolet-C light (UV-C) treatment, and laminar flow aeration (LFA) treatment. These large-scale treatment methodologies are intended to provide rapid elimination of target AIP species over large areas early in the seasonal growth cycle before

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extensive biomass develops. Additionally, several methods suited for small-scale treatment including bottom barriers and suction-assisted diver hand pulling will be implemented as follow-up treatment of smaller areas of re-infestation after initial knock-down of the target AIP species. The Project also involves evaluating long-term methodologies intended to improve sediment and water quality over the course of the three-year test Project. The goal of this evaluation is to identify methods that improve environmental factors and eliminate conditions favorable to AIP growth (e.g., reduce available nutrient supply in sediments, improve dissolved oxygen levels throughout water column).

The Lahontan Water Board will need to take three actions in order to approve the Project. The first action is to certify a Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in compliance with the California Environmental Quality Act (CEQA). The Lahontan Water Board is acting as CEQA Lead Agency for the EIR and the Tahoe Regional Planning Agency is acting as Lead Agency for the EIS. The two agencies have prepared and released for public and agency comment, a Draft EIR/EIS evaluating potential impacts associated with the Project and project alternatives

The second action is granting an exemption to the Basin Plan's discharge prohibition for aquatic pesticides, including aquatic herbicides. A Basin Plan prohibition exemption (BPE) can only be granted if specific criteria established by the Basin Plan are satisfied.

The third action will be adopting an individual National Pollutant Discharge Elimination System (NPDES) permit, which will include findings regarding federal and state antidegradation policies, taking into consideration that Lake Tahoe is a designated ONRW.

Currently, Water Board staff is targeting the Lahontan Water Board's March 2021 Board meeting for bringing all three of the proposed actions described, above, before the Water Board for consideration.

ISSUES

Water Board staff will be focusing attention in the workshop on the Basin Plan prohibition exemption process and the anti-degradation component of the NPDES permit.

DISCUSSION

The purpose of the workshop is to provide an overview of the Project, the three proposed Water Board actions for the Project, and to highlight key criteria and considerations associated with the three proposed actions. The first proposed Water Board action will be deciding whether or not to certify the Final EIR/EIS for the Project. Water Board and Tahoe Regional Planning Agency (TRPA) staff have made significant progress regarding the CEQA and TRPA environmental impacts review process, which is intended to identify, evaluate, and mitigate, when feasible, significant impacts associated with the Project and to evaluate project alternatives,

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including the No Project Alternative. As noted, above, a Draft EIR/EIS has been released for public and agency review and comment, with the comment period ending on September 3, 2020. Both Water Board and TRPA staff are reviewing several hundred comments and are drafting responses in preparing the Final EIR/EIS for Water Board and TRPA Governing Board consideration in March 2021.

The second proposed Water Board action for the Project will be deciding whether or not to grant a Basin Plan prohibition exemption (BPE) allowing the use of herbicides as part of the Project. The BPE criteria were developed to create a pathway for using chemical treatment methodologies within surface waters of the Lahontan Region, including Lake Tahoe. The Basin Plan recognizes that certain activities involving the application of herbicides may be in the public interest and includes controls of aquatic invasive species as a circumstance eligible for a prohibition exemption. An exemption to the prohibition on discharge of pesticides to surface or ground waters may be granted by the Water Board for projects that are neither emergencies nor time sensitive where the project proponent can verify that the project meets seven criteria. In this case, chemical and non-chemical treatment methodologies are both being proposed. Water Board staff believes there is a potential pathway for granting BPEs for such projects.

The third proposed Water Board action for the Project will be deciding whether or not to adopt an individual NPDES permit for the discharge of aquatic herbicides. Key elements of the NPDES permit include findings, such as those associated with state and federal anti-degradation policies, taking into consideration that Lake Tahoe is an ONRW. Lake Tahoe's ONRW designation increases the level of analysis and findings that must be made in order to allow the use of herbicides in Lake Tahoe. Additionally, the proposed NPDES permit will include provisions for mitigation monitoring, if applicable, in addition to a monitoring and reporting program consistent with BPE criteria.

PUBLIC OUTREACH/INPUT

There has been significant public outreach and opportunity to provide input through the CEQA/Tahoe Regional Planning Agency (TRPA) environmental impacts review process to date. Additionally, the agenda announcement for this workshop has been published on the Water Board's web site, and distributed through the Water Board's Agenda Announcement Lyris List subscription service and mailing lists associated with the CEQA/TRPA environmental impacts review process and Water Board and TRPA permitting processes for the Project. There will be additional opportunity for public participation and comment prior to bringing this matter before the Water Board for decisions on the three proposed actions described, above. Water Board staff is tentatively planning to return before the Water Board at its March 2021 Board meeting.

