

LAKE TAHOE REGION AQUATIC INVASIVE SPECIES UPDATE

Aquatic invasive species (AIS) threaten the integrity of rivers, streams, and lakes throughout the country. Once invasive species enter the ecosystem, they can crowd out native populations, impair habitats and water quality, and impact recreation. As with other areas in the American west, invasive plants, fish, invertebrates, and amphibians are degrading Lake Tahoe. Resource managers have identified dozens of invasive and non-native aquatic species that have established in the Lake Tahoe Basin.

The Lake Tahoe AIS Program's (Program) mission is to prevent, detect, and control aquatic invasive species so that future generations can enjoy Lake Tahoe, as they do today. The Program is a collaborative effort among multiple public and private partners. The Tahoe Regional Planning Agency (TRPA) and Tahoe Resource Conservation District (Tahoe RCD) lead the Program. They work with partners to establish policy, guide the Program, and perform AIS prevention, control, and monitoring. Federal, state (California and Nevada), regional, and private sources all provide funding and support.

The California Tahoe Conservancy (Conservancy) has been an integral Program partner for more than 15 years. The Conservancy used funding from the U.S. Army Corps of Engineers to advance early Program activities and in recent years has granted Proposition 1 and Senate Bill 630 funding for AIS management. Conservancy employees are members of the AIS Coordinating Committee, which guides the Program. The Conservancy also implements AIS control, most recently eliminating three acres of AIS as part of the Upper Truckee Marsh Restoration Project. Most importantly, the Conservancy, in coordination with TRPA and Tahoe RCD, led the development of the 2019 Lake Tahoe Region Aquatic Invasive Species Action Agenda (Action Agenda) to establish a comprehensive AIS surveillance and control strategy.

The Program uses the Action Agenda to identify actions to limit the spread of existing AIS populations and eradicate them where possible, resulting in reduced harm caused by AIS. The Action Agenda outlines strategies to address regional AIS issues and defines outcome-based performance metrics. It emphasizes increasing the pace and scale of AIS control efforts and identifies the resources needed to achieve specific targets.

AIS Prevention

The Program conducts prevention efforts to stop new AIS from entering the Lake. The Watercraft Inspection Program began in 2008, after resource managers detected

invasive quagga mussels in nearby waterbodies. The Tahoe region led the way in AIS prevention efforts in the west and the Program manages several motorized watercraft inspection and decontamination stations. The Program has completed over 113,000 inspections and intercepted hundreds of boats with AIS, preventing new species from entering the Lake. The Tahoe Keepers program educates non-motorized boaters about the importance of cleaning, draining, and drying all watercraft and gear. The fall 2023 discovery of New Zealand mudsnails highlights the importance of prevention efforts, including the Tahoe Keepers program.

AIS Monitoring

AIS monitoring, surveillance, and rapid response is critical to track progress and prevent further spread. Identifying new populations early allows the Tahoe RCD to quickly treat an infestation while it is small, reducing the cost of control. The Tahoe RCD is using investments from the Conservancy and other partners to monitor past infestation sites and known invasive plant “hotspots.” The Program expanded surveillance from 87 acres in 2017 to 1,558 acres in 2023. Project level and lake-wide surveillance and monitoring are critical to tracking progress towards the goals of the Action Agenda.

AIS Control

The Program implements control projects to reduce or eradicate AIS. Tahoe RCD and partners treat plant populations using bottom barriers and diver-assisted hand pulling or suction. The Program is also exploring Ultraviolet-C (UV) light as a method to control invasive aquatic plant populations. The Program has expanded invasive plant control work over the last few years, as Tahoe RCD treated eight acres in 2018 and over 100 acres in 2023. Monitoring has confirmed that control efforts have succeeded in limiting spread, decreasing plant populations, and eradicating invasive plants in some locations, including Emerald Bay. The Program also considers efforts to control invasive fish, invertebrates, and amphibians, but these are more challenging and cost prohibitive.

Tahoe Keys

The Tahoe Keys (Keys) remain a source of invasive plants and other species that can easily spread to other parts of the Lake through human activities and natural processes. Given the importance of the Keys as an AIS source, the Action Agenda acknowledges that the goal of lake-wide AIS eradication depends on successfully controlling AIS in the Keys. The Program and Tahoe Keys Property Owners Association (TKPOA) have invested significant effort and funding to manage AIS in the Keys. TKPOA implements a harvesting program to remove plant material and maintain navigation. They are also testing innovative approaches to inform a long-term management strategy. These include using UV light and bottom barriers to reduce populations, installing bubble curtains to contain plant fragments, and applying aquatic herbicides.

Looking Forward

The regional collaboration is very successful and has served as a nationwide model for other AIS programs. However, significant challenges remain, including sustainable

Program funding. The 2023 discovery of the non-native New Zealand mudsnail in the Lake will require additional resources and scientific research to understand its extent and management options. Surveillance and rapid response for AIS are ongoing Program needs, and the Conservancy's grant funding can help support these activities. In addition, Conservancy staff is exploring opportunities to use state land for mobile self-cleaning stations for non-motorized watercraft and a permanent watercraft inspection station at Meyers.

The Program is committed to ongoing coordination, support, and public private partnerships to achieve its objectives. The Conservancy remains an important partner and aspires to support the Program into the future. Providing ongoing funding and supporting the Program in exploring new technologies and best available science are critical ways the Conservancy can assist.

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