

NORTH LAKE MANAGEMENT REVIEW - 2019



11/11/2019

2019 – Survey and Management
Summary

Prepared by AquaTechnex, LLC.

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2019 - SURVEY AND MANAGEMENT SUMMARY

Introduction

North Lake has a history of being impacted by noxious weeds. Fragrant Water Lily, Yellow Flag Iris, Purple Loosestrife, and Eurasian Watermilfoil have all been present in the past or are currently persisting as a member of the plant community. Eurasian Watermilfoil was infesting the lake at one point, but a whole-lake application of Fluridone herbicide eliminated the plant from the lake.

AquaTechnex has been contracted to provide survey and aquatic plant management services at North Lake for several years. Our efforts in 2019 focused on the continued monitoring of noxious weed populations and control recommendations. Additional focus was spent on assessing the native plant community and making any recommendations regarding nuisance native species control.

2019 Survey Summary

North Lake was surveyed on June 10th, 2019 by AquaTechnex. This survey followed the standard protocol that has been used in the past. The entire lake was surveyed by boat, with the first pass of the lake taking the crew around the lake in the shallow, 6 feet deep or less area of the lake. This area is easily checked from the surface for milfoil and any other submerged noxious weed species which may have been introduced to the lake. Once this initial pass was completed, the plant community was sampled with a series of rake-tosses to identify plants at given depth ranges throughout the lake. Transects running perpendicular from the shore were traveled and at the 5, 10, and 15 foot depth contours a rake-toss sample was taken. The species collected on the rake as well as the relative density of the species at that point were recorded.

In addition to the data points taken, AquaTechnex also used sonar to scan for plant biomass density in the lake. This data was processed into a heat map which provides a visual representation of how much of the water column is taken up by plant biomass at any given point on the lake. This data is shown at the end of this report.

Native Plants

The submerged plant community in North Lake remains in a stable pattern. Overall species composition has not changed, and no new introductions of plant species have occurred. Naiad continues to be a dominant species in the plant community. In 2019, patches of this species reached nuisance levels and were approaching the surface. This was prevalent in shallow areas around docks near the shoreline and in the Southern area of the lake. At these levels, Naiad is considered a nuisance species for North Lake homeowners. A treatment of submerged plants was completed on June 27th to control 6.5 acres. A control map of the treatment area follows.

Fragrant Water Lily (*Nymphaea odorata*), Yellow Flag Iris (*Iris pseudacorus*), and Purple Loosestrife (*Lythrum salicaria*)

The treatment of water lily has been very aggressive in at North Lake. Previously, Fragrant water lily had been all but eliminated. Lily pad presents remained on the lake with minimal coverage in 2019. These locations can be seen in Control Map following this document.

Areas of shoreline owned by residents have very little of the Yellow Flag Iris remaining and four locations were observed. Most the plants remaining of this species are growing in areas along the west shoreline.

Purple Loosestrife is a Class B noxious weed in Washington State and this designation means that its control is mandatory. This plant was found to be present at several properties on North Lake in 2019.

Control of water lily and iris was completed on June 27th. Spot treatment of all Purple Loosestrife locations was complete on August 22nd.

