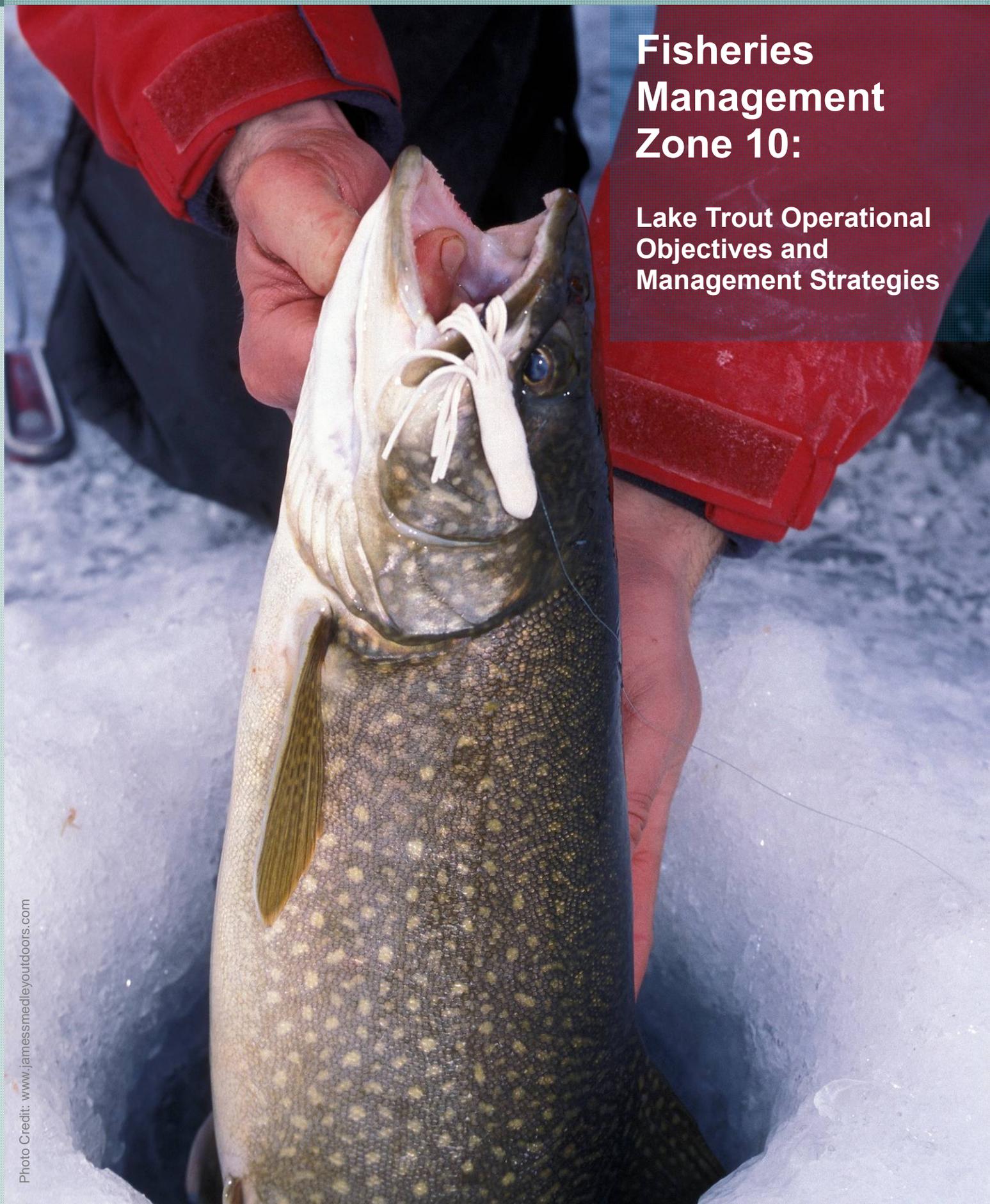


*Natural. Valued. Protected.*

## **Fisheries Management Zone 10:**

**Lake Trout Operational  
Objectives and  
Management Strategies**



Lake trout are the second most frequent sport fish species by lake area on record in Fisheries Management Zone 10 (FMZ 10), and are a popular sport fish in this zone.

