

Intro

The Lake McMurray community has for several decades supported the management of invasive aquatic weeds threatening the lake through the Lake Management District (LMD). The LMD was formed decades ago when Eurasian Milfoil was the dominant problem in the lake. This noxious weed in 2000 was present in thick mats throughout the littoral area of the lake.

The 2000 Sonar herbicide treatment removed Eurasian Milfoil from the lake and as of 2021 or 21 years later milfoil has not been detected since, until this summer.

In the years since the community has focused on other noxious aquatic weed growth present. In the spring of 2021, an RFP was issued for this season's work. Aquatechnex was selected to implement the work plan in July, and we moved forward with the year's mission.

Pretreatment survey

The survey of Lake McMurray was completed the week of July 1, 2024. In the past few years the primary problems in the lake have been the invasive White Water Lily. This plant dominated much of the shoreline of the lake for a number of years. The community on the southeast corner of the lake utilizes the lake as a water supply and the focus in those areas has been aquatic plant harvesting. Lilies outside of the quarter mile buffer have been addressed with both harvesting and with spot treatments with systemic herbicides under the DOE permit. It was reported last year that there were some pioneering colonies of Eurasian Milfoil present in the lake as well.

The White Water Lily communities in the lake have largely been reduced to levels where they are not problematic. The image below is from 2020 pre harvest and this condition was similar in other parts of the lake.



The survey conducted this July found that the White Water Lily problem is largely mitigated. Areas around the water intake (pictured above) had one to a few small lily pads scattered through the zone, a very significant reduction from what is shown above. There are also very small scattered patches around the margins of the lake. The largest patches observed were about 10 feet by 20 feet and adjacent to the park on the north end of the lake, this is the zone that the community there has had issues with treatment over the years. At this point, it's not clear if a harvester would have more than a few hours of

work around the margins of the lake where treatments traditionally have not occurred. We can revisit this when we perform the treatment suggested below.

There is one area of the lake that has some relatively thick Eurasian Milfoil beds present. These have been there for a year or more as they have filled in and starting to form dense mats. The entire shoreline of Lake McMurray was severely impacted with this noxious weed in 1999 and that led to the development of the Integrated Aquatic Vegetation Management Plan and the Lake Management District. In the summer of 2000, our company performed a whole lake Sonar Aquatic Herbicide treatment that was highly successful in removing this plant from the lake. Successive surveys annually had not discovered this weed at any level until last year. So that treatment provided well over 20 years of control. This weed can be re-introduced via boat trailers and this infestation is close to the boat ramp at the camp ground on the west shoreline, it is possible that it came in there, or fragments could have been introduced at the main public access and drifted to this location. In any event, these plants should be targeted and killed now as they are a significant threat to the lake



Eurasian milfoil beds located on the west side of the lake as mapped

There are scattered communities of the White Water Lily around the lake. We need to know if the Sweden Park group wants to be treated. With that knowledge we can schedule public notices and get a treatment date set to target lilies outside the quarter mile buffer and the Eurasian Milfoil beds.

Proposed Treatment Approach for Phase One

Task	Materials	Cost
Business and residential notice delivery	Develop and mail treatment notices for permit compliance	\$500.00
Day of Treatment shoreline posting	Crew to mobilize and post the lake shoreline with required signage for permit compliance	\$250.00
White Water Lily Treatment	Mobilize treatment vessel and target white water lilies with aquatic herbicide outside of the quarter mile buffer zone for White Water Lilies	\$2,000.00
Eurasian Milfoil Treatment	Target 1.25 acres where Eurasian Milfoil colonies are present with Procellacor herbicide	\$1,750.00
Total Phase One		\$4,500.00

During this treatment work we would suggest reviewing conditions with the water lily communities to determine if additional growth has triggered the need for a day of harvesting.