PRESENTERS

Robert Tucker, Water Board, Senior Water Resource Control Engineer (presentation is Enclosure 3).
Joanne Marchetta, Tahoe Regional Planning Agency, Executive Director
Dennis Zabaglo, Tahoe Regional Planning Agency, Aquatic Resources Program Manager (presentation is Enclosure 2).
Kimberly Caringer, Tahoe Regional Planning Agency, Environmental Improvement Division Manager (presentation is Enclosure 2).
Jim Good, ESA, (presentation is Enclosure 2).
Russell Norman, Water Board, Water Resources Control Engineer (presentation is Enclosure 4).

RECOMMENDATION

This is an information item only. The Water Board may provide direction to staff as appropriate.

ENCLOSURE	ITEM	BATES NUMBER
1	Water Board staff report - Tahoe Keys Lagoons Aquatic Weed Control Methods Test Basin Plan Prohibition Exemption Justification	7 - 7
2	TRPA staff/consultant presentation - Tahoe Keys Lagoons Aquatic Weed Control Methods Test Joint Draft Environmental Document (Dennis Zabaglo, Kimberly Caringer, and Jim Good)	Under separate cover
3	Water Board staff presentation (Robert Tucker)	Under separate cover
4	Water Board staff presentation (Russell Norman)	Under separate cover

ENCLOSURE 1

**Overview of Basin Plan Prohibition Exemption Criteria
for Aquatic Pesticide Use**

**Tahoe Keys Lagoons Aquatic Weed Control Methods
Test Project**

**Report to the Lahontan Regional Water Quality Control Board
November 18-19, 2020 Board Meeting
Agenda Item No. 7**

Executive Summary

The Tahoe Keys Lagoons are heavily impacted by aquatic invasive species including aquatic invasive plants (AIP). During 2014 - 2016, 85 to 95 percent of the wetted surface in the Tahoe Keys Lagoons were infested with AIP. AIP support other invasive species, such as warm water fish, degrade water quality, and adversely impact water contact and non-water contact recreation among other beneficial uses. Additionally, the heavy boating traffic in and out of the Tahoe Keys Lagoons presents a pathway to further spreading AIP into the main body of Lake Tahoe, increasing the risk of additional AIP infestations within Lake Tahoe. A 2015 report prepared by the University of Reno Biology Department for the Lake Tahoe Aquatic Invasive Species Coordination Committee identifies the Tahoe Keys Lagoons as the highest priority area requiring an integrated treatment program for aquatic invasive species, including AIP species. The report recommends using a combination of non-chemical and chemical (herbicides) treatment methodologies given the extent of the AIP infestation within the Tahoe Keys Lagoons and the increasing risk the AIP infestation presents to the main body of Lake Tahoe.

Tahoe Keys Property Owners Association (TKPOA) has requested to implement a Control Methods Test (CMT) project to evaluate the effectiveness of multiple AIP treatment methodologies, including chemical and non-chemical methodologies and combinations of both, to identify methodologies that will: 1) quickly reduce the AIP biomass 2) bring infestation to a level that can be managed by non-chemical treatment methodologies, 3) improve water quality, 4) improve recreational benefits, and 5) reduce re-infestation. Concurrent evaluation of the chemical and non-chemical treatment methodologies is necessary in order to produce comparative results that will assist TKPOA, regulatory agencies, and others in making decisions regarding the combination of future treatment methodologies TKPOA will use to control AIP species. The future combination of treatment methodologies may or may not include chemical treatments, and decisions made regarding the proposed CMT project do not obligate the regulatory agencies to approve chemical treatment methodologies in the future.

The proposed application of herbicides requires TKPOA to request an exemption to the waste discharge prohibition for pesticides established by the Water Quality Control Plan for the Lahontan Region (Basin Plan). The Basin Plan also established exemption criteria that must be satisfied in order to apply pesticides, which include herbicides, to surface waters within the Lahontan Region, including Lake Tahoe.

Below, Water Board staff presents an overview of information and line of reasoning supporting a position that TKPOA's CMT project meets the Basin Plan's exemption criteria for pesticide use.

