

Otty "State of the Lake" Watershed Report

Executive Summary

In 2004 the Otty Lake Association (OLA) and its members began the process of developing a lake management plan (LMP). A LMP is a long-term action plan that is developed and applied by the lake community to protect the special character of Otty Lake.

The first step in the process was to recruit volunteers from the lake community to form the Otty Lake Management Planning Committee (OLMPC). One of their many tasks was to develop and distribute a survey to identify what the lake community valued about the lake. Once the issues and concerns of property owners and lake users were identified, OLMPC volunteers set to work collecting information and learning about the issues.

Decision makers and property owners need to know the current condition of the watershed before recommendations to protect the lake can be developed. The Otty "State of the Watershed" Report provides a summary of what is currently known about the Otty Lake Watershed and how that information relates to the issues that are important to people on the lake. This information will be used to make recommendations about land use policy and stewardship action to ensure the long-term health of Otty Lake.

The Otty Lake Watershed (all of the land that drains into Otty Lake):

- Is one of 14 subwatersheds of the larger Tay River watershed
- Includes 7 small lakes in addition to Otty Lake, and many wetlands
- Contains generally poor agricultural land and is covered primarily in forest

Otty Lake has:

- A rocky shoreline with thin soil cover and steep slopes
- An average depth of 9 m (30 ft) and maximum depth of 27 m (90 ft)
- 5 streams flowing into the lake: 3 seasonal, 2 year-round
- 1 slow outflow (Jebbs Creek): the annual inflow of water is $15.69 \times 10^6 \text{ m}^3$ ($55.41 \times 10^7 \text{ ft}^3$) therefore it takes 3 to 4.5 years for all the water in the lake to be flushed out and replaced with new water

Surface Water Quality

- Measures of total phosphorus, organic nitrogen and ammonia were found to be higher than at some other area lakes and indicate good growing conditions for aquatic plants and algae.
- Some water samples were found with high bacterial contamination, although repeated sampling suggests that most bacterial problems are not persistent.

Aquatic Vegetation

- Thick patches of invasive plants grow in the shallow areas and bays of the lake.

Lake Management Planning Program

- There have been problems in the past with algae blooms (i.e. 2002).
- Little is known about how aquatic plant growth has changed over time.
- Because of high nutrient levels, future algae blooms may occur.

Groundwater Quality and Quantity

- There is an adequate supply of clean groundwater. The water is generally hard meaning it has a high mineral content
- There has been an increased demand on groundwater resources as more cottages are converted to permanent homes with dishwashers, laundry facilities, full bathrooms, etc.
- Because of the thin soil cover, the groundwater supply is naturally more susceptible to contamination from activities on the surface

Water Levels

- The flow of water out of Otty Lake is naturally slow.
- The lake level fluctuates naturally depending on precipitation and air temperature although obstruction to water outflow and excessive water usage can also affect lake levels.
- There are 3-4 active beaver colonies currently building or maintaining dams along Jebbs Creek every year which can temporarily obstruct the flow of water from the lake.
- The beaver population in the lake and along Jebbs Creek is thought to have decreased over the years as the availability of suitable trees for food and dam construction has declined.

Development Pressure

- Including Burgesswood and Maple Glen subdivisions, there were 547 shoreline and near shoreline dwellings on Otty Lake in 2005, half of which are permanent homes.
- There are approximately 47 vacant waterfront lots remaining on Otty Lake
- The conversion of cottages into permanent homes, large homes on small waterfront lots and suburban development threaten the character of the lake.
- Otty Lake is minutes away from the towns of Perth and Smiths Falls and a 1 hour drive from the cities of Ottawa and Kingston

Fish and Wildlife Health

- There has been little recent scientific data collected about the condition of fish and wildlife in the watershed.
- The lake appears to support a healthy warm water fish community
- Jebbs Creek sustains a warm water fish community and provides important nursery habitat for fish from Otty Lake and the Tay River.

Lake Management Planning Program

- Threats to fish and wildlife include the loss of habitat through development and re-development, the removal of natural shoreline vegetation, decreased water quality, as well as over-harvesting and poaching

Mining Rights and Claims

- There are currently no active claims within the Otty Lake watershed.
- The mineral rights of approximately 25 % of the properties reside with the crown.
- All surface-rights-only land is at risk of future staking, exploration and mining.

Shoreline Protection and Health

- More than 50% of properties on Otty Lake have greater than 50% ornamental shorelines (natural vegetation has been removed from more than 50% of the shoreline)
- Properties with altered shorelines on Otty Lake are up to twice as likely to have problems with erosion.

Impacts of Boating

- Zebra mussels have been established in the lake since at least 2003 but other invasive species such as the spiny water flea may not yet have been introduced.
- It is estimated that the majority of the boating traffic on the lake is motorized.
- Impacts of boating include the spread of invasive species, erosion from boat wake, noise and safety concerns, as well as water and air pollution.

Responsibility of Landowners in Protecting Lake Health

- Many people are not aware that their activities are harming the lake. However, it is the cumulative impact of human activities around the lake that can cause a deterioration in the quality of the water, a reduction in the fish and wildlife and a decline in the overall quality of life in the watershed.

Partnerships in Lake Management

- Various groups and organizations have contributed to the understanding and protection of Otty Lake
- Otty Lake property owners desire a constructive and participatory relationship with all government and non-government groups and organizations in planning for the future of the Otty Lake watershed.

