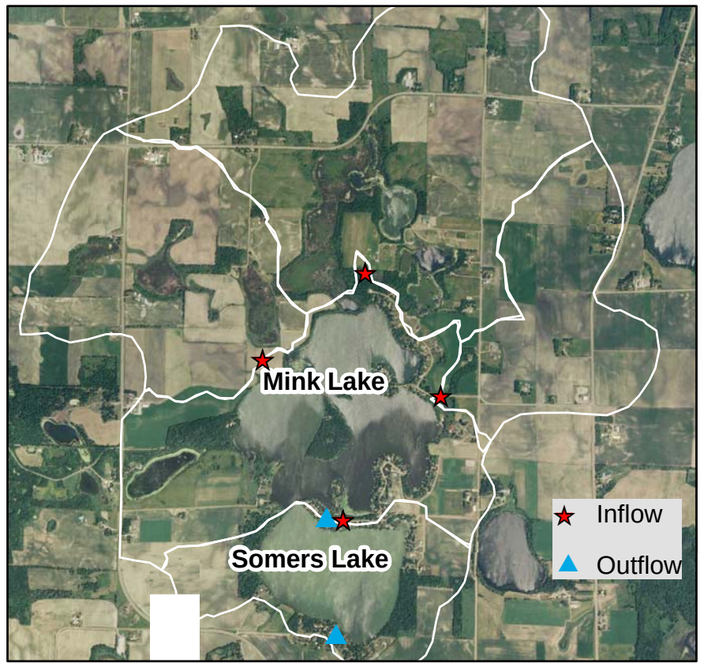
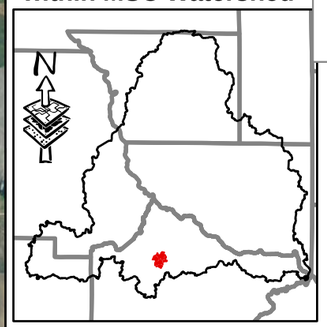
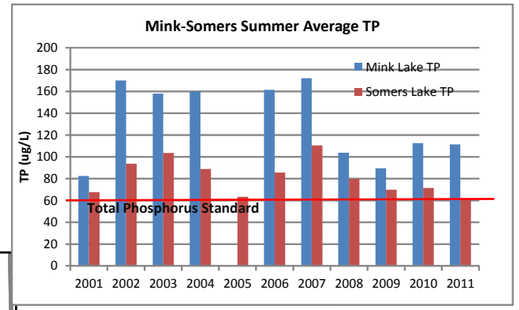
Mink (86-0229) and Somers (86-0230) Lakes- DRAFT