According to the report *Status of Lake Trout Populations in Northeastern Ontario (2000-2005)* (further referenced as *NER Lake Trout Report by Selinger et al. 2006*), only 32% of lake trout lakes were found to have a high abundance of lake trout, and of these, only 17% were fished at a sustainable level (figure 1) (see *Fact Sheet: Lake Trout in Fisheries Management Zone 10* for more information).

Given this information, MNR and the FMZ 10 Advisory Council decided to make management of lake trout its first focus. In order to protect this valuable resource, the MNR FMZ 10 Project Team, working in cooperation with the FMZ 10 Advisory Council, developed a series of operational objectives to guide the development of strategies with the intent of protecting lake trout while continuing to provide fishing opportunities.

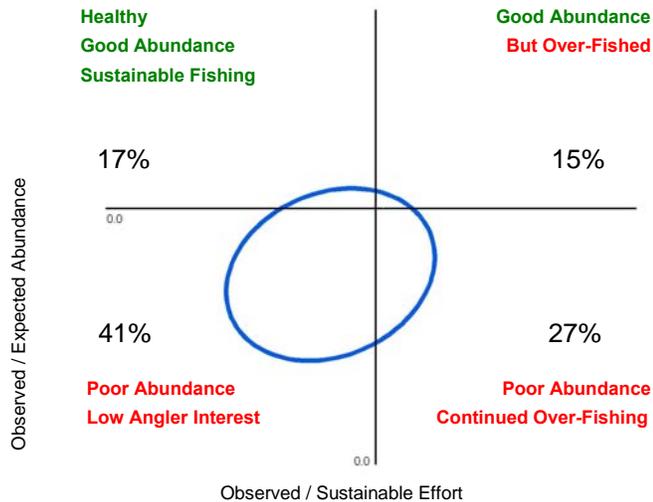


Figure 1. Graph showing the current state of lake trout lakes in FMZ 10.

FISHERIES MANAGEMENT ZONE 10

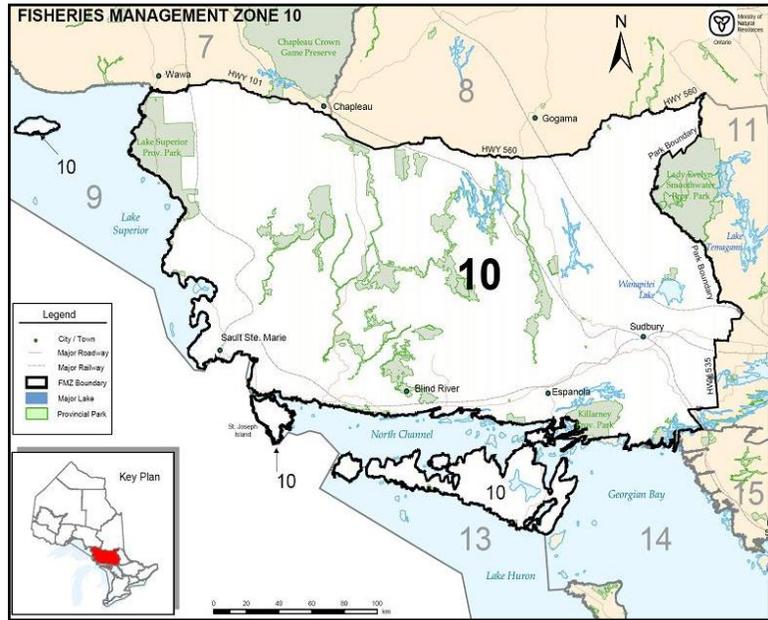


Figure 2. Map showing FMZ 10 boundaries.

FMZ 10 lies north of Lake Huron and Georgian Bay. Its eastern border extends northwards from the mouth of the French River to Elk Lake and the western border follows the east shore of Lake Superior from Sault Ste. Marie north to Wawa. FMZ 10 includes the 'Specially Designated Waters' of the French River and Manitoulin Island.

