Section 401 Water Quality Certification Report

WDID 6A091512006 for Lakewide Aquatic Invasive Plant Control Project
Project Background

The Tahoe Resource Conservation District (Tahoe RCD) implemented four projects in 2016 for the removal of aquatic invasive plants in Lake Tahoe and the Truckee River. Below is a summary of the activities implemented.

Lakeside Marina and Lakeside Swim Area Aquatic Plant Control

From June – October 2016, a dive-team subcontractor, Marine Taxonomic Services, LLC (MTS) of Tahoe RCD installed plant control barriers and used diver-assisted suction removal to control and remove aquatic invasive plants at Lakeside Marina and Lakeside Swim Area, South Lake Tahoe, CA. Tahoe RCD staff was onsite on a daily basis to ensure the quality of the work, and to ensure compliance with permitting requirements. Prior to treatment in 2015, these plant infestations were surveyed and delineated by researchers from UNR. Tahoe RCD staff assisted with topside duties, including post-decontamination of the plant barriers at the Meyers Watercraft Inspection Station. In total, approximately 1.5 acres of plant control treatment of Eurasian watermilfoil and curlyleaf pondweed was accomplished. Turbidity measurements did not exceed 3 NTUs within Zone 1 (25-foot perimeter of the project worksite) for the duration of the project.

Truckee River Aquatic Invasive Plant Control

Tahoe RCD contracted with University of California, Davis Tahoe Environmental Research Center to provide pre and post project monitoring. UC Davis surveyed the areas previously treated and created monitoring transects in new treatment areas. In 2015, the area treated was from Tahoe City Highway 89 Bridge downstream to behind Tahoe Raft and Gas. In this section there were scattered, patchy plants that had returned. This area was then treated in 2016 with diver assisted hand removal (Figure 3). Tahoe RCD staff and field crews installed 88-10’ X 40’ barriers from behind Tahoe Raft and Gas to the 64-acre walking bridge. The barriers were installed in late August and removed in early November (Figure 4 & 5). As requested by the U.S. Forest Service Lake Tahoe Basin Management Unit we surveyed the area treated with bottom barriers for the presence of Western pearlshell mussels (Margaritifera falcata). We found 8 individuals that we relocated upstream prior to installing barriers. The total area surveyed was approximately 2.5 acres. A total of 2 acres was treated with .67 acres using bottom barriers (Figure 6). Continued monitoring and control in 2017 will be necessary to assess the extent of any regrowth. Turbidity measurements were taken before, during and after barriers were installed. Measurements were between 1.02-21.1 NTUs
within Zone 1 (25-foot perimeter of the project worksite) for the duration of the project (Figure 7). Due to the low water levels, there was no water flow from pool to pool, so turbidity remained localized. Methods of plant removal in 2017 will depend on the water levels and flows being released from the Tahoe City Dam.

**Fleur du Lac Aquatic Invasive Plant Control**

Tahoe RCD and its dive-team subcontractor, Marine Taxonomic Services installed plant control barriers in the outer harbor of Fleur du Lac on the west shore of Lake Tahoe in August 2016 (Figure 8). There has been a small but persistent Eurasian watermilfoil infestation at this location, and in 2016, it expanded to 0.1 acres in areal extent. Divers installed barriers at this location to control and eliminate all plant growth. Divers re-visited this site in September and October and used diver-assisted suction removal to eliminate any plants growing along the edges of the barriers between the outer harbor and the shoreline.

**Tahoe Vista Aquatic Invasive Plant Control**

This project has been initiated, but was not implemented in 2016 due to weather and contracting (Figure 9). Tahoe RCD plans to start in early 2017.
Figure 1. Divers removing barriers from Lakeside Swim Area, October 2016, South Lake Tahoe California.
Figure 2. Plants in dumpster removed from Lakeside Marina by diver assisted suction removal, October 2016, South Lake Tahoe California.
Figure 3. Tahoe RCD subcontractors performing diver assisted hand removal near Tahoe City Dam, July 2016, Tahoe City California.

Figure 4. Laying bottom barriers in Truckee River, August 2016, Tahoe City California.
Figure 5. Securing bottom barriers with rebar in Truckee River, August 2016, Tahoe City California.

Figure 6. Map of surveyed and treated area on Truckee River, Tahoe City California.
Figure 7. Turbidity measurements during bottom barrier installment and removal, Truckee River, Tahoe City, California.

Figure 8. Underwater bottom barriers secured with rebar and covering Eurasian watermilfoil infestation. Fleur du Lac, Homewood, California, August 2016.
Figure 9. Tahoe Vista Boat Launch aquatic plant removal site, Tahoe Vista, California, October 2016