



June 13, 2023

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Subject: Verification of Compliance with Mitigation Monitoring and Reporting
Program for Tahoe Keys Lagoons Aquatic Weed Control Methods Test
Project

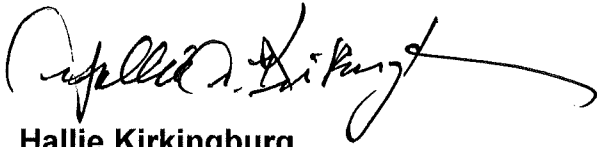
Dear Mr. Zabaglo and Mr. Tucker,

Per Special Condition 4.B of TRPA File Number EIPC2018-0011, and Section 1.6 of the FEIR/FEIS, the Tahoe Keys Property Owners Association (TKPOA) shall comply with the final Mitigation Monitoring and Reporting Program approved by Lahontan Water Board and TRPA. A table showing verification of compliance for the Mitigation Monitoring and Reporting Program (MMRP NO. R6T-2022-0005) is enclosed for your review and information. This table demonstrates compliance with MMRP requirements identified for CMT Year 1 activities and will be updated and submitted at the end of Year 2 and Year 3 of the CMT Project. This table will be updated each year, as additional conditions are fulfilled in years 2 and 3.

Mr. Zabaglo
June 13, 2023
Page 2 of 2

Please let us know if you have any questions or comments regarding the attached Report.

Sincerely,



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Attachment:

- Verification of MMRP Compliance

Cc (electronically with Attachment):

- Tiffany Barulich, M.S., Water Resource Control Engineer, Lahontan Regional Water Quality Control Board
- Kimberly Chevallier, Deputy Director & Chief Partnerships Officer, Tahoe Regional Planning Agency
- Emily Frey, Aquatic Invasive Species Projects Coordinator, Tahoe Regional Planning Agency
- Kristine Lebo, Water Quality Manager and AIS Coordinator, Tahoe Keys Property Owners Association
- Pete Wolcott, TKPOA Water Quality Committee Chair, Tahoe Keys Property Owners Association

Item #	Mitigation Measures/Resource Protection Measures	Monitoring and Reporting Action	Location of Monitoring and Reporting Requirement	Timing and Frequency	Verification of Compliance
1.	<u>EH-1 Applicator Qualifications:</u> 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. Required in NPDES Order R6T-2022-0004 permit, requirement VI.C.3.c.i.	QAL documentation for individuals who would be handling herbicide products would be required as part of TKPOA's contractor selection process and confirmed by TKPOA when the products are first mobilized to Tahoe Keys. Any substitution of personnel handling herbicide products during CMT implementation would require QAL documentation and confirmation. TKPOA must provide documentation of the QAL holder.	TKPOA must provide documentation of the selection and performance of the herbicide application by a QAL holder as part of the annual reporting required in Section 7.0 of this MMRP.	Submitted for review in QAPP June 2022	TKPOA CMT Annual Report – Year 1 (Appendices O and U)

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2.	<u>EH-2, EH-3a, EH-4 Spill Prevention and Response Plan:</u> 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. Required in NPDES Order R6T-2022-0004 permit, requirement VI.C.3.a.iii.	The spill prevention and response plan would require Water Board approval before herbicide products are mobilized to the Tahoe Keys. TKPOA personnel monitoring CMT implementation would be responsible for ensuring that plan requirements were followed throughout the herbicide applications and until herbicide products were demobilized. TKPOA must provide documentation of any spill control BMPs implemented.	TKPOA must provide a description of the spill control BMPs implemented during herbicide application as part of the annual reporting required in Section 7.0 of this MMRP.	Submitted May 2022	TKPOA CMT Annual Report – Year 1 (Appendices F, L, and M)

