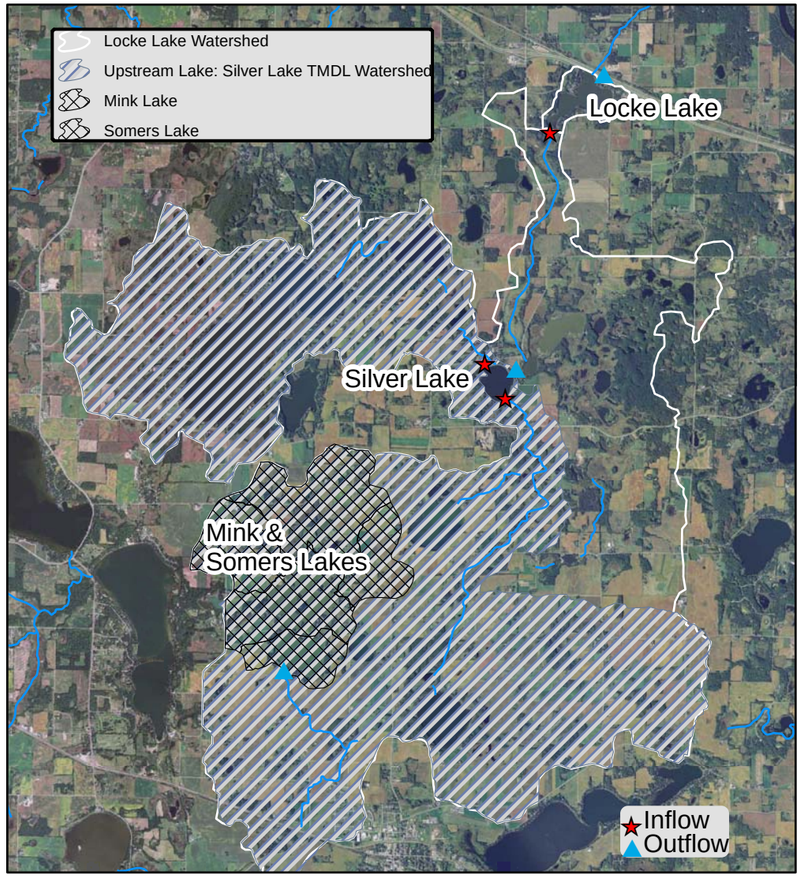
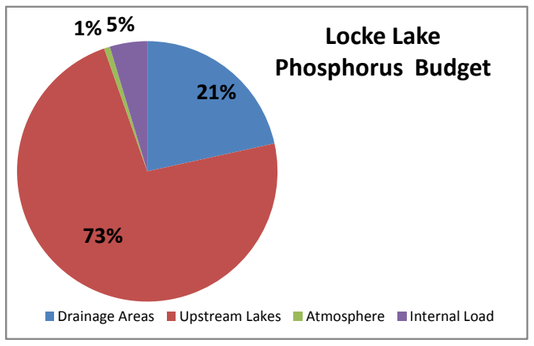
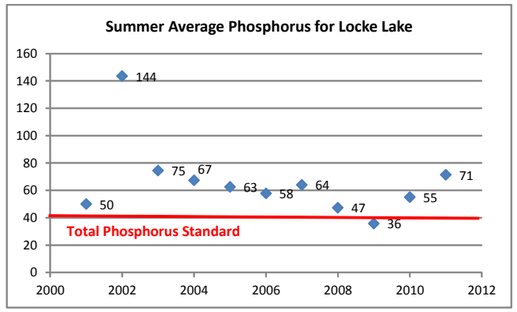
Locke Lake (86-0168)- DRAFT

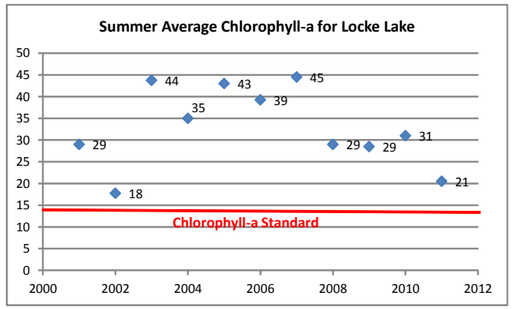
Locke Lake Watershed

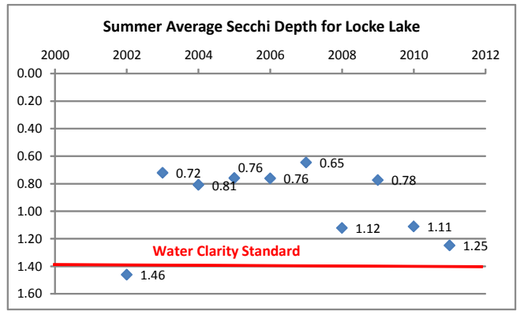




	% Reducion Required
Watershed (excluding Silver Lk)	10%
SSTS	100%
Upstream Lakes (Silver Lake)	58%
Atmosphere	0%
Internal	0%







Project Location within MSC Watershed

Lake Data

Surface Area: 133 Acres
Maximum Depth: 49 feet
Littoral Area: 35 Acres
Contributing
Watershed Area: 24,624 Acres

Classification: Deep Lake

Questions/Comments
can be directed to:

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Summary

- In-lake phosphorus, chlorophyll-a and secchi disk depth have varied through the years, however they have exceeded the State standard for nearly all years monitored.
- Locke Lake health is based off of a limited dataset; thus, local knowledge and input are instrumental.
- Current water quality is not surprising considering Locke Lake's small volume and size relative to the size of the watershed.
- Silver Lake Watershed (see Silver Lake summary) makes up approximately 60% of the watershed; thus, the quality of water in Silver Lake has an influence on Locke Lake.
- Eurasian watermilfoil was confirmed by the MN DNR in 2011.
- 2008 MN DNR aquatic plant surveys note that curlyleaf pondweed was found growing on one quarter of an acre- has this increased??
- 2008 DNR fisheries survey noted that black bullhead were numerous. Carp were also present.- are they a big problem on the lake?
- Internal recycling of nutrients may contribute to reduced water quality; however the upstream drainage area seems to have the largest impact on water quality.

Recommended Activities

- Should Silver Lake meet numerical water quality standards, measurable improvements may be indicated in Locke Lake; consider prioritizing efforts on improvements per Silver Lake recommended activities.
- Restoring or improving wetlands in the watershed may be beneficial for reducing the amount of nutrients which reach Locke Lake.
- Ensure minimal water quality impacts from developments around the lake; for example, no untreated stormwater should be directed into the lake, the amount of impervious surfaces in developed areas should be kept to a minimum, natural buffers of vegetation should be maintained between lawns and the lakeshore.
- Methods to manage exotic aquatic plant species and enhance native plant species should be considered. is there anything being done?
- Monitoring flow and nutrients directly upstream of Locke Lake would provide concrete status on the contributions from the large watershed.
- Continuation of regular in-lake monitoring program would aid in monitoring future monitor trends.