Fisheries Management Zone 6
Fisheries Management Plan

Amendment #2 – Administrative Update:

Rainbow Trout
Walleye
Miscellaneous Exceptions

Plan Proposal for Consultation

May 2025

Note: This amendment replaces goal statements, specific objectives, and management actions in the 2009 Fisheries Management Zone 6 Fisheries Management Plan.

Ontario

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Résumé en français (French Language Summary)

En 2009, le ministère des Ressources naturelles (MRN) a élaboré un plan de gestion des pêches pour la zone de gestion des pêches (ZGP) 6. Le plan comprend 11 objectifs et 22 mesures, y compris quatre modifications aux règlements de la pêche sportive. Suivant un examen du plan de gestion des pêches de 2009 pour la ZGP 6 en novembre 2018, le Conseil consultatif a décidé que la nouvelle approche en matière de planification comportera une série de modifications, et que toutes les dispositions du plan de 2009 resteront en vigueur jusqu'à ce qu'elles soient remplacées par une modification approuvée.

Par conséquent, le MRN et le Conseil consultatif de la ZGP 6 ont collaboré dans le but de rédiger la modification n^{o} 1 – Touladi (REO n^{o} 019-1604), qui a créé deux nouveaux objectifs écologiques et socioéconomiques pour le touladi, et intégré des changements réglementaires à la saison à l'échelle de la zone.

Modification n^{o} 2 – La mise à jour administrative est axée sur trois grands sujets : i) le touladi, ii) le doré jaune et iii) un examen de diverses exceptions réglementaires.

I. Truite arc-en-ciel

La planification de la gestion de la truite arc-en-ciel dans la ZGP 6, notamment les populations naturalisées dans les affluents du lac Supérieur, les possibilités de pêche supplémentaire découlant de l'empoissonnement intérieur et l'examen des exceptions réglementaires actuelles, sera retardée jusqu'à ce que l'on puisse recueillir et analyser des données de surveillance plus robustes à l'échelle du paysage sur le statut des populations dans toute la ZGP en vue de soutenir les décisions en matière de planification de la gestion des pêches.

II. Doré jaune

Règlements dans l'ensemble de la zone

Le Conseil consultatif de la ZGP 6 a convenu qu'aucun assouplissement des règlements actuels sur le doré jaune dans l'ensemble de la zone ne devrait être envisagé compte tenu de l'état écologique et de la santé générale des pêcheries dans l'ensemble de la ZGP. L'objectif concernant le doré jaune (2023-1) a toutefois été mis à jour afin de se concentrer sur le statut global du doré jaune dans la ZGP 6 pour assurer l'harmonie avec notre approche actuelle de gestion des pêches qui cible le paysage et est décrite dans la Politique stratégique provinciale relative à la pêche pour l'Ontario.

Objectif 2023-1 : Conserver le statut des populations de doré jaune dans toute la ZGP 6.

Lac Cushing – exception de plan d'eau

L'exception de plan d'eau actuelle visant le lac Cushing ne comprend pas les eaux de communication avec le lac des Mille Lacs. Le MRN propose une révision de la formulation de l'exception réglementaire afin de s'assurer qu'elle est applicable.

Rivière Little Savanne – exception de plan d'eau

L'exception de plan d'eau actuelle visant la rivière Little Savanne consiste en une limite de taille dans toute son étendue, qui est interrompue par plusieurs lacs, où l'exception ne s'applique pas. De même, la portée de la limite de taille ne correspond pas à la formulation du sanctuaire saisonnier. Le MRN propose de réviser l'étendue de la rivière à laquelle l'exception de limite de taille s'applique afin qu'elle corresponde à celle du sanctuaire saisonnier, ainsi qu'à la référence dans le sanctuaire saisonnier à l'emprise de la voie ferrée du CP et à l'emprise de la voie ferrée du CN.

Autres eaux reliées au lac des Mille Lacs

Les employés provinciaux d'application de la loi ont rencontré des difficultés ayant trait à plusieurs lacs reliés au lac des Mille Lacs et auxquels les pêcheurs sportifs ont accès par bateau. Le MRN propose d'appliquer la limite de taille minimale aux eaux reliées suivantes : lac Panache (49.911° N, 90.443° O), lac Pike (48.893° N, 90.510° O) et lac Casino (48.933847, -90.715816).
Rivière Savanne et rivière Little Savanne – sanctuaire saisonnier/exception de plan d'eau
Le MRN propose d'étendre la superficie du sanctuaire saisonnier afin d'inclure le cours inférieur de la rivière Little Savanne et l'intégralité de la rivière Savanne :

Étendre le sanctuaire saisonnier du lac Savanne au confluent de la rivière Savanne et du lac des Mille Lacs.