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3.	<u>EH-3b Dye Tracing:</u> Rhodamine WT dye would be applied by TKPOA during the herbicide applications and tracked to determine the movement and dissipation of dissolved herbicide 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.	Rhodamine WT dye would be applied during each application of herbicide products and traced until the Rhodamine WT dye dissipates and is no longer detectable. TKPOA must report to the Water Board if contingency plans are implemented.	Monitoring for Rhodamine dye is specified in NPDES Order R6T-2022-0004 as part of the Monitoring and Reporting Program Table E-1. Monitoring for Rhodamine WT dye is required more frequently than in the NPDES Permit requirements and is described below in Section 1.0 Rhodamine WT Dye and Contingency Monitoring of this MMRP. If herbicides are detected in nearby wells, TKPOA must provide a description of the contingency plans implemented as part of the annual reporting required in Section 7.0 of this MMRP.	Rhodamine WT dye was applied on 5/25/2022, 5/27/2022, 5/29/2022, 5/31/2022	TKPOA CMT Annual Report – Year 1 (Sections 3.2.1 and 12.2, and Appendices T and V)

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4.	<u>EH-3c Well monitoring and contingencies:</u> 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 if herbicides are detected.	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. TKPOA must report to the Water Board if contingency plans are implemented.	Monitoring frequency as specified in NPDES Order R6T- 2022-0004 as part of the Monitoring and Reporting Program section IV.C. If herbicides are detected in nearby wells, TKPOA must provide a description of the contingency plans implemented as part of the annual reporting required in Section 7.0 of this MMRP.	24 hours prior to each application and at 48-hour intervals thereafter for 14 days	TKPOA CMT Annual Report – Year 1 (Sections 3.7.14, 12.2, and Appendices M and V)
5.	<u>EH-3d West Channel monitoring and contingencies:</u> 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 Water Board 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.	In any event, if herbicide residue is detected within 500 feet of the West Channel, the Water Board would be notified within 24 hours.	West channel monitoring is required and described below in Section 1.0 Rhodamine WT Dye and Contingency Monitoring.	No notification was necessary.	TKPOA CMT Annual Report – Year 1 (Appendices T, V, and Z. Table 2-2 and Section 3.7.3)

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6.	<u>EH-3g Double Turbidity Curtain Barriers:</u> 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.	The barriers would be installed before any herbicide products were used in the Tahoe Keys and would not be removed until monitoring demonstrated that herbicide degradants were not detectable on the landward side of the barriers.	Monitoring as specified in NPDES Order R6T-2022-0004 as part of the Monitoring and Reporting Program Table E-1. Monitoring during installation of turbidity curtains is described below as part of Section 2.0 Turbidity Monitoring.	Turbidity curtains were installed 05/12/22 thru 05/24/22, before herbicide was applied.	TKPOA CMT Annual Report – Year 1 (Table 2-2, Section 3.7.7, and Appendix R)

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7.	<u>EH-5a Best Management Practices:</u> Best management practices (BMPs) 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. Required in the NPDES Order R6T-2022-0004 Section VI.C.3.h.	BMPs would be included in permit conditions for any CMT work approved by the TRPA and Water Board. Implementation of BMPs would be tied to real-time monitoring of turbidity during project activities having the potential to disturb sediments, with BMPs triggered by exceedances of permit turbidity limits.	Monitoring required is described below as part of Section 2.0 Turbidity Monitoring.	Turbidity monitoring during installation/removal of the curtains began 1 hour prior to and continued hourly throughout with rotations between both sides of the curtains. A turbidity measurement was taken 24 hours post-installation/removal to determine whether turbidity levels exceeded 25% above pre-installation conditions. Not every single monitoring event was completed due to emergency actions, communication gaps, and changes in staffing.	TKPOA CMT Annual Report – Year 1 (Sections 2.7, 3.7.7, and 3.7.8, and Appendix R)

