

continues to process new Timber Waiver applications for fuel reduction and forest restoration in unburned areas, the number of applications is slightly less than usual. Water Board timber staff is focused on improving administrative processes and conducting outreach with project implementers to ensure water quality is being protected. This focus is partly responsible for the 100% compliance with the Timber Waiver monitoring requirements.

4. Recent Tahoe Keys Property Owners Association Submittals, El Dorado County – Bruce Warden

Under provisions of the 2014 Waste Discharge Requirements, the Tahoe Keys Property Owners Association (TKPOA) is required to submit annual updates of two plans and two reports: Aquatic invasive plant species (AIS) control Implementation Management Plan (IMP); NonPoint Source Plan (NPS Plan); Aquatic Macrophyte Survey Report, and Bottom Barrier Report. TKPOA submitted all four documents on time. Details of the various reports are outlined below.

IMP

The 2017 updates to the IMP include information on the 2016 accomplishments:

- A summary of water quality, sediment, and benthic macroinvertebrate sampling.
- Plant fragment control, new equipment trials and weed harvester improvements.
- Two rhodamine water tracing dye studies to characterize flow paths within lagoons under differing lake elevations.
- A Mesocosm study of three herbicides’ effects on AIS and native species (done in a controlled environment not connected to surface waters).
- A summary of monitoring results from the boat back-up station for removal of plant fragments from boat propellers prior to boats entering Lake Tahoe.
- Literature study of biological controls for AIS.
- Feasibility study of using existing circulation system and water treatment plant for weed fragment collection.
- Ongoing monitoring efforts are focused on water quality parameters, benthic organisms, and nutrient loading from lagoon bottom sediments.

Following is a summary of Planned TKPOA AIS Control Activities for 2017 and 2018

	2017	2018
IMP proposed field activities	<ul style="list-style-type: none"> • Baseline water quality and sediment sampling (reduced scale; once per month) • Bottom barrier program • Weed harvesting using new equipment • Monitoring compliance with boat back-up station protocols • Improved fragment collection approaches • Acquire and deploy new Omni Cat skimmer boat • Study efficacy of combining rotovating and bottom barrier control methods (year 1) 	<ul style="list-style-type: none"> • Herbicide demonstration project (pending Water Board application approval) • Water quality and sediment sampling • Bottom barrier program • Boat back-up station with monitoring • Continued improved weed harvesting and fragment collection • Study efficacy of combining rotovating and bottom barrier control methods (year 2)
IMP proposed research activities	<ul style="list-style-type: none"> • Ongoing water circulation/treatment system assessment for fragment collection • Options for Impermeable barrier design to disconnect Keys lagoon from Lake Tahoe during potential herbicide demonstration project 	<ul style="list-style-type: none"> • Non-herbicide controls for 2019 • Review UV light Lakeside Marina pilot-scale test • Review Big Bear Lake plant nutrient-AIS TMDL program

NPS Plan

The TKPOA has taken a number of steps to reduce runoff pollution and to improve Lake Tahoe waters, including adopting and enforcing rules regarding fertilizer use and water conservation, and educating the membership about the impacts of nutrient pollution. In 2016, the TKPOA adopted rules to minimize sources of nutrients and to prevent nutrient loading and runoff into the waterways, such as banning use of phosphorus in fertilizers, and adopting water use restrictions.

Aquatic Macrophyte Survey Report

West Basin (Main Lagoon): Aquatic plant composition continues to be dominated by AIS Eurasian watermilfoil and native coontail, but curlyleaf pondweed was observed at a greater frequency than during previous years-- 31.3% in 2016 and 3.1 % in 2015.

East Basin (Marina Lagoon): Aquatic plant composition likewise continues to be dominated by AIS Eurasian watermilfoil and native coontail. Curlyleaf pondweed increased from 2% in 2015 to 12.2% in 2016. A large new population of curlyleaf pondweed was found in the navigation channel leading out into Lake Tahoe, indicating curlyleaf fragments and/or turion vegetative propagules may have been mobilized from populations in the Tahoe Keys Marina by boat traffic, the recent dredging project, or other mechanisms.

Lake Tallac Lagoon: AIS curlyleaf pondweed increased from non-detect in 2015 to 21.2 % occurrence in 2016.

Bottom Barrier Monitoring Report

Eighteen homeowners installed bottom barriers around their docks. The Tahoe Resource Conservation District (TRCD) provided many of the barriers, while some homeowners provided their own. Typical installations were about 200 square feet (total of less than 0.1 acres installed) with duration of installation about 4-5 months. Homeowner demand for bottom barriers exceeds supply, so TRCD plans to purchase more for next year.

Proposed Herbicide Pilot-Scale Study

In addition to these reports, TKPOA submitted an “*Application for Exemption to the Basin Plan Prohibition on the Use of Pesticides for the Tahoe Keys West Lagoon Integrated Control Methods Test*” in mid-January 2017. Water Board staff reviewed the application and found it to be incomplete for several elements of the Basin Plan Pesticide Amendment, as well as needing improvements in study design related to statistical analysis of treatment effectiveness. Proposed project implementation is late May-early June of 2018 pending regulatory agency approvals.