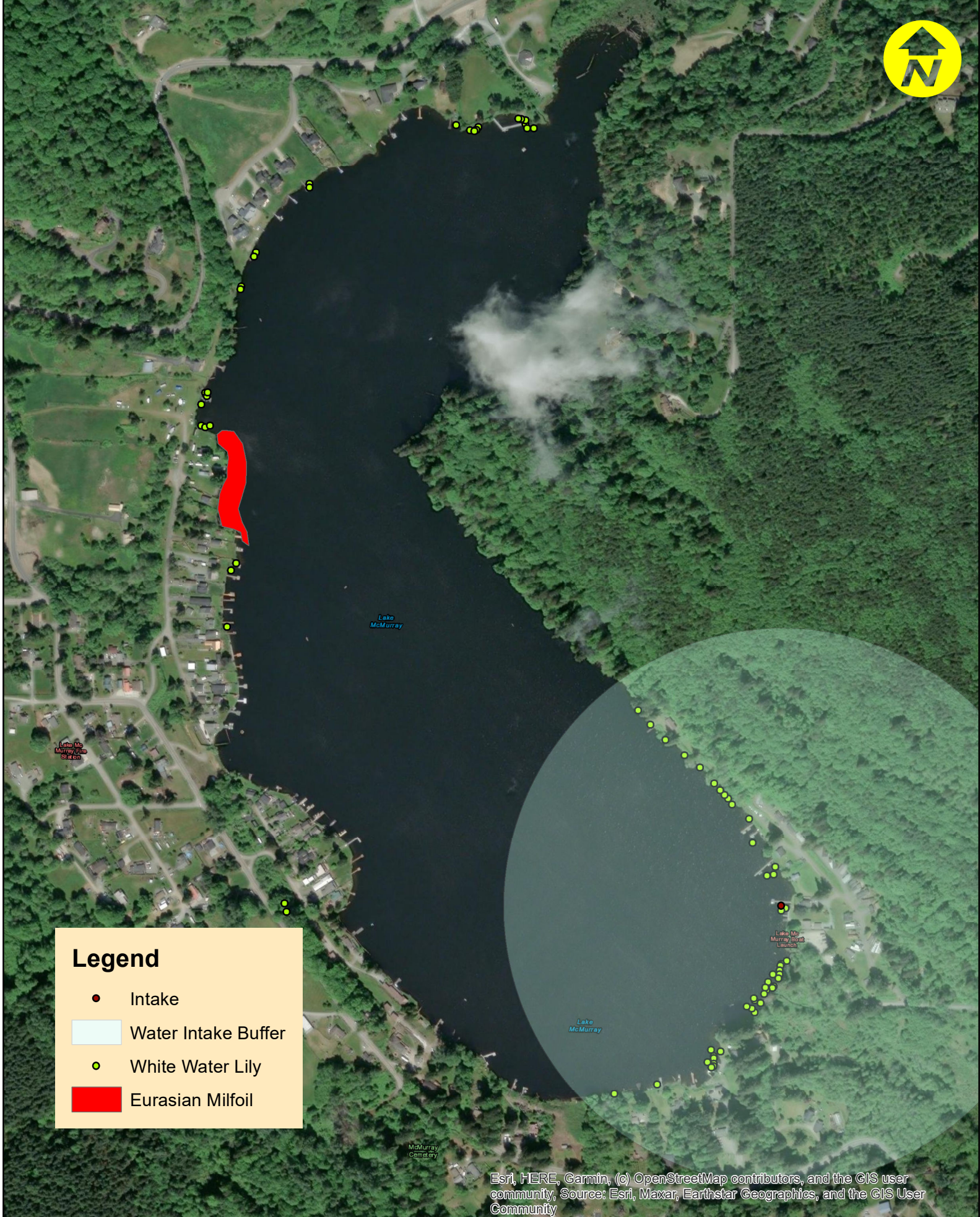
Treatment

Aquatechnex biologists treated the small area shows on the map with ProcellaCOR aquatic herbicide to target Eurasian Milfoil on August 28th. This herbicide is systemic and will translocate and kill the plants and root crowns present. We hadn't worked on the lake for the past few years, but as shown in this picture above these plants based on the density had been at this location for at least a couple of years. We are going to need to really keep an eye on the lake shoreline in future surveys as this plant spreads by fragmentation and as these plants have been established for some time, it is probable that there are more pioneering locations in the lake.

Harvesting operations

The White Water Lily growth around McHaven was greatly reduced from previous years. Harvesting over time removes the pads on the lake surface and one of the functions of those pads is to produce "food" for the plant. By continually removing that growth we are starting to see a significant reduction in these problem species in this location. There were also very small scattered occurrences of this species around the rest of the lake. In most locations there were only 1-3 lily pads.

As such, we mobilized one harvester to the lake and they spent one day working. They circled the lake and clipped lily pads were present.



Legend

- Intake
- Water Intake Buffer
- White Water Lily
- Eurasian Milfoil

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Lake McMurray 2024 Noxious Weed Survey



Recommendations

The last time we worked on the lake was in 2021. At that time there was the start of a Curly Leaf Pondweed infestation. This aggressive weed can become a major problem like a Eurasian Milfoil infestation. This summer we didn't see any of those plants. As already noted, Eurasian Milfoil is back in the lake and survey work should focus on that.

While the combined harvesting operations adjacent to McHaven and previous years herbicide treatments elsewhere targeting White Water Lily growth has been successful, it is probable that submerged aquatic weed growth may occupy the now open water areas around the McHaven Docks. As the community there wants to avoid herbicide treatments near their potable water intake, we should continue to have a harvesting option available to the community.