8.	<u>EH-6a, WQ-5a, WQ-6a, WQ-7a</u> <u>Timing and Size of Treatments:</u> <i>EH-6a:</i> Spring aquatic plant surveys would be conducted to ensure that herbicide treatments occur at times when target aquatic weed 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. <i>WQ-5a, WQ-6a, and WQ-7a:</i> The overall reduction in aquatic weed biomass from testing control methods is generally expected to reduce oxygen depletion and reduce the release of TP and TN from macrophytes at the 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	The timing of weed control treatments and the boundaries of test sites will be finalized in the spring of CMT Year 1 and be conditioned on permitting agency approval.	Monitoring for macrophytes is required and described below in Section 5.0 Project Field Surveys and Reports.	Baseline surveys for macrophytes were performed Spring 2022. Lahontan approval of the size and location of test sites was obtained prior to the start of testing.	TKPOA CMT Annual Report Year 1 – (Sections 1.1 and 2.6, Table 3-1, and Appendix B)
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	could contribute to reduced DO, TP, and TN in the summer. Effects would also be mitigated by the limited size of test sites. The timing of the Proposed application is associated with flow of water from Lake Tahoe to Tahoe Keys lagoons as specified in NPDES Order R6T-2022-0004, prohibition III.H, and the early stages of plant growth NPDES Order R6T-2022-0004, section I and III. B. Pre-treatment plant monitoring is required to select final treatment sites per NPDES Order R6T-2022-0004, section VI.c.4.				

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9.	<u>EH-6b, WQ-5b Aeration:</u> <i>EH-6b:</i> Aeration technologies such as LFA 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. <i>WQ5b:</i> LFA or other aeration systems would be deployed in herbicide test sites 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. Required in the NPDES Order R6T-2022-0004, Section VI.C.3.f.	Aeration systems would be deployed following herbicide treatments at test sites if the need is identified through real- time DO monitoring, and their continued operation would also be based on monitoring results. The aeration systems could be continually operated until herbicide active ingredients and degradants are no longer detected above background concentrations, and aeration could also continue through the summer and early fall as needed to reduce oxygen depletion from plant decay at UV-C light or herbicide test sites. TKPOA must report to the Water Board if aeration systems are implemented.	Dissolved Oxygen (DO) monitoring requirements are described below in Section 3.0 Water Quality Parameters. TKPOA must report if the aeration systems were implemented as part of the annual reporting required in Section 7.0 of this MMRP.	LFA systems were installed in 2019 for Site 26 and in 2022 for Sites 25 and 27, which were part of testing LFA as a “Group A” control method. Aeration systems were also installed at all of the herbicide test sites in 2022 following completion of the herbicide applications.	TKPOA CMT Annual Report Year 1 – (Section 2.8, 3.7.6, 4.1.2, 11.0, 16.7.1, , Appendix X,)

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10.	<u>EH-6c Bentonite Clay with Lanthanum:</u> 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. Required in in NPDES Order R6T-2022-0004 in Section VII.	Weed control test sites would be observed daily for signs of HABs, samples would be collected for expedited analysis of cyanobacteria and cyanotoxins within one day after a HABs observation, and bentonite clay/lanthanum treatments would be implemented within one day after laboratory confirmation of HABs at a weed control test site.	Monitoring frequency and reporting as specified in NPDES Order R6T-2022-0004 in the Monitoring and Reporting Program Table E-2.	Weed control test sites were observed daily for HABs. Protocols for testing were followed with lab analyses performed per the protocol. LMC was not applied in 2022 for the reasons described in the TKPOA CMT Annual Report – Year 1..	TKPOA CMT Annual Report – Year 1 (Section 2.2.2, 3.7.10, 16.7.1, Appendix N,Y)
11.	<u>WQ-1 Real-Time Temperature Monitoring and Adjustments to Treatment Rates:</u> 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.	Real-time monitoring of temperature would be performed at the beginning of UV-C light to evaluate whether any adjustments were necessary. Monitoring and adjustments to treatment rates would continue as needed throughout testing of these weed control methods.	Temperature monitoring is required and described below in Section 3.0 Water Quality Parameters of this MMRP.	Hourly loggers (miniDOTs) recorded temperature data continuously, and standard water quality monitoring (sonde) was performed three times per week. No substantial increases in temperatures from UV were noted.	TKPOA CMT Annual Report – Year 1 (Sections 3.7.4, 3.7.6, 9.2, and 10.2, Figures 9-6, 8-6, 9-12, 10-6, and 10-12)