The landscape is characterized by the Ontario shield's shallow soils, ancient bedrock and boreal forests. This zone also has the most lake trout and brook trout lakes of all the northeast zones. Numerous streams flow into Lakes Superior and Huron and the inland lakes are generally small, deep and clear.

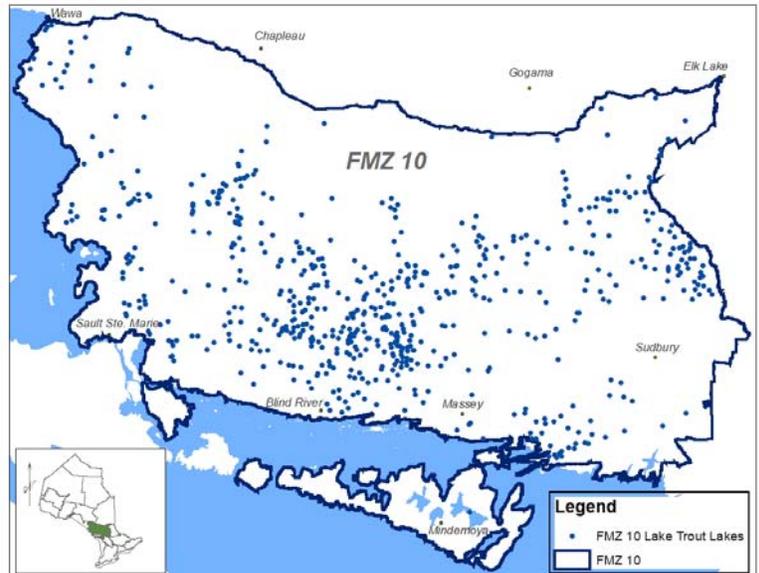


Figure 3. Map of lake trout distribution in FMZ 10





**Objective 1: Increase the number of self-sustaining lake trout lakes in FMZ 10 above abundance benchmarks to 50% (from 32%) within 20 years.**

Based on the NER Lake Trout Report, only 32% of lakes sampled meet the abundance benchmark in FMZ 10, and nearly half of these lakes are presently subject to unsustainable levels of fishing pressure. Given the percentage of lakes just below the abundance benchmark and slower reproductive recovery of lake trout, it is considered likely that, with management changes, a minimum of 50% of the lake trout lakes could be above the abundance benchmark, within a 20 year time frame.

**Strategies**

In order to achieve this objective, lake trout harvest needs to be reduced. Harvest strategies available for use are documented in the *Regulatory Guidelines for Managing the Lake Trout Recreational Fishery in Ontario* (lake trout tool kit).

As recommended in the lake trout tool kit and the *NER Lake Trout Report*, the harvest regulation for FMZ 10 should decrease to a limit of 2 lake trout. This report also states that a catch and possession limit of 2 lake trout is not sufficient to address sustainability concerns. Recovery of acid stressed waters (Objective #4) will increase overall sustainable angling effort by providing new opportunities and may displace pressure on existing lakes.

1. Reduce harvest by decreasing possession limit, applying size limit, and altering seasons.

*Fisheries regulations implemented as of January 1, 2010 will help to achieve this objective.*

*The regulations for lake trout are:*

*Catch & Possession: S-2, C-1, one fish over 40cm*

*Open Season: January 1 to Labour Day*

2. Plan for new roads and trails in a manner that does not significantly improve access to self-sustaining lake trout lakes. As a minimum, primary and secondary roads should not be constructed within 1000m of policy lake trout lakes. Policy lakes with existing access should be evaluated to determine potential for increased risk associated with new roads or trails.

*This strategy will be referred to MNR's Northeast Leadership team to determine the best way to limit new access to natural lake trout lakes, in the Northeast region including FMZ 10.*

3. Promote to anglers the proper way to handle and release fish.

*The development of educational products explaining the proper way to handle and release fish is ongoing. Catch, photo and release workshops and educational material are being released in FMZ 10 in 2010.*

4. Maintain current or similar seasons for put-grow-take fisheries to deflect fishing effort from vulnerable naturally reproducing lakes.