III. Diverses exceptions réglementaires

Dans le cadre du processus de planification de la gestion des pêches en Ontario, diverses exceptions (c.-à-d. des exceptions visant des espèces ne faisant pas l'objet d'objectifs dans l'ensemble de la zone) sont examinées périodiquement pour assurer l'harmonie avec les objectifs de gestion des pêches à l'échelle de la zone, et l'application.

Lac Whitefish – exception visant la perchaude

En tant qu'ancien plan d'eau de désignation spéciale, le lac Whitefish a fait l'objet d'une surveillance intense. De l'information, tant indépendante que dépendante des pêches, a été recueillie dans le cadre d'enquêtes par interrogation des pêcheurs et de divers programmes de prises au filet. Les données de 1995 à 2015 donnent à penser que l'abondance, les efforts de pêche récréative, les prises et les récoltes de perchaude ont diminué de manière significative. Le Conseil consultatif a convenu que l'exception visant la perchaude dans le lac Whitefish devrait revenir aux limites établies pour l'ensemble de la zone.
Rivière Arrow – exception visant la truite brune

Suivant l'introduction de la truite brune dans la rivière Arrow, des exceptions réglementaires sont en place pour répondre à cette initiative d'empoissonnement et à cette occasion de pêche

unique. La rivière Arrow assure maintenant la subsistance d'une population de truites brunes autonome, mais la référence actuelle aux cantons géographiques dans le Règlement de pêche de l'Ontario (2007) présente des défis aux pêcheurs sportifs et au personnel d'application de la loi. Après avoir obtenu l'approbation du Conseil consultatif de la ZGP 6, il est recommandé de modifier l'exception comme suit :

Rivière Arrow – entre le barrage sur le lac Arrow Lake (canton de Hardwick) et le côté amont du pont de la route 593 (ON-593) – seules les mouches artificielles peuvent être utilisées.
Rivière Arrow – entre le côté amont du pont de la route 593 (ON-593) et son confluent avec la rivière Pigeon dans le canton de Devon – seuls les appâts artificiels peuvent être utilisés.
Parc provincial Sleeping Giant – poisson d'appât

Le plan de gestion du parc national Sleeping Giant précise que le poisson d'appât est interdit dans les eaux du parc, exception faite du lac Supérieur, et que toutes les activités de pêche seront soumises aux politiques et aux règles et règlements de la pêche de l'Ontario. La restriction concernant l'appât ne figure toutefois pas dans les règlements de la pêche de l'Ontario, et n'est donc pas indiquée dans le Résumé des règlements de la pêche de l'Ontario annuel.
Avec l'appui du Conseil consultatif de la ZGP 6, le MRN propose de rédiger une nouvelle modification des règlements de la pêche de l'Ontario pour le parc provincial Sleeping Giant.

Table of Contents

List of Figures

List of Tables

Introduction

In 2005, the Ministry of Natural Resources (MNR) adopted *A New Ecological Framework for Recreational Fisheries Management in Ontario* (EFFM; MNR 2005), which was intended to ensure resource sustainability and optimize angling opportunities in the province. Among the initiatives derived from EFFM were the realignment of Ontario Fishing Divisions into twenty Fisheries Management Zones (FMZ), the creation of stakeholder Advisory Councils for most of the FMZs, and the development of fisheries management plans for the FMZs that would guide the adaptive management of fish populations and fisheries at a landscape scale for several years.

Fisheries Management Zone 6 (FMZ 6; Figure 1) was selected as one of three pilot FMZs across the province, chosen with the intent of developing and testing the new Advisory Council and Management Planning model. The FMZ 6 Advisory Council was struck in late 2007; a fisheries management plan for FMZ 6 was approved in August 2009 (MNR 2009). The plan comprised eleven objectives and 22 actions, including four changes to recreational fishing regulations in FMZ 6.

In 2015, MNR adopted the Provincial Fish Strategy (PFS; MNRF 2015), which is intended to improve the conservation and management of fisheries and the ecosystems upon which fish communities depend, while at the same time to promote, facilitate and encourage fishing as an activity that contributes to the nutritional needs and the social, cultural, and economic well-being of individuals and communities in Ontario. All fisheries management activities in Ontario are now expected to be consistent with the direction of the Provincial Fish Strategy.

The 2009 FMZ 6 Fisheries Management Plan indicated that a formal review of the plan would be conducted after five years (i.e., 2014); however, the scope and nature of that review was not detailed at the time, and the target date for the review was not met. Subsequently, guidance documents were developed to standardize the form and content of fisheries management plans and background reports, and to outline the process associated with a plan review (now referred to as a *plan examination*). An FMZ plan examination is an MNR internal process intended to:

- Assess the effectiveness at meeting plan objectives.
- Assess the plan's alignment with the Provincial Fish Strategy goals and objectives, and the level of adherence with the current FMZ planning guidelines.
- Summarize fisheries monitoring data and analyses conducted since the completion of the FMZ fisheries management plan.

