



**Lake McMurray
LMD
2007 Year End Report**

Lake McMurray Year End Report 2007

Introduction

Lake McMurray is a 160 acre lake situated in the Water Resource Inventory Area 3 (WRIA 3). This zone is the lower Skagit County WRIA. The lake is in the headwaters of the Nookachamps Creek tributary to the Skagit River. McMurray has a mean depth of 29 feet and maximum depth of 52 feet, with a watershed of about 3.25 square miles draining into it. The shoreline is roughly 50% developed on its western and southern shorelines, with a majority of the eastern shoreline undeveloped forestland.

Awareness of the residents of Lake McMurray started up in the mid 1990's, when expanding populations of aquatic weeds began their take over of the littoral regions of the lake. Eurasian water milfoil is presumably thought to have been introduced via the public boat ramp. Skagit County went to work on the project, hiring consultants and county staff to collect all pertinent information towards an effective Integrated Aquatic Vegetation Management Plan (IAVMP) for McMurray. The plan was finalized in 1999 for review and distribution. The IAVMP described Eurasian water milfoil as the number one problem for the lake, noting that the current plant population has caused an excessive deterioration in the quality of the lake and its value to the community.

The first step the community took to aggressively attack the non-native Eurasian water milfoil was to perform a lake wide Sonar treatment in 2000. This noxious weed dominated large areas of the littoral zone prior to the 2000 treatment. The treatment was extremely successful and diver surveys over the next few years confirmed that this weed had been eradicated from the lake.

The Sonar treatment combined with a native plant takeover during the milfoil lifecycle left the littoral region sparse of aquatic life post treatment. During the years following a large scale Sonar treatment,

native aquatic plants start to recover rapidly as they no longer have to compete with the milfoil for space, light, and nutrients. Present day Lake McMurray shows healthy stands of native aquatic species in most regions of the littoral zone.

Aquatechnex, LLC has been under contract with the Lake McMurray after to look for any remaining milfoil plants. There were to be two diver surveys each year hunting for milfoil as well as mapping current stands of aquatic plants around the lake. A provision of the contract granted permission to remove any and all milfoil plants spotted in the surveys. Up until 2005 this task was performed. The summer of 2005 consisted of two surveys one being a full scale aquatic plant mapping survey. This consisted of submersed, emergent, and floating leaf plants. Later that summer a crew went out to visually survey for any milfoil that would have made its way towards the surface, nothing turned up.

Work in 2006 was delayed by the County due to a need to re-issue the contracts for all County LMD projects. The contract and work were approved to start in July and the work authorized to begin was the annual survey of the lake for Eurasian Milfoil and other noxious aquatic weeds. LMD and working with Skagit County on this project since the spring of 2000. The initial contract was to perform the Eurasian milfoil Sonar treatment, following up with extensive surveys every year

2006 Re-Cap

Native plant stands had not changed significantly in 2006. The dominant native submersed weeds in Lake McMurray remained as follows;

- ~ *Elodea Canadensis* – common elodea
- ~ *Potamogeton foliosus* – leafy pondweed
- ~ *Potamogeton nodosus* – longleaf pondweed
- ~ *Filamentous algae*
- ~ *Chara*
- ~ *Najas* – Southern Naiad
- ~ *Ceratophyllum demersum* - Coontail
- ~ *Nuphar polysepalum* – Spatterdock – Native Lily

There may be other species in the lake system. If present, these species are at low enough levels not to be detected by our survey methods. Most of these are likely less dominant and being driven out by the more dominant native species in the lake.

We did not observe areas where the density of these weeds was having a significant impact on water use by the lake's residents. No curly-leaf pondweed was found in 2006. This is one of the most dominant native species that is now considered a nuisance weed and may be controlled at certain levels. It has been in the McMurray system before, but no signs of the plant in 2006.

No control efforts were carried out in 2006. The season prior to saw one treatment targeting the Fragrant Water Lily populations around the lake, and one treatment targeting the Iris choking out the outflow. The 2006 survey crew went over the sites that received treatment. Both treatments were considered to be successful, with significant reductions in plant communities. The outflow continues to be a problem for Lake McMurray and will be discussed in a later section.

2007

The 2007 season started out with a survey that took place on June 13th. The survey consisted of a two man crew that was equipped with a Trimble Pro XT wireless GPS. Data was recorded over top of points taken in 2006 for consistency. Data was also recorded in real-time, enabling the surveyors to check and see that the entire littoral zone had been covered. Survey results turned out similar to that of 2006. Eurasian Water-milfoil was not found in the system. This is the 7th consecutive season without EWM presence. Boater awareness and increased education over the past seven years are two key reasons the invasive plant has not been re-introduced.

A few key items from the 2007 survey;

~ Elodea and Southern Naiad are still the most dominant native species on Lake McMurray. Below are two illustrations of these plants growing in water.



Native Elodea



Southern Naiad

Both species are considered great habitat for fish and other lake life. They are good contributors that may get to be a nuisance at times, but are quite manageable.

Both Fragrant White Water Lily and Iris were evident again in 2007. Iris is sporadic along the entire developed and undeveloped shoreline. The levels are not extreme yet, but should be watched carefully as they will only continue to invade shoreline. Lily problems are primarily at the north end before the fallen timber line. The outflow is fairly covered by both Fragrant water lily and Iris.

Treatment

A glyphosate treatment took place as part of the continuous rehabilitation efforts for the outflow. This treatment took place the first week of September. Glyphosate is broad spectrum when dealing with surface and shoreline weeds and will burn down everything green it touches. It is effective when cleaning out un-desirable areas of excessive growth. Treatment was effective, yet access was limited. This prevented the treatment team from covering the whole outflow region.

The problem that exists now with the outflow is fallen timber that is literally acting as a filter. The high water threat for residents is seemingly due to this natural damn that looks to be forming. This topic was discussed during the LMD meeting, and should be looked at in more detail.

Conclusion

Lake McMurray continues to be one of the more pristine lake systems that Aquatechnex has the pleasure to work on. Milfoil is in its 7th year of extinction on the lake. Native plants are abundant and remaining noxious weeds in the system are in check. When looking to 2008, Aquatechnex feels that the existing program should remain in place. Suggestions are as follows;

- ~ 1st survey (Early June) Native vegetation check, noxious weed mapping, milfoil search.
- ~ LMD Meeting. Review survey and suggest any course of action that may be required.
- ~ Treatment or hand-pulling (If anything comes up during survey 1)
- ~ 2nd survey (Early September) Re-check entire littoral zone for milfoil. Check effectiveness of any courses of action that may have taken place on the lake.

Lake McMurray 2007 Survey

Legend

- American_Pondweed
 - Elodea
 - Large_Leaf_Pondweed
 - Naiad
 - White_Water_Lily
 - Aquatic Plant Coverage
- download.jpg

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3



Aquatechnex Survey