*For Fisheries Management Zone 10, the objective for put-grow-take fisheries will be to divert angling pressure away from naturally reproducing waters. For this reason MNR districts will be encouraged to have seasons for put-grow-take fisheries consistent with the zone wide seasons for naturally reproducing lakes of the same species.*

**Objective 2: Minimize the introduction and spread of aquatic invasive species; including both exotic and native species.**

**Strategies**

This objective speaks to limiting both the spread of native species (bass: rock, smallmouth and largemouth) and exotic species including gobies, spiny water flea, etc. into new lakes.

The *NER Lake Trout Report* states that lake trout abundance was found to be significantly lower where smallmouth and rock bass were present and there were disproportionately more healthy lakes where smallmouth bass were absent. Competing species are often introduced deliberately by well meaning, misinformed people wanting to improve the fishery or by careless use of bait.

1. Undertake public education programs to educate anglers as to the consequences of fish introductions through careless use of bait and unauthorized fish transfers.

*The MNR has undertaken an Invasive Species program in partnership with the Ontario Federation of Anglers and Hunters, whose goal is to identify lakes which currently contain invasive species, and educate the public regarding the spread of aquatic invasive species. Educational materials produced to date include signs at boat launches and public service announcements played on the radio.*

2. Increase enforcement priority on the illegal transfer of live fish or live spawn.

*The spread of aquatic invasive species has been a provincial enforcement priority for the past several years. Conservation Officers across the province are practicing protective measures to ensure minimal release of aquatic invaders on a District level.*

*Some activities planned to date have been bait bucket inspections, live well inspections, and outreach programs such as educating anglers about transferring live bait and fish between waters. Further work is planned in this area, including the implementation of more restrictive license conditions for the sale of bait fish, and the addition of several training courses for Conservation Officers to improve their effectiveness in preventing the spread of aquatic invaders.*

3. The spread of invasive species can be linked to road access. New roads should be planned in a manner that does not significantly improve access to self-sustaining lake trout lakes. As a minimum, primary and secondary roads should not be constructed within 1000m of policy lake trout lakes. Policy lakes with existing access should be evaluated to determine potential for increased risk associated with new roads or trails.

*This road strategy will be referred to MNR's*

*Northeast Leadership team to determine the best way to limit new access to natural lake trout lakes, in the Northeast region including FMZ 10.*

4. With the bait industry, implement Hazard Analysis and Critical Control Point (HACCP) training for all bait dealers and harvesters.

*This practice is currently ongoing in most MNR*



*District Offices in FMZ 10.*

**Objective 3: Increase the proportion of mature (older than 10 years) female lake trout to 25% (from current 19%) in 20 years.**

Based on the *NER Lake Trout Report*, the proportion of female lake trout beyond age 10 is currently 19%. This value is considered to be low given a life span for the species of 50+ years and a review of reference data from unexploited populations.

Within a 20 year timeframe, it is considered likely that a target of 25% can be attained. This objective indicates a desire to increase the proportion of mature fish and enhance reproductive potential of *NER lake trout* populations in FMZ 10.

**Strategies**



A

shortened late summer season in FMZ 10 would reduce selective harvest of mature females and improve reproductive potential. There is unpublished literature which suggests that larger females are much more vulnerable to angling than males late in the summer season.

This happens because females must feed much more aggressively than males at this time of year given energy requirements associated with egg production. In light of this, season restrictions can be put in place to protect females at this critical time.

1. Reduce harvest of mature females by implementing size and season restrictions consistent with mature female life history.

*Fisheries regulations implemented as of January 1, 2010 will help to achieve this objective.*

*The regulations for lake trout are:  
Catch & Possession: S-2, C-1, one fish over 40cm  
Open Season: January 1 to Labour Day*

**Objective 4: Increase the number of self-sustaining lake trout populations by 20 lakes in 20 years.**

Given recent improvements in water chemistry within acid damaged waters, experience in recovery actions, and fish community dynamics it is considered reasonable to achieve self-sustaining lake trout populations in 20 more lakes through active fisheries restoration efforts.

