

Introduction

The North Lake LMD was formed some years ago to facilitate noxious and nuisance aquatic plant management. At the start of the program, the shoreline was dominated by invasive emergent vegetation, primarily Purple Loosestrife and Yellow Flag Iris. There was also Eurasian Milfoil present in the lake at noxious levels.

Treatment work throughout the life of the LMD have largely suppressed the noxious aquatic weed growth. Other species have started to fill in the littoral space and can be considered a nuisance to lake residents.

Survey

The survey of the lake was performed Thursday June 1st and attended by City of Federal Way staff. The littoral areas of the lake were surveyed with a combination of hydro-acoustic aquatic plant mapping and DGPS data logger and visual observation mapping. We talked to a citizen that was fishing and wanted to know if we could provide bathymetry maps so provided email. It turns out this person was rescue swimmer for local fire department and was interested in this information for her work, also passed on link to other bathymetry maps in the region. In the past two years, our trucks have been vandalized while doing this survey work, this year no problems noted.

Results

The community wanted to get this survey completed fairly early in the growing season and this was scheduled to accommodate this request.

We did not observe any submerged aquatic weed species on the state noxious weed list. When the LMD was formed, the lake has a significant infestation of Eurasian Milfoil as did Steel Lake. Systemic herbicide treatment early in the program targeted this invasive species and the lake has been free of this plant in the years since.

White Water Lily was also a problem plant on the state noxious weed list at the start of the LMD program. Treatments with a systemic herbicide have targeted that growth for several years. At the time of this survey the White Water Lily population in the lake has been largely removed. We only observed one White Water Lily pad in the entire lake system.

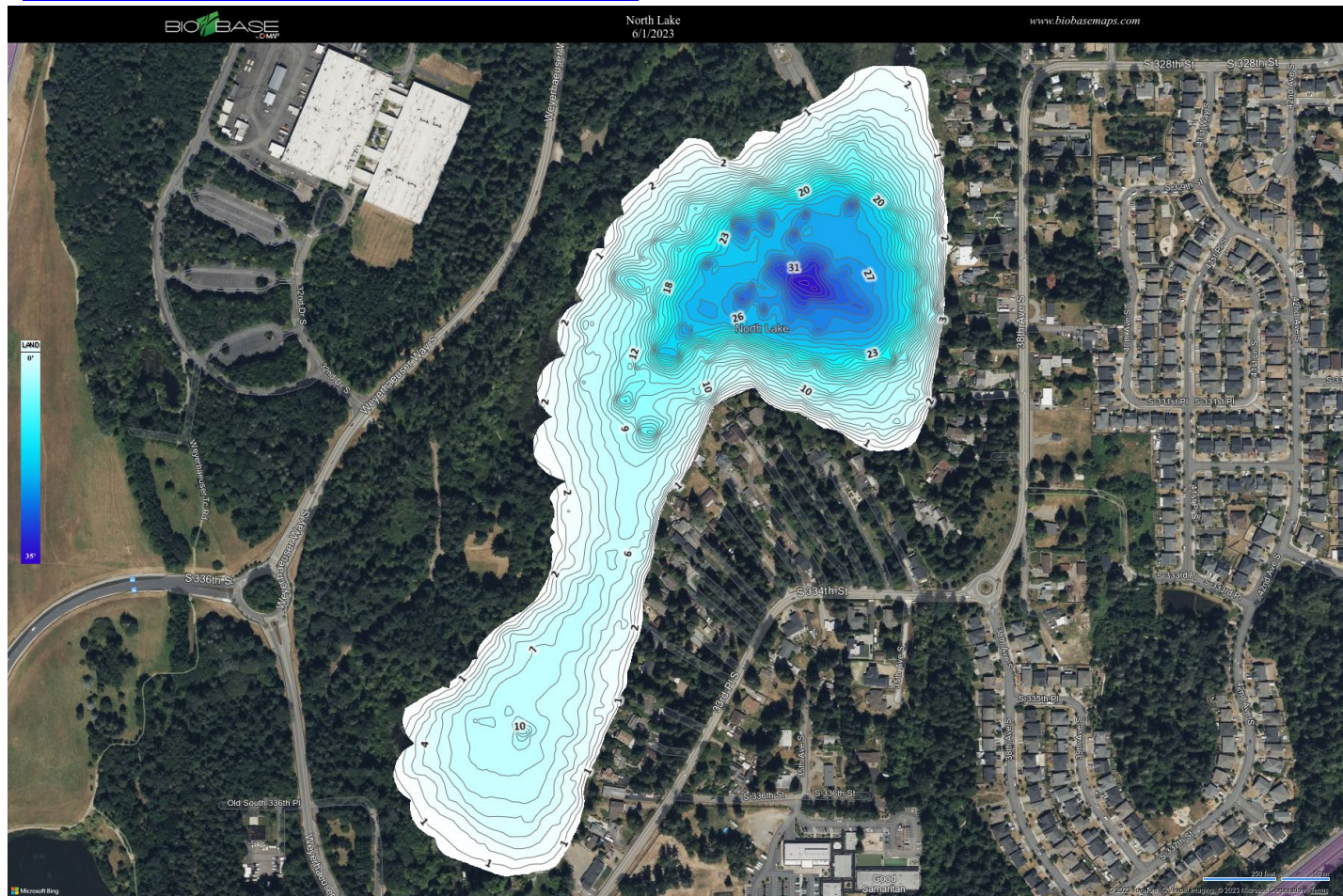
Yellow Flag Iris is an emergent species on the state noxious weed list. We observed and mapped a number of these plants on the undeveloped shoreline of the lake and these should be targeted for treatment. On the developed shoreline there remains a few scattered plants, many are located on private property and in the landscape. Education should be performed to insure lake residents know this plant is on the noxious weed list. In the past, the City maintained a GIS database of properties where permission to target and treat emergent weeds was allowed. This should be updated and provided so we understand which properties we can target.