A plan examination may highlight areas of the plan that require further review and revision and, if required, recommend initiating a formal planning process to re-write or amend the current fisheries management plan. The plan examination process is not intended to recommend regulatory or non-regulatory management actions, but rather will contribute to the issues identification phase of future planning initiatives.

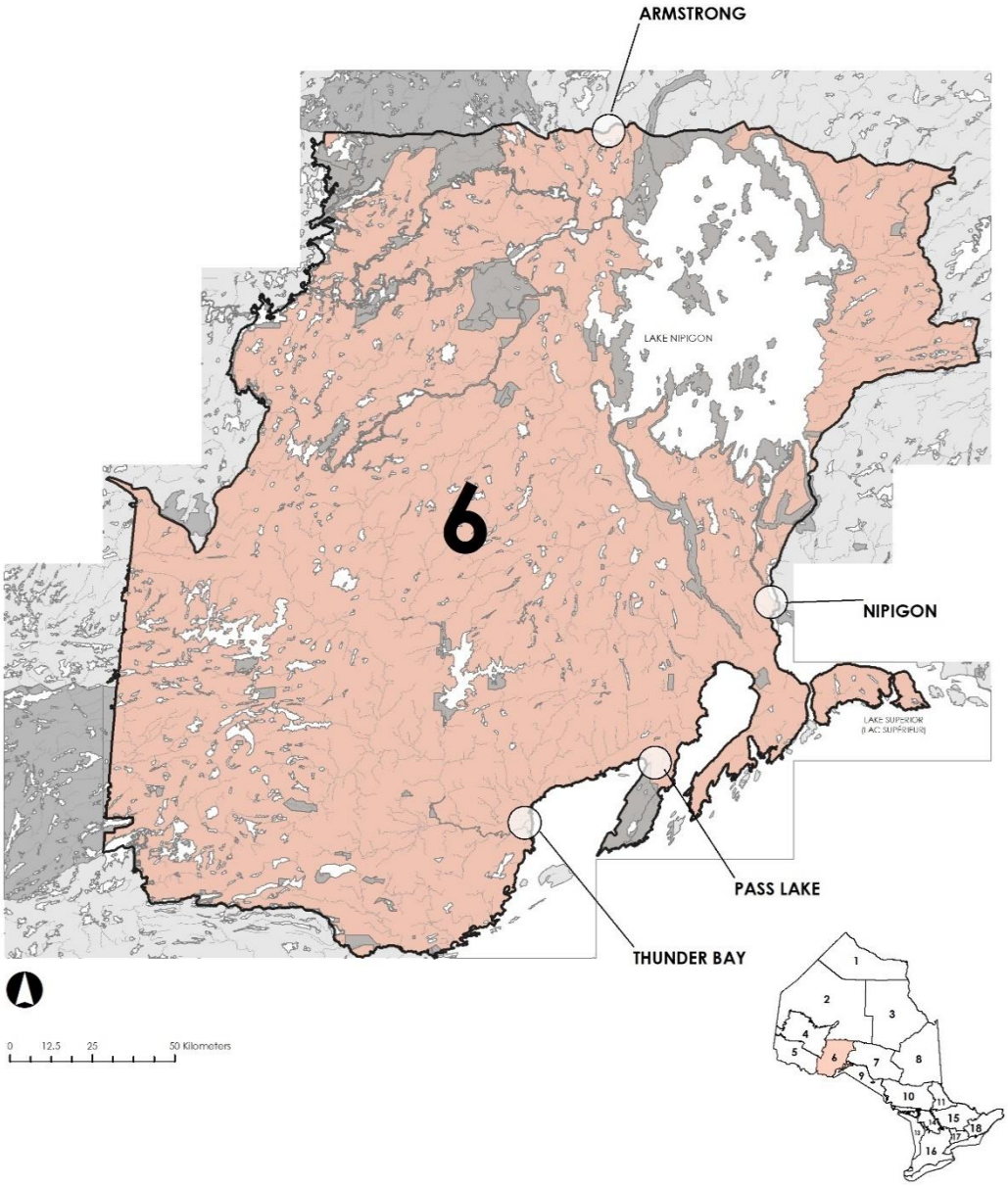

Figure 1: Fisheries Management Zone 6 administrative boundary.