Introduction

The Tahoe Key Lagoons are presently known to be infested with a two different aquatic invasive plant (AIP) species. Eurasian watermilfoil became established within the lagoons during the 1980s. In 2003, curlyleaf pondweed was identified in the lagoons. As noted, above, nearly the entire wetted surface of the Tahoe Keys Lagoons was infested with AIP during 2014 -2016, and conditions have not improved.

In 2015, the University of Nevada Reno Biology Department in collaboration with the Lake Tahoe Aquatic Invasive Species Coordination Committee, produced an Implementation Plan for Control of Aquatic Invasive Species within Lake Tahoe (AIS Plan). The AIS Plan discusses how both AIP species, Eurasian watermilfoil and curlyleaf pondweed, create habitat for other aquatic invasive species including warm fish species, adversely alter water quality (e.g., dissolved oxygen concentrations, nutrient cycling), and present boating navigational challenges.

The Lake Tahoe Aquatic Invasive Species Coordination Committee members provided input to the AIS Plan. The AIS Plan ranked the Tahoe Keys Lagoons as the highest priority to treat for aquatic invasive species in the Lake Tahoe Basin. The AIS Plan made the following recommendation

“However, due to the notable abundance of invasive and nuisance native aquatic plants in this system, an integrated program for removal which not only includes the use of non-chemical removal efforts such as bottom barriers and diver assisted suction removal, but other actions such as the reduction of nutrient loads, plant fragment collection, and herbicide application is recommended to reduce unwanted plant biomass.”

In 2017, the Tahoe Keys Property Owner Association (TKPOA) submitted an application for an exemption to the Basin Plan’s waste discharge prohibition on the use of pesticides in surface waters. In July 2018, TKPOA provided supplemental information for its 2017 application proposing use of pesticides (herbicides) in the Tahoe Keys West Lagoons in an Integrated Control Methods Test (CMT).

In 2018, a collaborative effort began to produce a draft environmental document to comply with California Environmental Quality Act (CEQA) requirements for a Basin Plan prohibition exemption and for compliance with Tahoe Regional Planning Agency (TRPA) requirements. The collaborative effort altered the proposed CMT project and its goals to include Ultraviolet C light (UV-C) and Laminar Flow Aeration (LFA) treatment methodologies. Additionally, the use of herbicides was modified from a multi-year application to a single-year application with multiple test sites of both herbicides and non-chemical treatment methodologies. The CMT project, as now described in the draft environmental document, applies herbicides during Year 1 of the CMT project, and will apply non-pesticide treatment methodologies during Years 1 - 3 of the CMT project.

The CMT project also proposes the use of three non-herbicide chemicals/products, two with treatment and one to mitigate potential water quality impacts associated with AIP

biomass die-off. Rhodamine is a dye to be used with the herbicides, but only for monitoring purposes. Acetic acid with hot water may be injected below installed bottom barriers to increase the effectiveness of the bottom barriers. Lastly, a bentonite clay with lanthanum may be used to reduce phosphorus in the water column. The measure will be used if there is a suspected correlation between AIP decay from treatment, elevated phosphorus in the water column, and an increase in cyanobacteria. The bentonite lanthanum clay has the ability to bind phosphorus in the water column.

TKPOA CMT Project Goals

The original TKPOA project proposal, as described in 2017 application and 2018 supplemental information has been altered through the collaborative process with stakeholder discussion, reshaping the original proposal into today's CMT project. While still a test project, the CMT project now includes evaluating two non-chemical treatment methodologies ability to rapidly knock down AIP. Now the primary objective of the CMT project is to evaluate the effectiveness of multiple AIP treatment methodologies, including chemical and non-chemical methodologies and combinations of both, to identify methodologies that will: 1) quickly reduce the AIP biomass 2) bring infestation to a level that can be managed by non-chemical treatment methodologies, 3) improve water quality, 4) improve recreational benefits, and 5) reduce re-infestation..

The CMT project divides the treatment methodologies into two groups. Group A will include herbicides, Ultraviolet light C (UV-C), Laminar Flow Aeration (LFA), with some herbicides test sites also including the use of UV-C in the year following herbicide treatment. Group A treatment sites may also be followed up with the use of Group B treatments. Group B treatments include bottom barriers, bottom barriers with injection of hot water and/or acetic acid, diver-assisted suction/hand pulling, and spot suction dredging. The Group B treatments will be follow-up treatments employed at multiple locations during Years 2 and 3.