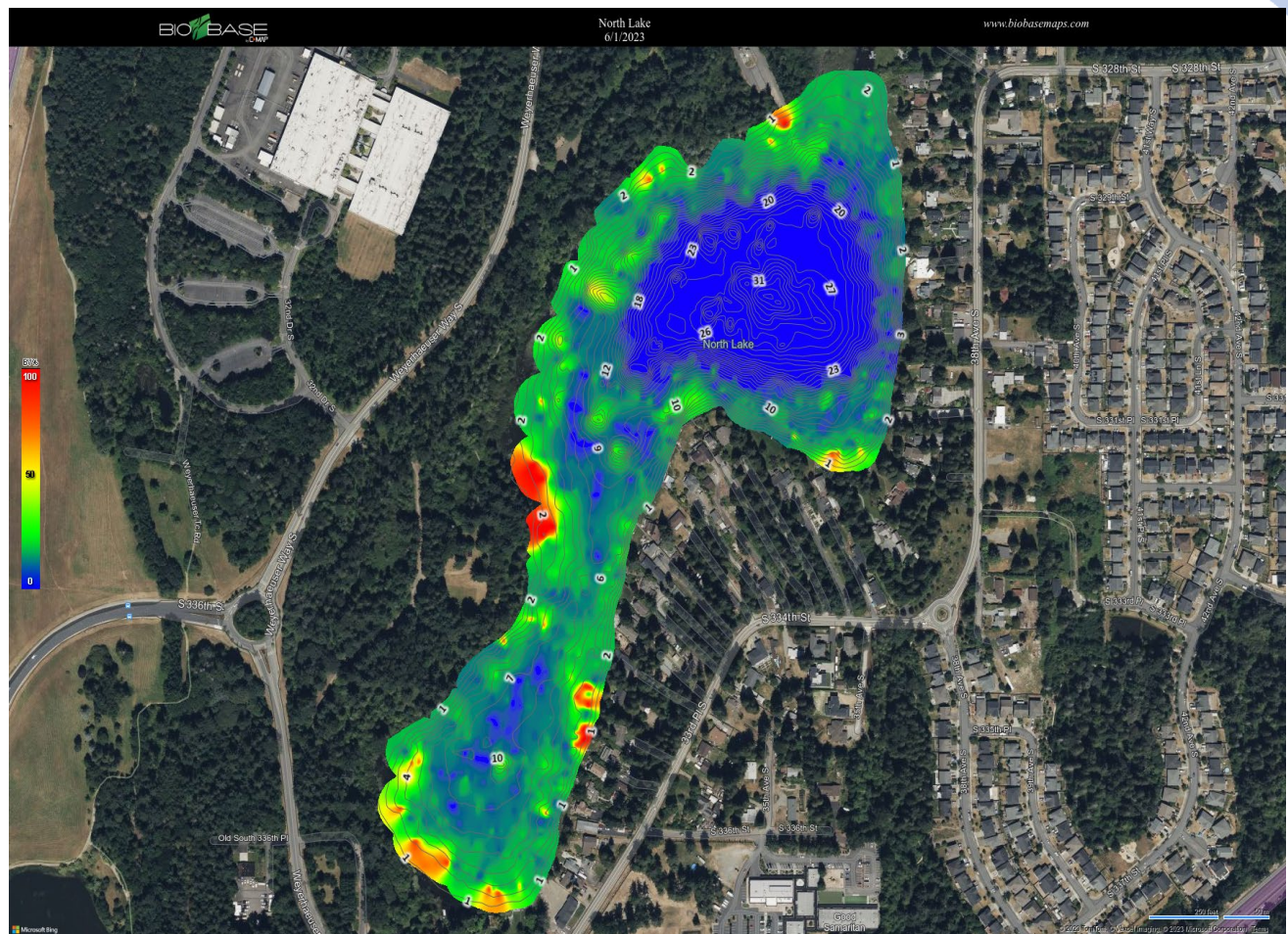
Purple Loosestrife is another emergent plant on the state noxious weed list. We observed and mapped a few of these plants along the shoreline. This species has been targeted for years and densities appear to be very low. This plant flowers in July and there may be more in evidence when that happens in the thicker wetland areas. We will review this again during treatment timeframes.