In November 2018, MNR staff held a meeting with the FMZ 6 Advisory Council to introduce the concept of a plan examination and expressed the Ministry's intention to initiate a review of the 2009 FMZ 6 Fisheries Management Plan. Subsequently, MNR developed a preliminary framework for the FMZ 6 Plan Examination, and the initial findings were presented to the Advisory Council in April 2019, with a specific focus on seeking council input regarding emerging fisheries issues and opportunities. The FMZ 6 Plan Examination Final Report was finalized in September 2019 (MNRF 2019).

The FMZ 6 Advisory Council decided that the new planning approach will involve a series of amendments to the 2009 FMZ 6 Fisheries Management Plan, and that all provisions of the 2009 plan will remain in effect until they are replaced by an amendment. As a result of this decision in the planning process, MNR and the Advisory Council collaborated on the development of FMZ 6 Amendment #1 – Lake Trout (MNRF 2021). In addition, Amendment #2 incorporates a summary of discussions and recommendations between MNR and the Advisory Council since the completion of Amendment #1, focusing on three main topics:

- Rainbow trout (*Oncorhynchus mykiss*)
- Walleye (*Stizostedion vitreum*)
- Review of miscellaneous regulatory exceptions

1.0 Rainbow Trout

Rainbow trout, a Pacific salmonid species native to the west coast of North America, the Aleutian Islands, and Russia's Kamchatka Peninsula, holds the distinction as being one of the most widely introduced fish globally, now inhabiting every continent except Antarctica. Its introduction is extensive across North America, spanning from the Atlantic coast to the Great Lakes.

The species made its initial appearance in Lake Superior's American waters near Sault Ste. Marie, Michigan, in 1883, followed by stocking efforts by the State of Minnesota at the lake's western end starting in 1885. By 1900, sightings had occurred in Canadian tributaries, prompting fisheries managers to consider initiating a stocking program in Canada due to the species' early popularity among recreational anglers. However, formal stocking in Canadian tributaries of Lake Superior did not commence until 1922, when 14,550 fingerlings were introduced at Sault Ste. Marie, Ontario. Small-scale stocking in the eastern tributaries of Lake Superior occurred annually between 1936 and 1945, before the program was discontinued. Note, according to the Lake Superior Strategic Fisheries Plan, 1986-2000 (MNR 1987), rainbow trout were stocked in McVicar Creek (Thunder Bay, Ontario) in 1912, and stocking occurred in numerous other rivers along the north shore of Lake Superior between 1923 and 1934. However, annual reports from the Department of Fisheries and Oceans (DFO) and the Ontario Game and Fish Commission (OGFC) during this period do not mention these stocking events.

Great Lakes rainbow trout are not a pure strain. They originate from a long history of stocking both wild and domestic strains in both Canada and the United States. There is also the possibility that there was some early hybridization with cutthroat trout (*Oncorhynchus clarkii*), a species known to interbreed with rainbows in the wild. Cutthroats were planted in a number of New York and Michigan tributaries in the late nineteenth century (Ranta 2004).

Modern stocking records for rainbow trout begin in 1975 (USFWS and GLFC 2014). Since that time, stocking of rainbow trout in Lake Superior tributaries has occurred almost exclusively in American waters, the only exception being a total of 43,755 fry stocked in the Michipicoten River over three years in the mid-1980s (*ibid.*). Although rainbow trout stocking programs continue to be maintained by the States of Michigan and Minnesota, in Canadian waters of Lake Superior they are entirely self-sustaining. Since their introduction at Sault Ste. Marie over 140 years ago, rainbow trout have gradually expanded their range across the north shore and have become naturalized in at least fifty-eight tributaries on the Canadian side of the lake (George 1994; Bobrowicz 2009), though anecdotal evidence suggests their distribution is more ubiquitous than that (K. Rogers, MNR, pers. comm.).

In the Great Lakes basin, naturalized rainbow trout are found in two distinct ecological forms: a small, non-migratory form that carries out its entire life history within a single tributary and a larger, migratory form (hereinafter "steelhead"). Additionally, MNR stocks rainbow trout into fourteen small inland lakes within FMZ 6 (Table 1) to provide Put-Grow-Take (PGT) angling opportunities. These stocked populations are presumed to be non-reproducing and to have no

access to other waterbodies, consistent with the *Guidelines for Stocking Fish in Inland Waters of Ontario* (MNR 2002).

Table 1. Rainbow trout stocking list for Fisheries Management Zone 6 from 2019-2023 (adapted from MNRF 2023).

