

The following is an extract from the White Lake – State of the lake 2016 document. It was suggested to the WLHCA by the MOECC as an example of a lake being proactive and following best practices in evaluating the development capacity of that lake. The extracted section adds detail of lake capacity assessment to the MOECC Lakeshore Capacity Handbook.

Source: White Lake – State of the Lake 2016

## 12. Lake Capacities

Setting limits to growth is an appropriate planning strategy used to ensure that development does not exceed the capacity of such matters as municipal infrastructure (sewer and water) in urban areas or ensuring development does not infringe upon other important sensitive resources (e.g., water quality, wetlands) or social values (boating, fishing) in rural areas.

The Provincial Policy Statement (PPS) is the statement of the Ontario government's policies on land use planning. It provides clear policy direction on land use planning to promote strong communities, a strong economy, and a clean and healthy environment. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters such as new lot creation or resort commercial development. The PPS is issued under Section 3 of the *Planning Act* and all decisions affecting land use planning matters "shall be consistent with" the Provincial Policy Statement.

The PPS provides the following direction regarding the establishment of lake capacities:

*2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by:*

- a) using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;*
- b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;*
- g) ensuring consideration of environmental lake capacity, where applicable;*

White Lake is located within the jurisdiction of two Counties and four local municipalities. The Township of Lanark Highlands and Town of Mississippi Mills are in Lanark County, and the Township of Greater Madawaska and Township of McNab/Braeside are in Renfrew County. All four municipalities have an official plan and zoning by-law, with the exception being that the Township of Greater Madawaska refers to the County of Renfrew Official Plan. All four municipalities have jurisdiction over portions of White Lake, however, there does not appear to be a consistent approach to establishing the environmental lake capacity of the lake.

Many municipalities in Ontario have put in place a variety of approaches to managing shoreline development on inland lakes. The approach depends primarily upon the natural resources at stake, the local conditions, and the desire of the municipal administration, property owners and the public to take action.

## 12.1. History of Lake Management Approaches

Many management and capacity approaches originate from initial work prepared by 3 provincial ministries in the 1970s and 80s, including the Ministry of Natural Resources and Forestry (MNR), Ministry of the Environment and Climate Change (MOECC) and the Ministry of Municipal Affairs and Housing (MMAH).

In the 1970s, the Ministry of Natural Resources (now MNR) established guidelines to assist them in determining which Crown land lakes could be developed through the Cottage Lot Disposition program. A Lake Planning Guideline was prepared in 1976 to help guide MNR staff through a process of assessing which Crown land lakes would be appropriate for cottage lot development. The guideline was also used to determine appropriate densities and locations for cottage lots that would protect natural resources including water quality, fisheries, and environmentally sensitive areas from impacts caused by shoreline development, boating and an overall increase in use.

In preparation for the Lake Planning Guideline (1976), MNR engaged the consulting firm Hough, Stansbury and Associates to prepare a comprehensive evaluation process called LakeAlert 2 (1972) to help them determine which Crown land lakes could support cottage lot development. LakeAlert 2 recommended the use of formulas to determine development capacities based on a number of factors including boating limits and angling

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opportunities. The 1976 MNR Lake Planning Guideline provided a method to determine boating limits and angling capacities, and in 1985, the MNR prepared an Integrated Resource Management Plan for White Lake which applied both of these boating and angling models.

In the 1980s the Ministry of Environment undertook the development of a lake assessment program. Working with the Ministry of Municipal Affairs and Ministry of Natural Resources and Forestry, they developed several draft methods to assess the impact of shoreline development on inland lakes. The program initially involved four components: wildlife, fisheries, land use, and water quality, but only the water quality program has remained to this day and is now known as the Lakeshore Capacity Assessment Handbook (MOECC, 2010). The Lakeshore Capacity Assessment model is designed to protect water quality in lakes on Ontario's Precambrian shield and is based on phosphorus inputs.

In the 1990s the MNR boat limit formula and the initial work prepared for the LakeAlert Program was improved upon by Michalski and Usher to prepare an approach to identify boating issues and set capacities based on 'observed' activity and not just a theoretical calculation. This approach has been applied on inland lakes that require boating or lake capacity studies to be completed. It has also been applied on portions of the Trent River and Rideau River for the Canadian Parks Service. The boating model provides an approach based on 'observed' boating activity to establish development limits based on useable surface areas of lakes in order to achieve safe and pleasurable opportunities for recreational boating.

The focus of all these programs has been to manage recreational growth in recognition of the important economic link of tourism to water quality and lake based recreational experiences. Today, the lake planning process provides an opportunity for all lake stakeholders - provincial and municipal agencies, residential and commercial property owners, recreationalists and other lake users - to work together and consider options to protect the lake's water quality, natural resources and character.

## 12.2. Lake Capacity Approaches

The following provides a brief summary of 6 lake capacity approaches that have been used to set limits to development on lakes. The Physical Environment Assessment provides an estimate of the potential new residential lots that could be created on White Lake based on the remaining private shoreline that is unconstrained by wetlands. Both the Water Quality Lakeshore Assessment and the Social Density Assessment were conducted to support a recent commercial development application. The Recreational Carrying Capacity Assessment provides an example of an approach applied by several municipalities to establish socially based capacity related to the useable area of a waterbody for recreational purposes to the maximum number of dwelling units on a water body. The Boating and Angling Assessments were conducted on White Lake in the 1970s as part of MNRF's lake management activities, however, MNRF no longer applies or supports their use:

1. Physical Environment Assessment
2. Water Quality (Trophic Status) - Lakeshore Assessment
3. Social Density
  
4. Recreational Carrying Capacity
5. Boating
6. Angling