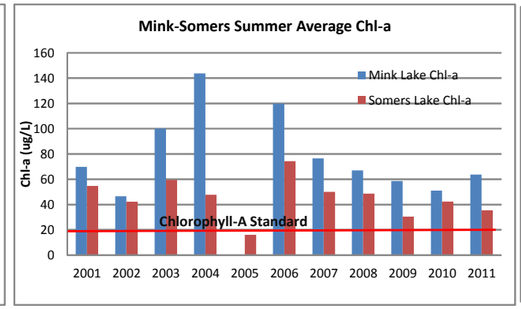
Mink and Somers Lakes Watershed

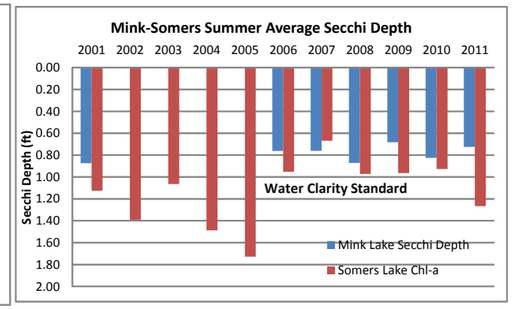


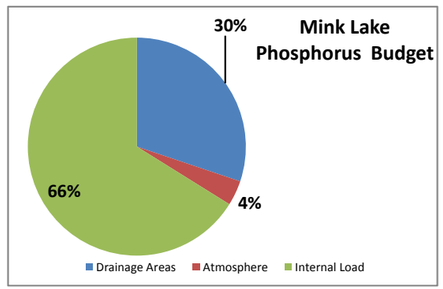
Project Location within MSC Watershed

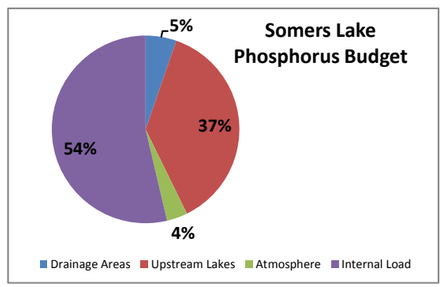












Mink Lake Data

Surface Area: 298 Acres
Maximum Depth: 30 feet
Littoral Area: 255 Acres
Contributing
Watershed Area: 2,320 Acres

Somers Lake Data

Surface Area: 147 Acres
Maximum Depth: 15 feet
Littoral Area: 147 Acres
Contributing
Watershed Area: 208 Acres (d/s Mink Lk)

Classification: Shallow Lakes

Phosphorus Source	% Phosphorus Reduction
Mink Lake Watershed	64%
Somers Lake Watershed	64%
SSTS	100%
Atmosphere	0%
Groundwater	0%
Internal (Mink,Somers)	76, 35%

Questions/Comments can be directed to:

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Summary

- While in-lake total phosphorus exceeded State goals for both lakes, Somers Lake typically has lower concentrations than Mink Lake; the same trend appears with chlorophyll-a and secchi depth.
- Mink and Somers Lakes health is based off of a limited dataset; thus, local knowledge and input are instrumental.
- Based on available data, it appears that Mink Lake acts as a settling basin for Somers Lake.
- While land use runoff is a major contributor, in-lake nutrient goals will not be met if internal nutrients sources are not addressed.
- Aquatic plant surveys conducted in July 2009 indicated a high frequency of curly-leaf pondweed (CLP)in both Mink and Somers; filamentous algae was also frequent.
- Mink and Somers Lakes are classified as separate basins but water levels are equal as they fluctuate as one lake.
- Both lakes were treated with Rotenone (complete fish kill) in 1994. Pre-treatment population estimates showed carp populations ranged from 400-800 lbs /acre. A 2011 fisheries survey noted no reproduction has occurred since that time.
- Based on historical surveys and local information, leaking septic systems have been noted as a potential contributor of nutrients to the lakes.

Recommended Activities

- Shallow lakes like Mink and Somers are more sensitive to changes in the biological community within. Shallow Lakes typically reside in two states: Clear water dominated by rooted plants, or algae dominated turbid waters without much aquatic vegetation. Management strategies for shallow lakes can include: surface drawdowns, shoreline stabilizations, management of rough fish communities, and boating education and guidelines to minimize water quality degradations.**
- The shallowness of the lakes makes them susceptible to increased eutrophication with increases in phosphorus loading; every effort should be made to minimize TP loading to 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.
- Quantification of sediment release rates (internal nutrient recycling) would help in prioritization of cleanup strategies. Methods to reduce said source may include: management of rough fish communities, boating education/guidelines, alum treatments, or other innovative reduction strategies. Internal treatment should be considered after watershed sources have been exhausted.
- Steps should be taken to educate lakeshore property owners and systems out of compliance with County/state codes should be brought into compliance.- has anything been done since 1994 survey?
- Restoring or improving wetlands in the watershed may also be beneficial for reducing the amount of nutrients or sediments which reach Mink and Somers Lake.
- Continued in-lake monitoring is recommended and will track trends/progress over time.

**Local resource professionals have indicated that having a healthy biological community is more applicable than a numerical water quality goal.