Waterbody	Latitude	Longitude	2019	2020	2021	2022	2023	2024
Amanda Lake	49.483	-89.568	1000		1560		3000	
Badger Lake	49.497	-89.527	1000		1560		3000	1500
Danielle Lake*	49.488	-89.578			500	2107	2900	2000
D'Arcy Lake	48.599	-88.660						2000
Dayle Lake	49.413	-89.696	999		2000		3000	
Dennis Lake*	49.482	-89.599			500	1000	1000	1000
Hades Lake	48.736	-88.815						1000
Jinx Lake A*	48.229	-89.892	500	500	500			
Pothole Lake*	48.230	-89.896	200	200	200	500	500	500
Sandybeach Lake	48.778	-88.769			1000	2000	1700	1645
Strange Lake 81E*	48.228	-89.905	500	500	500	1000	1000	1000
Uncle Al's Lake*	48.442	-89.834						500
Ursus Lake*	48.593	-89.020			500	1500		
Wednesday Lake*	48.737	-89.097						400

** Denotes unofficial name*

Steelhead have a life history unique among salmonids in the Great Lakes, both native and non-native. Most steelhead spawning occurs in mid-spring, while some tributaries support a secondary spawning run in the fall. They typically display natal site fidelity, returning to the same tributary in which they were born; however, some inter-stream migration may occur, accounting for the relatively rapid spread of steelhead across the north shore of Lake Superior in the late nineteenth and early twentieth centuries. Eggs are laid in a bed of fine gravel, usually in a riffle above a pool. Juvenile trout remain in their natal streams for one to three years before smoltifying, at which time they migrate downstream to Lake Superior. In the lake, the smolts grow rapidly, and take on a characteristic silver hue. After one to two years, the smolts reach sexual maturity, and will spawn annually after that point. Typical life expectancy of steelhead in the Great Lakes is six to eight years (MIDNR 2014).

Although rainbow trout are non-native species, their value as a game fish and table fare has made them one of the most widely sought recreational fish species in the Great Lakes. The sensitivity of steelhead to overharvest in Great Lakes tributaries has been apparent to fisheries managers almost since their arrival in Canadian waters; as early as 1909, fisheries inspectors were calling for closed seasons to protect spawning steelhead in eastern Lake Superior tributaries (OGFC 1910). Province-wide fishing seasons for rainbow trout, along with bag limits, were introduced in the 1920s (OGFC 1927). However, in the 1950s and 1960s, the Ontario Department of Lands and Forests adopted a policy of greater access to Great Lakes fish stocks and progressively loosening

fishing regulations (Bocking 1997), which included removal of closed seasons for rainbow trout in the Great Lakes and liberal bag limits.

There was little in the way of targeted management of rainbow trout in Lake Superior prior to 1988. Although they provided locally and seasonally important recreational fisheries, they were largely viewed by fisheries managers as an exotic species which provided angling opportunities when native species (lake trout, brook trout and walleye) were declining. As a result of the *Strategic Plan for Ontario Fisheries* (SPOF; MNR 1976), the Ministry of Natural Resources developed a *Lake Superior Strategic Fisheries Plan 1986-2000* (MNR 1987), which largely focussed on rehabilitation of lake trout, and combined most other species as either "sport fish" or "commercial fish". The 1987 plan notes the angler perception that rainbow trout stocks had declined, but gave no specific direction toward addressing that issue.

Following the release of the 1987 plan, rainbow trout anglers voiced growing concerns over the perceived declines in rainbow trout numbers and mean size. Stakeholders also identified the need for a lake-wide, coordinated rainbow trout management plan and coordinated regulations amongst five fishing divisions. This led to the establishment of a long-standing partnership between MNR and the North Shore Steelhead Association (NSSA) to monitor the status of rainbow trout in north shore tributaries (Bobrowicz 2009; NSSA 2014), the completion of a *Rainbow Trout Management Plan for the Canadian Waters of Lake Superior* (Bobrowicz 2009a), along with reductions in the catch and possession limit for rainbow trout in Lake Superior and its tributaries, implemented in 2000. There is still a year-round open season for rainbow trout in the Canadian waters of Lake Superior and its tributaries.

Prior to 2008, MNR approached the management of naturalized rainbow trout (steelhead) in Lake Superior tributaries as coincident with that of the management of the rainbow trout within Lake Superior proper. When the current, FMZ-based fisheries management program was established in 2008, this approach changed. Currently, the FMZ 6 Advisory Council and the MNR's Regional Operations Division (ROD) are responsible for management planning and regulation of the tributaries, while the FMZ 9 Advisory Council and MNR's Upper Great Lake Management Unit have responsibility for Lake Superior proper. The 2009 FMZ 6 Fisheries Management Plan (MNR 2009) incorrectly ascribes responsibility for naturalized rainbow trout in Lake Superior tributaries to FMZ 9. Rainbow have not previously been addressed by any FMZ 6 planning process.

1.1 Rainbow Trout Monitoring

MNR has not conducted any contemporary monitoring of naturalized, river-resident rainbow trout populations, nor of stocked rainbow trout lakes within Fisheries Management Zone 6.