The CMT currently includes 21 tests sites and three control sites covering 41.4 acres, which accounts for 24 percent of the total surface area of the Tahoe Keys Lagoons. 16.9 acres will be treated with herbicides. The following is a breakdown of the different sites.

- Six herbicide-only sites in the West Lagoon (three replicate sites each for two herbicide products)
- Three herbicide-only sites in Lake Tallac (three replicate sites for one herbicide product)
- Three UV-C light-only sites
- Six combination sites (herbicides and UV-C light treatment)
- Three LFA-only sites
- Three control sites

The herbicides proposed for use are Endothall and Tryclopypyr. Florpyrauxifen-benzyl (ProcellaCOR) had been proposed but is still not approved for use in California, so it will not be proposed for use at this time.

Basin Plan Exemption Criteria

The Basin Plan prohibition and the exemption criteria were adopted by the Lahontan Water Board in December 2011, approved by the State Water Board in 2012, and approval by Office of Administrative Law in 2012. The Basin Plan identifies seven exemption criteria for the Basin Plan's waste discharge prohibition for pesticide use in surface waters for projects that are neither emergencies nor time sensitive. Four criteria are located in the Basin Plan under the heading "Time Sensitive Projects" and the other three criteria are located in the Basin Plan under the heading "Projects that are Neither Emergencies nor Time Sensitive." The following is an evaluation of the exemption criteria in the order as they appear in the Basin Plan. The quoted text below is the exemption criteria language from the Basin Plan.

Criterion 1

"Demonstration that non-chemical measures were evaluated and found inappropriate/ineffective to achieve the project goals. (Alternatives to pesticide use must be thoroughly evaluated and implemented when feasible (as defined in CEQA Guideline 15364: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.)"

The project goal for TKPOA's CMT project is to:

Evaluate the effectiveness of multiple AIP treatment methodologies, including chemical and non-chemical methodologies and combinations of both, to identify methodologies that will: 1) quickly reduce the AIP biomass 2) bring infestation to a level that can be managed by non-chemical treatment methodologies, 3) improve water quality, 4) improve recreational benefits, and 5) reduce re-infestation.

The information generated by the CMT test will be used by TKPOA to update or to develop a new Integrated Management Plan for Aquatic Invasive Weeds (IMP)¹. As recommended by the Lake Tahoe Aquatic Invasive Species Coordination Committee's 2015 AIS Plan, TKPOA is considering multiple AIP treatment methodologies, including chemical and non-chemical, in updating/developing its IMP. In order to compare the effectiveness of the different AIP treatment methodologies with minimal variability in testing conditions, it is important that all AIP treatment methodologies being considered for future use be evaluated at the same time in the same or very similar environment.

¹ Lahontan Water Board Waste Discharge Requirements Order No. R6T-2014-0059 requires TKPOA to develop and implement a Integrated Management Plan for Aquatic Invasive Weeds (IMP). The IMP is to address control and monitoring of AIP species in Tahoe Keys Lagoons, Lake Tallac, and the Marina Lagoon. TKPOA submitted its IMP in May 2016, and Water Board staff conditionally accepted the IMP in August 2016.

That is why both chemical and non-chemical treatment methodologies identified in the CMT project need to be evaluated concurrently. Failing to do so, will fail to meet the project's goals, as outlined, above.

If following the CMT project, TKPOA develops an IMP that includes pesticide use, such a plan will require a Basin Plan prohibition exemption, separate from that being considered for the TKPOA CMT project. The results from the CMT project will be available for the project review and evaluation process related to the proposed IMP. As noted in the Basin Plan, the Lahontan Water Board has significant discretion in if and how it approves pesticide use in surface waters of the Lahontan Region. Additionally, the Lahontan Water Board is under no obligation to grant a prohibition exemption for the proposed IMP simply because it may have granted such an exemption for the TKPOA CMT project.

Criterion 2

“A plan detailing mitigation and management measures must be submitted and implemented. The Plan must incorporate control measures to limit adverse impacts to the shortest time necessary for project success. The Plan should include measures to remove and dispose of dead biomass which are adequate to protect water quality and beneficial uses. (Removal of biomass may not be necessary in situations where recovering the dead biomass creates a greater potential to impact water quality.)”

The Draft EIR/EIS and the supplemental information submitted by TKPOA identify multiple mitigation measures and provide the framework for a complete mitigation plan. Water Board staff will continue to work with TKPOA, its collaborative partners, and stakeholders to fully develop the mitigation plan intended to limit adverse impacts to the shortest time necessary. The mitigation plan upon its completion will be incorporated into the individual National Pollutant Discharge Elimination System (NPDES) permit.

