REVIEW CHARGE

Aquatic Herbicide Use in the Lake Tahoe Keys Lagoons

Background

The Tahoe Keys, a multi-use development at the southern end of Lake Tahoe, was constructed in the 1960s on the Upper Truckee River Marsh. The development includes 1,529 homes and townhomes sited on lagoons that are directly connected to Lake Tahoe and is therefore considered part of the lake. This connection affords boating access to Lake Tahoe. The waters of the Tahoe Keys lagoons are typically more turbid than Lake Tahoe proper and the substrate is covered with fine organic sediments originating from the original marsh, supplemented by decades of aquatic weed decomposition.

Invasive aquatic plants were first identified in the Tahoe Keys in 1980 and have continued to multiply. The two primary plants are Eurasian Watermilfoil (*Microphyll spicatum L.*) and Curlyleaf Pondweed (*Potamogeton crispus L.*). The Tahoe Keys is considered the primary source of aquatic invasive plants infesting other portions of Lake Tahoe. The infestation is causing several adverse effects including altering cold water ecosystems, impairing navigation, elevating health and safety risks, and increasing invasive fish species habitat.

The Tahoe Keys Property Owners Association (TKPOA) is implementing the Control Methods Test project (CMT project) to assess options for invasive aquatic plant control. The CMT project technologies include two different aquatic herbicides, an aeration system, and ultraviolet light. Chemical treatment will be tested independently and in combination with the methods listed previously, with follow-up non-chemical treatments to determine the viability of those non-chemical follow-up treatments ability to control the aquatic invasive plants after a one-time treatment using aquatic herbicides (or in combination).

Review Need

The TKPOA and its partners seek science review of collected data and associated analyses. The consultant teams conducting have prepared and are implementing project monitoring plans to assess aquatic method control success and evaluate environmental impacts. The TKPOA and partners are requesting independent review of the monitoring plan and anticipated reports to ensure the gathered information adequately supports project findings.

Documents for Review

1. Aquatic Pesticide Application and Basin Plan Exemption

    a. Section 4 - Monitoring and Reporting Program (35 pages)
    b. Appendix H - CMT Detailed Treatment Monitoring Tables (8 pages)

The referenced portions of the application package describe the water quality and biological monitoring for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test.

Review Questions and Charge

1. Will implementing the proposed monitoring plan provide sufficient data and analyses to assess whether non-target biological communities (including macroinvertebrates, macrophyte, and fish populations) have fully recovered/restored following pesticide application?

   The Basin Plan defines "fully restored" as a condition where "the structure and function of non-target macroinvertebrate communities have returned to conditions that reflect pre-project conditions. Function will be judged by metrics and indices related to trophic levels (e.g., functional feeding groups) and productivity (e.g., abundance, biomass). Structure will be judged based on metrics and indices related to richness and diversity (e.g., taxa richness, multivariate O/E (observed/expected) model predictions, multivariate ordinations) and presence of sensitive and rare taxa." (Basin Plan p. 4.1 – 10).

Available supporting documents:

Timeline

Personnel

Project TSAC lead: TBD

Project agency lead: TBD

Contributing scientists: TBD