Monitoring of select tributaries to Lake Superior has its origins in a 1989-1993 partnership between MNR and NSSA. The Cooperative Angler Sampling Program, which was originally implemented to help evaluate the health of rainbow trout stocks in tributaries was re-established by MNR and NSSA in 1998 and has been implemented to various degrees every spring since that time. Volunteer interest and participation has been focussed primarily on western tributaries

(i.e., west of Marathon), though a limited number of samples have been collected from eastern tributaries, as well as a handful of samples from Old Woman Bay in the lake proper. Although samples have been contributed from over forty north shore tributaries, most of these have been in small numbers; only a handful of tributaries routinely generate sufficient sample sizes for appropriate analysis. These include the Cypress, Jackpine, McIntyre, Neebing, and Wolf Rivers, including Portage and Coldwater Creeks (Figure 2).

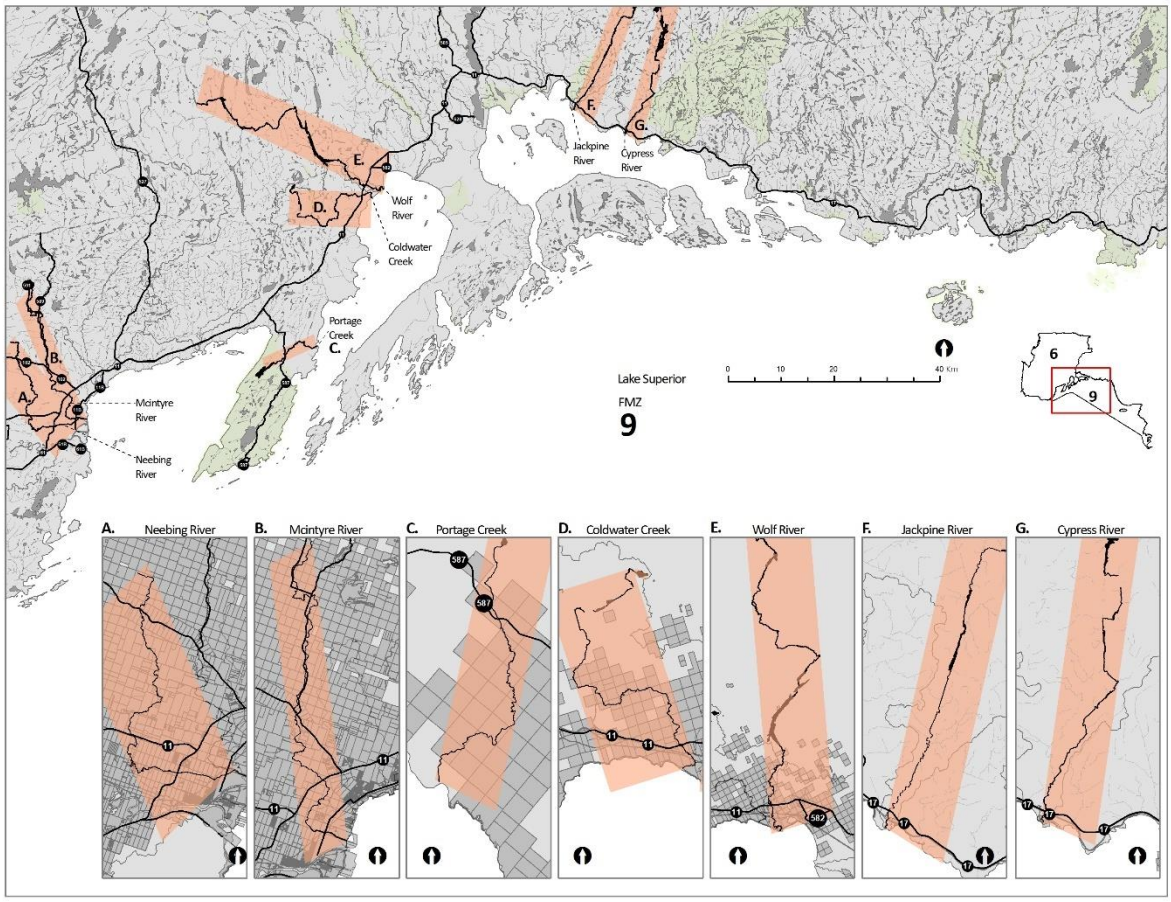

Figure 2: Map of north shore tributaries routinely monitored by the NSSA.

The cooperative angler sampling program has been helpful in generating data pertaining to the range of age-classes and ratio of maiden to repeat spawners in a population that were identified as target indicators in the management plan. Summary reports for each year of the program are found in McIntosh (2005), MNR (2005a, 2006, 2007), and Bobrowicz (2009b, 2010). Since 2010, NSSA has produced the annual summary reports (NSSA 2023).