**Strategies**

34 of the lakes where native lake trout populations were extirpated as a result of acidification are presently suitable for lake trout and restoration is

underway. An additional 31 lakes require further water quality improvement.

1. Continue with rehabilitative stocking on acid damaged lakes where water quality permits.

*Rehabilitative stocking of acid damaged lakes continues across FMZ 10. Water quality of acid damaged lakes currently unsuitable for restoration efforts will continue to be monitored for signs of recovery and suitability for reintroductions.*

2. Monitor the success of restoration efforts on individual lakes and modify if necessary.

*Monitoring of lake trout lakes with previous rehabilitative stocking continues on a District level.*

**Objective 5: Maintain/enhance water quantity/quality, sediment quality, and water levels of lake trout lakes within natural ranges suitable for lake trout.**

**Strategies**

This objective will be achieved through MNR's existing planning process.

1. Address lake trout habitat requirements through resource management planning and plan input and review.

*This work occurs through planning efforts, such as Forest Management Planning, and through policies, such as the Lakeshore Capacity Policy, and the Crown Land Disposition Policy.*

2. Potential effects of draw downs on lake trout should be given continued consideration through water management planning exercises.

*This work occurs through the implementation and enforcement of the Water Management Planning Process.*

**Objective 6: Protect the extent and function of critical lake trout habitat and restore degraded habitats that support fish populations and fisheries.**

**Strategies**

This objective will be largely achieved through MNR's existing land use planning process. It will

FMZ 10: Lake Trout Operational Objectives and Management Strategies

also provide direction to local groups when determining potential restoration projects.

1. Engage local districts Community Fish and Wildlife Involvement Program (CFWIP) partners and stewardship groups.

*CFWIP funds continue to be available to partners interested in conducting recovery work. Also, the continued expansion of the Ontario Stewardship Program into the north has stimulated more communities to initiate stewardship activities across OMNR districts enclosed within FMZ 10. Efforts to engage local communities and organizations to participate in stewardship activities are ongoing.*

2. Resource management planning and plan input and review.

*This work occurs through land use planning efforts, such as Forest Management Planning, and through policies, such as the Lakeshore Capacity Policy, the Crown Land Disposition Policy, and Department of*



*Fisheries and Oceans fish habitat regulations.*

**Objective 7: Consider anticipated impacts of climate change on other operational objectives and associated management decisions.**

As surface waters warm and longer stratification periods produce anoxia in deeper waters, usable habitat for lake trout will contract. This in turn will result in reductions in sustainable harvest levels and sustainable angling pressure. Populations in marginal lakes may be lost entirely regardless of exploitation effects.

**Strategies**

1. Strategies identified for objectives 1 through 6 will help mitigate the effects of climate change to some extent.
2. Identify those waters at greatest risk in order to quantify potential impacts to the resource base and guide future management decisions.

Options to evaluate risk include:

Identifying lakes with a maximum depth of 12 m and less; Identifying super clear lakes; Identifying lakes that meet the above criteria that have competing warm water species and alternative deep water forage species.

*MNR has identified the lakes at greatest risk, and will consider the sensitivities of these lakes during future management planning.*

**Objective 8: Enhance the quality of lake trout angling in FMZ 10; including increasing the number and size of angled fish.**

**Strategies**

1. By meeting objectives 1 through 7, a higher quality of lake trout angling within FMZ 10 should

With input from the FMZ 10 Advisory Council, the MNR has prepared the *FMZ 10: Lake Trout Operational and Management Strategies* to guide landscape management within FMZ 10.

MNR sought public input of the objectives and strategies in March and April of 2009. The result was that the majority of the public approved of the objectives and strategies and the fisheries regulations which will help to achieve these objectives.

The data collected during the broad scale fisheries monitoring program will allow for evaluation of fish population status and changes over time; distribution, extent and diversity of aquatic ecosystems; and connections between stressors and aquatic resources. This data will also support future State of the Resources Reporting.

The *FMZ 10: Lake Trout Operational Objectives and Strategies* will be reviewed by the MNR and Advisory Council in 10 years time or unless there are compelling management reasons to initiate a review prior to the designated review period.