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Invasive Cattails are present in two locations on the lake. Narrow Leaf Cattail are on the Washington State Noxious Weed List ([Washington State Noxious Weed Control Board](https://www.wa.gov/agriculture/pests-weeds/noxious-weeds/)). There is a well developed and expanding stand of these plants located adjacent to the Washington Department of Fish and Wildlife boat ramp. These were targeted last year with Rodeo herbicide and control appears to be well in excess of 90% at this point. A little touch up work should be accomplished during the next effort at the lake.

An updated bathymetry map was developed during the survey efforts on the lake last week. If people are interested in viewing this online, the company we use for our hydroacoustic mapping has developed a social page where all lakes that have been mapped can be viewed. The link is at this site <https://www.biobasemaps.com/Dashboard/SocialMap>





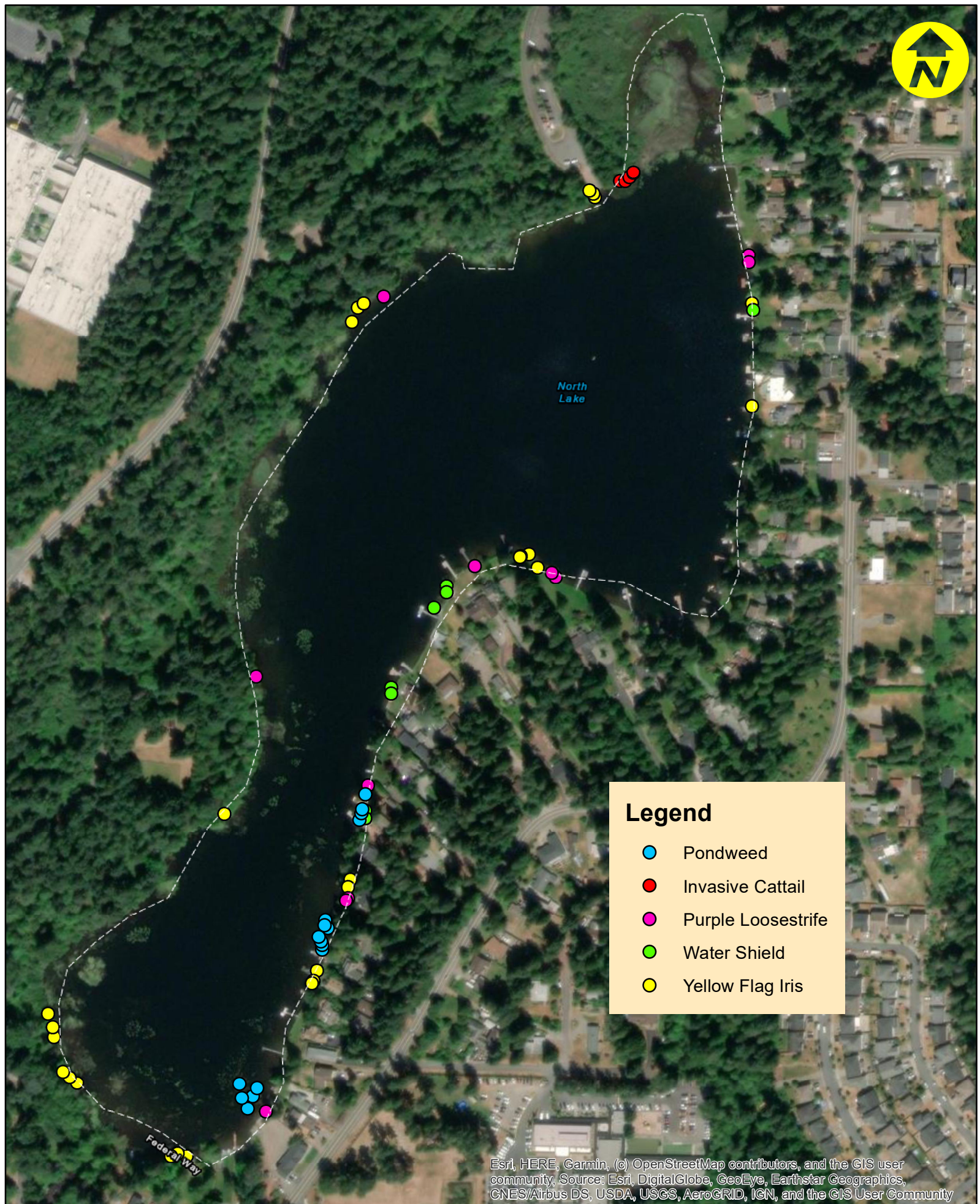
At the time of this survey the developed shoreline was relatively clear of submerged aquatic weed growth. The map above shows location of plant communities and the percent of the water column filled with vegetation. The green areas have vegetation present, but at very low profile in the water column. This shows plant growing from the lake bottom up to about 10% of the water depth. There are three spots where American Pondweed species are present. It may be that as the summer progresses some of these areas will experience a more robust weed infestation.