The original protocol associated with the cooperative angler sampling program was an enhanced angler diary approach, which included the collection of aging structures (scales), with effort

potentially directed at any Ontario tributary to Lake Superior. Over time, the focus of the program has shifted to a mark-recapture population estimate protocol on a small number of tributaries: initially Portage Creek (a tributary to Black Bay), later expanding to the McIntyre and Neebing Rivers and McVicar Creek (tributaries to Thunder Bay). Portage Creek is encompassed by private lands with no public access; the only fishing effort on this tributary comes from participants in the mark-recapture project. The McIntyre and Neebing Rivers and McVicar Creek are all popular steelhead fishing sites within the limits of the City of Thunder Bay. However, since 1999, the McIntyre and Neebing Rivers have been subject to a minimum size limit exception (69 cm) that effectively makes these two tributaries catch-and-release only fisheries. The *Rainbow Trout Management Plan for the Canadian Waters of Lake Superior* (Bobrowicz 2009a) specifies that this exception was implemented on an experimental basis; however, the exception has not been formally reviewed through a fisheries management planning exercise over the past 26 years.

1.2 Issues Identification

1.2.1 Status of the Portage Creek Rainbow Trout Population

The NSSA brought concerns regarding the status of the rainbow trout population in Black Bay, Lake Superior, to both the FMZ 6 and FMZ 9 Advisory Councils. Their concerns were based on mark-recapture data collected from Portage Creek (George 2023). According to data collected by NSSA, the Portage Creek population exhibited steady growth from 1991 to 2004, followed by a significant decline thereafter (see Figure 3). This decline coincided with the ongoing recovery of walleye and yellow perch populations in Black Bay (MNRF 2023a). Since Portage Creek lacks public access and thus does not support a recreational fishery, it is reasonable to infer factors other than recreational harvest, such as changes in the fish community in Black Bay, may be contributing to the apparent decline in the rainbow trout population of Portage Creek.

Based on their findings, NSSA recommended extending the McIntyre River and Neebing River size limit exception to all tributaries of Black Bay in their presentation to the FMZ 6 and FMZ 9 Advisory Councils.