Criterion 3

“The planned treatment protocol will result in the minimum discharge of chemical substances that can reasonably be expected for an effective treatment.”

There are two herbicides proposed for use, Endothall and Tricolpyr. ProcellaCOR had been previously proposed, but it has not been approved for use in California by the Department of Pesticide Regulation; and therefore, it will not be used as part of the CMT project. TKPOA is proposing application rates less than the maximum allowable rates. Based on the results of mesocosm studies (“jar tests”), TKPOA plans to use the following application rates.

Table 1: Allowable and Proposed Herbicide Application Rates and Application Methods

Herbicide	Max. Allowable Application Rate	Proposed Application Rate	Application Method
Endothall	5 ppm	2 ppm	Drop hoses
Tricolpyr	2.5 ppm	1 ppm	Drop hoses or granular

Based on the mesocosm studies, TKPOA is minimizing the chemical application rates to those that TKPOA believes will be effective and meet project goals.

Criterion 4

“Monitoring and reporting program must be submitted and implemented to evaluate impacts and verify restoration of water quality in the treatment area. The program must be sufficient to determine compliance with criterion No. 3.

The project monitoring program must include pre- and post-project sampling of water, sediment, and biota to determine if toxicity persists as a result of project implementation. At the discretion of the Regional Board, due to the urgency of Time Sensitive projects, the collection and analysis of sediment and biological samples may be waived and/or a reference site may be used to represent pre-project conditions.

Unless waived by the Regional Board, the project proponent shall develop a biological monitoring program to evaluate (a) the magnitude and extent of potential impacts to, and (b) the post-project recovery of non-target organisms and rare/threatened or endangered species. The biological monitoring program must be based on an appropriate study design, metrics, and performance criteria to evaluate restoration of aquatic life as specified below in criterion no. 7. This requirement may be waived at the discretion of the Regional Board where the Regional Board finds that there is no significant threat to non-target aquatic organisms.”

Water Board staff continue to work with TKPOA and its collaboration partners in developing a monitoring and reporting program for the CMT project that will satisfy this exemption criterion. The monitoring and reporting program upon its completion will be incorporated into the individual National Pollutant Discharge Elimination System (NPDES) permit.

Criterion 5

“Purpose and Goals statement that (a) demonstrates that the target organism is a primary cause of the problem being addressed, and (b) provides evidence that the proposed application of pesticides will accomplish the project goals.”

The purpose of the CMT is to test methods to control the spread of target AIP species that have compromised water quality and degraded a wide variety of beneficial uses of the Tahoe Keys Lagoons and threaten Lake Tahoe. The Lake Tahoe Aquatic Invasive Species Coordination Committee's 2015 AIS Plan produced by University Nevada Reno, ranks the Tahoe Keys Lagoons as the top priority area to be treated due to the magnitude of the invasive plant and fish infestations and the high recreational use of the area. Targeted AIP species are Eurasian watermilfoil and curlyleaf pondweed.

The proposal is to test different treatment methodologies to determine what treatment methodology or combination of methodologies will best control the target AIP species. Recent studies in Lake Tahoe and TKPOA's mesocosm studies indicate that the multiple treatment methodologies to be evaluated by the CMT project have potential to treat the target AIP species to some extent. Evaluating the effectiveness of chemical and non-chemical treatment methodologies concurrently in the same or very similar environment will accomplish the project goals of identifying effective treatment methodologies or combination of methodologies for controlling the target AIP species in Tahoe Keys Lagoons.

Criterion 6

“A description of the failure of non-chemical measures to effectively address the target organisms. The description will include either (1) evidence that non-chemical efforts failed to address target organisms or (2) justification, accepted by Regional Board, of why non-chemical measures were not employed or are not feasible (CEQA Guideline 15364) to achieve the treatment goals.”

The proposed CMT project will be evaluating both non-chemical and chemical treatment methodologies concurrently to compare the effectiveness of each treatment methodology and combinations of treatment methodologies. The following reasons provide a justification of why the CMT project may proceed, concurrently evaluating both non-chemical measures and chemical measures.