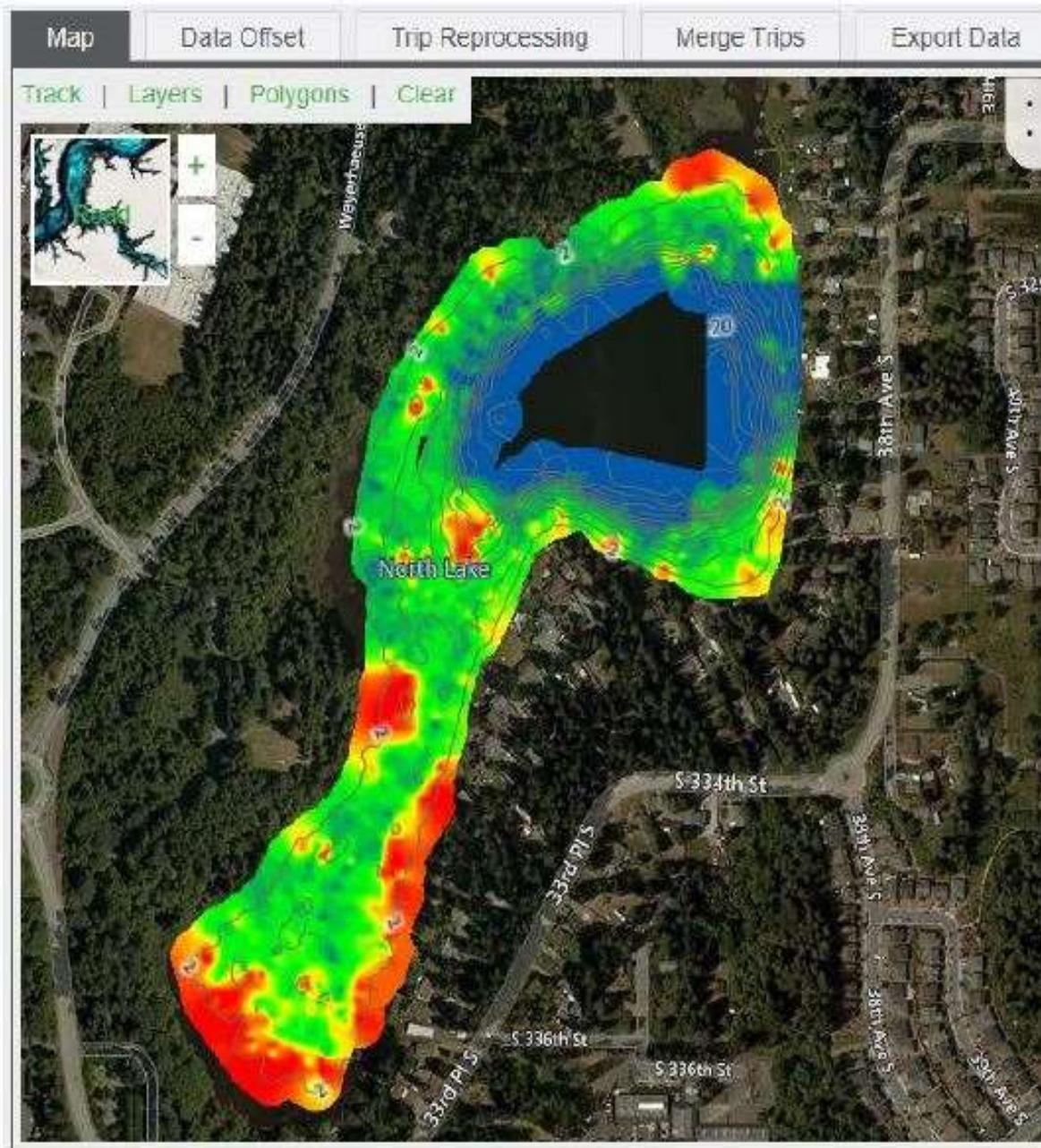
2020 Recommendations:

For 2020, AquaTechnex recommends the continued surveying of North Lake for Eurasian Watermilfoil and any other submerged and floating-leaf invasive plants. Continued monitoring of shoreline emergent invasive plants including Yellow Flag Iris and Purple Loosestrife is also highly advised. AquaTechnex recommends continued control of these species in 2020.

In addition to invasive plants, it is recommended that AquaTechnex continues to monitor the native plant community. In 2019, Naiad remained a dominant plant species which grew to nuisance levels in some areas. Though native plant communities are important to the overall health of the lake, spot treatment of dense plant patches help improve the beneficial uses of the lake. Selecting areas for treatment would be at the discretion of North Lake homeowners and the City of Federal Way.

Please feel free to contact Terry McNabb by phone at 360-201-2612 or email at tmcnabb@aquatechnex.com with any questions. Thank you for your time and consideration.

Map 1. Color represents percentage of water column taken up by plant biovolume in the lake with blue being 0% and red being 100%.



Map 2. Plant location and treatment Map 2019.