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12.	<u>WQ-2a Real-Time Turbidity Monitoring and Adjustments to Practices:</u> 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 exceeded, the methods or pace of bottom barrier removal or other activities would be adjusted to achieve compliance with permit limits for turbidity.	Real-time turbidity measurements would be performed throughout the implementation of sediment disturbing activities in the lagoons, including during the beginning of each activity and following any adjustments to in-water work to confirm compliance with turbidity limits.	Turbidity monitoring is required and described below in Section 2.0 Turbidity Monitoring.		Not applicable to CMT Year 1 activities
13.	<u>WQ-4 Real-Time pH Monitoring and Adjustments to Treatment Rates:</u> 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.	Real-time pH monitoring would be performed during the beginning of herbicide treatments at each test site and following any adjustments to treatment rates to confirm compliance with pH limits.	Monitoring for pH is required and described below in Section 3.0 Water Quality Parameters.	3X/week during Year 1 of the CMT. Both baseline monitoring of pH and monitoring of pH shortly after application of herbicides were completed.	TKPOA CMT Annual Report – Year 1 (Sections 3.7.4, 5.2.6.2, 7.2, 8.2, 9.2, 10.2, and 16.4, Figures 5-8, 7-8, 8-8, 10-8, 11-6)

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14.	<u>AQU-1 Effects on Not-Target Aquatic Macrophyte Species:</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 native plant communities. Pre-treatment plant monitoring is required to select final treatment NPDES Order R6T-2022-0004, section VI.C.4.	Macrophyte surveys would be conducted in the spring before the start of aquatic weed control methods testing.	Monitoring for macrophytes is required and described below in Section 5.0 Project Field Surveys and Reports.	Yearly Spring 2022	TKPOA CMT Annual Report Year 1 – (Sections 3.7.11, 4.3, 7.4, 11.3, and 16.5, Figure 6-15, and Appendix E)
15.	<u>MM-BIO-1 Field Reconnaissance and Monitoring:</u> 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 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, TKPOA will consult with appropriate agencies to determine next steps prior to work restarting.	A pre-CMT field reconnaissance will be completed by TKPOA. If requested by USFWS or CDFW, monitoring may include field biologist monitoring of potential impacts to special-status species with provisions for potential work stoppages and additional agency consultation on actions to avoid or mitigate those impacts.	Monitoring and surveying for terrestrial, riparian, and aquatic (benthic and littoral zones) habitat and species is required and described below in Section 5.0 Project Field Surveys and Reports.	Yearly Spring 2022 and Fall 2022 field reconnaissance surveys and monitoring were performed, documented and submitted to TRPA and Lahontan.	TKPOA CMT Annual Report Year 1 – (Appendices CC and DD)

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16.	<u>MM-BIO-2: Routine monitoring of the ecotonal areas:</u> Within Lake Tallac outside and adjacent to the herbicide treatment areas will be performed during the duration of the Proposed Project.	Routine annual monitoring of the ecotonal areas within Lake Tallac outside and adjacent to the herbicide treatment areas would be performed throughout the duration of the CMT. Monitoring would record cover and composition of native and non-native plant species within the ecotonal areas. As the ecotonal areas are often portions of landowners' lakeshore, observations on plantings and removals outside of CMT scope of work would be noted. For consistency, plots may be established with the cooperation of landowners to control the number of variables that may be influencing ecotonal plant growth.	Monitoring and surveying for terrestrial, riparian, and aquatic (benthic and littoral zones) habitat and species is required and described below in Section 5.0 Project Field Surveys and Reports.	Yearly Spring and Fall 2022 field reconnaissance surveys and monitoring were performed, documented and submitted to TRPA and Lahontan.	TKPOA CMT Annual Report Year 1 – (Appendices CC and DD)

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17.	<u>CR-1 Traditional Native American Resources and Values:</u> 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 recommended measures in the MMRP, as further described in section 4.0 of this MMRP.	TKPOA must report whether workers received awareness training, whether the Tribal Cultural Resources Awareness brochure was included as part of that training, and whether an Unanticipated Discovery Plan was implemented.	TKPOA must report whether workers received awareness training, whether the Tribal Cultural Resources Awareness brochure was included as part of that training, and whether an Unanticipated Discovery Plan was implemented.	Before field activities began, all CMT workers were given an orientation, brochure, and acknowledgment form to sign that verified the workers' awareness training.	TKPOA CMT Annual Report Year 1 – (Appendix O)