1. Non-chemical treatment methodologies will be employed in the Project.
2. TKPOA has been utilizing mechanical measures to control AIP, which has failed to control growth and spread of AIP in the Tahoe Keys Lagoons.
3. The Lake Tahoe Aquatic Invasive Species Coordination Committee's 2015 AIP Plan prepared by the University Nevada Reno identifies the Tahoe Key Lagoons as highest priority location within Lake Tahoe to be treated for Aquatic Invasive Species, including AIP.
4. The CMT project will be testing two experimental non-chemical treatment methodologies (LFA and UVC-C light) to compare their effectiveness to that of two chemical treatment methodologies in the Tahoe Keys Lagoons.
5. The original CMT project has been modified through a collaborative approach with assistance from the League to Save Lake Tahoe, Tahoe Regional Planning Agency, and substantial work by other stakeholder groups. The collaborative

approach has increased the project's scope regarding non-chemical treatment methodology evaluation and reduced the scope of herbicide use to a one-time test application at multiple locations involving significantly less area than originally proposed. Further limiting the CMT project to evaluating only non-chemical treatment methodologies will reduce the knowledge to be gained and will not accomplish the goals of the project.

The information obtained through the proposed CMT project will be used to assist TKPOA, regulatory agencies, and others in making informed decisions regarding the future treatment methodologies TKPOA will use to control AIP. Including chemical use as part of a future IMP will require a separate project evaluation and Basin Plan prohibition exemption prior to the IMP being accepted by the Lahontan Water Board.

Criterion 7

“A monitoring and reporting program accepted by the Regional Board, will be followed to assess the effects of treatment on surface and ground waters, and on bottom sediments if specified by the Regional Board. The monitoring and reporting program must include, but not be limited to, monitoring sites, analytes, methods, frequencies, schedule, quality assurance, and measurable objectives to determine if the project goals were achieved (e.g., acreage treated, reduction in biomass of target species, improved water quality). The monitoring plan must identify a dedicated budget and specify the entity/person(s) responsible for the monitoring....”

The quote, above, is only a portion of the criterion, as it is quite lengthy (Basin Plan pages 4.1-9 and 4.1-10). This criterion requires monitoring focused on surface and ground water quality, and potentially bottom sediments. As discussed in Criteria 2 and 4, above, Water Board staff continues to work with TKPOA and others through the EIR/EIS and permit development processes to develop mitigation and monitoring and reporting plans. The mitigation and monitoring and reporting plans upon their completion will be incorporated into the NPDES permit.

Summary

The proposed CMT project will evaluate the initial “knock down” effectiveness of three treatment methodologies involving two non-chemical methodologies (LFA and UV-C light) and two chemicals (herbicides Endothall and Tryclopvr). Some of the herbicide treatments may receive follow-up treatments by non-chemical treatment methodologies and some treatments are planned to be operated for the entire length of the project, such as LFA. Data will be collected for up to three years and is intended to provide information to assist in deciding which treatment methodologies are to be included in TKPOA's future IMP.

The purpose or goal of the CMT project is to evaluate chemical and non-chemical treatment methodologies. The project is not proposing to use and evaluate chemical treatment methodologies at the exclusion of non-chemical treatment methodologies. The information obtained through the proposed CMT project will be used to make

informed decisions in developing, reviewing, and approving TKPOA's future IMP. Evaluating the effectiveness of different treatment methodologies and combination of treatment methodologies needs to be done concurrently under the same or very similar environmental conditions in order to produce comparative results.

The Basin Plan waste discharge prohibition exemption criteria were developed to create a pathway for using chemical treatment methodologies within surface waters of the Lahontan Region, including Lake Tahoe. The Basin Plan recognizes that certain activities involving the application of herbicides may be in the public interest and includes controls of aquatic invasive species as a circumstance eligible for a prohibition exemption. The information, above, provides a line of reasoning supporting a position that TKPOA's CMT project meets the Basin Plan's exemption criteria for pesticide use.

References

2019 Aquatic Invasive Plant Control Pilot Project Final Monitoring Report, Tahoe Resource Conservation District

2020, Draft Environmental Impact Report/Environmental Impact Statement Tahoe Key Lagoons Aquatic Weed Control Methods Test

Andy Kopania, 2020 E-mail communication on estimated cost to implement herbicide and first-year monitoring cost.

Greg Hover, 2020 E- mail communication on the estimated cost to install six acres of laminar flow aeration.

Harold Singer, 2020 Ski Run Marina Laminar Flow Aeration Project – Project Report

Witmann, M.E. and Chandra, S., 2015 Implementation Plan for the Control of Aquatic Invasive Species within Lake Tahoe. Lake Tahoe AIS Coordination Committee, July 31, 2015. University Nevada Reno