Brasenia or Water Shield is a native plant like lilies, but smaller oval shaped floating leaves. This plant is starting to encroach on the developed shoreline in many areas.

Recommendations

At this point the Water Shield is probably the dominant problem species in the developed areas of the lake. This plant can be treated with Rodeo herbicide and an aquatic surfactant. This work should be done later in June when the plant starts to store carbohydrates in the root system for the next winter, the herbicide translocate better. The team can also spray the Yellow Flag Iris, Invasive Cattails and Purple Loosestrife with this mix during this trip.

At this point, the submerged aquatic weed growth did not appear problematic except potentially in the three areas noted. But this may change in the coming weeks. Perhaps the best move would be to perform the emergent Water Shield and Yellow Flag Iris control and revisit the weed conditions at that point to determine if there are problem areas that should be addressed.



Legend

- Pondweed
- Invasive Cattail
- Purple Loosestrife
- Water Shield
- Yellow Flag Iris

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

North Lake June 2023

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We normally do additional Purple Loosestrife work after the King County team performs their survey. In addition, in previous years the Washington Department of Fish and Wildlife staff have requested that the large wetland on the north end of the lake be treated for Loosestrife. We target the vegetation on the shoreline and that can be reached by boat. In the past the LMD has not wanted to pay the hourly rate for walking through the extensive wetland area there that is not lakeshore.