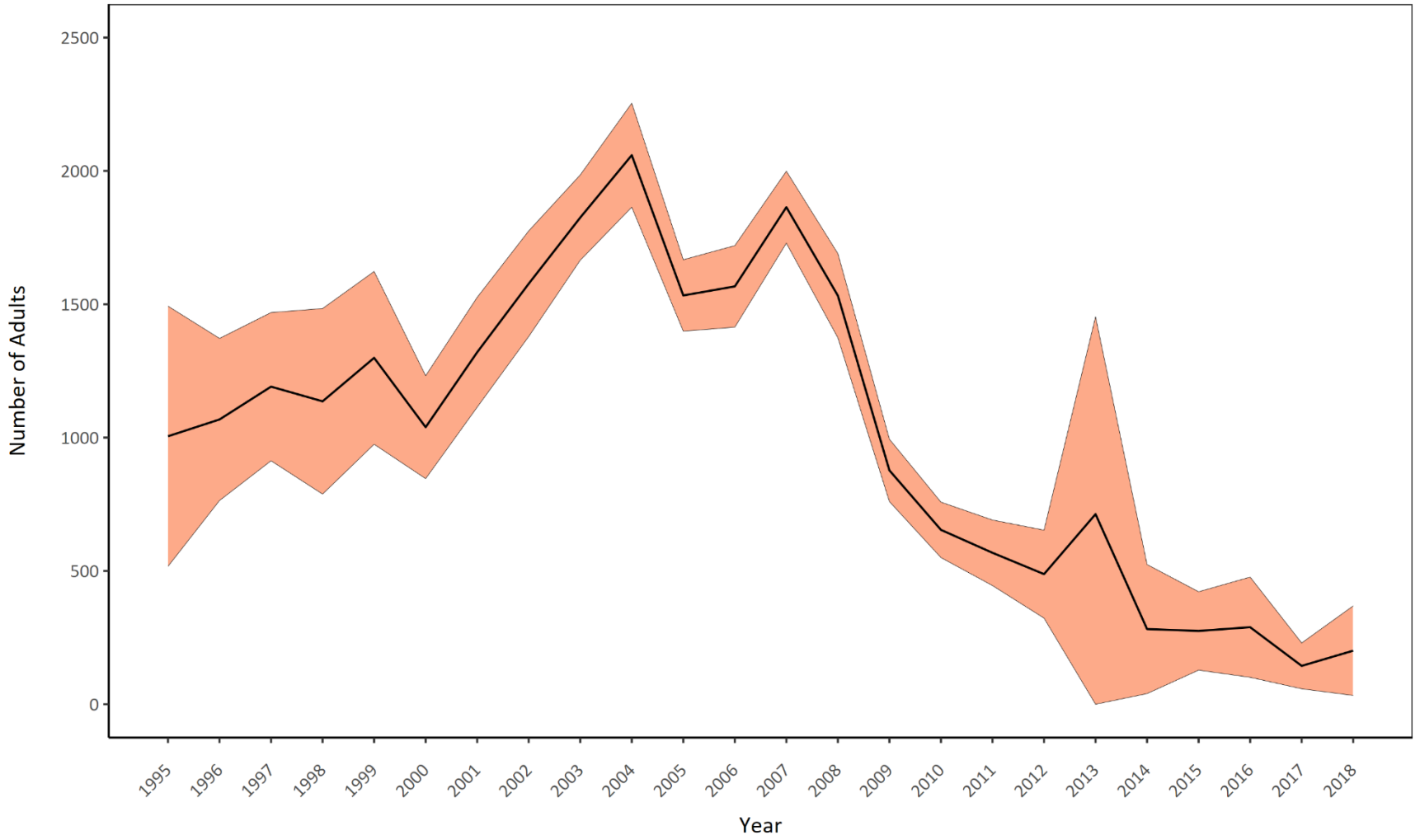

Figure 3: Trends in adult rainbow trout populations from 1995 to 2018 in Portage Creek. The solid (black) line depicts the estimated population size, while the shaded (pale orange) ribbon represents the upper and lower confidence limits (Adapted from George; 2023)

1.2.2 Deficiency in Landscape-scale Data for Rainbow Trout

The Ministry's Provincial Fish Strategy (2015) advocates for a landscape-level approach as the primary management scale for most recreational fisheries in Ontario. Following the establishment of current provincial planning processes and standards (i.e., establishment of FMZs, formation of Advisory Councils, and development of Fisheries Management Plans), MNR has shifted away from creating isolated exceptions based solely on individual or stakeholder recommendations. In the absence of approved management objectives for rainbow trout in the 2009 FMZ 6 Fisheries Management Plan (MNR 2009), addressing current concerns about Portage Creek raised by the NSSA prompts the need for comprehensive management planning for rainbow trout throughout the zone. This process would also involve a thorough review of the current regulatory exceptions on both the McIntyre River and Neebing River, based on clearly defined objectives.

Unfortunately, both fisheries-independent and fisheries-dependant data availability for all tributaries to Lake Superior within FMZ 6 is limited. Among the tributaries with available information, Portage Creek lacks public access, rendering it effectively unfished. The existing exception on the McIntyre and Neebing Rivers was designed to minimize the harvest of rainbow trout. The only long-term data source for tributaries under the current zone-wide regulation is McVicar Creek. However, given its location within the city limits of Thunder Bay, Ontario, these data may not accurately represent the rural tributaries, which constitute many naturalized rainbow trout waters in FMZ 6.

1.3 Management Action

In 2023, the FMZ 9 Advisory Council initiated a planning effort for Black Bay waters to establish management (Black Bay Fisheries Management Plan) guidelines for rainbow trout in Lake Superior. However, the management of tributaries to Black Bay remains under the MNR's Regional Operations Division, with support from the FMZ 6 Advisory Council.

Management planning for rainbow trout in FMZ 6, including naturalized populations in Lake Superior tributaries, additional fishing opportunities from inland lake stocking, and the review of current regulatory exceptions, will be delayed until more robust landscape-level monitoring data to support the status of naturalized populations throughout the FMZ can be collected and analyzed.

2. Walleye

Walleye are the most sought-after species among recreational anglers in both Ontario and across Canada (DFO 2012). In Ontario, they stand as the second most valuable commercial fish species, following yellow perch, and are the most valuable freshwater commercial species in Canada (DFO 2014). In FMZ 6 alone, walleye is confirmed to inhabit at least 351 waterbodies (MNRF 2023b), with 59 of these being stocked by the Ministry between 1920 and 2005 (Appendix A). However, it is important to note that this stocking history does not necessarily imply introduced populations, as supplementary walleye stocking was a common practice in Ontario throughout much of the 20th century (Kerr et al. 1996).

The 2009 FMZ 6 Fisheries Management Plan (MNR 2009) was developed prior to the availability of monitoring data collected by the provincial Broad-scale Monitoring Program. While Advisory Council members generally agreed that recreational anglers were content with the walleye fishing quality in the FMZ, initial discussions broached the possibility of revising possession and/or size limits. Ultimately, the Advisory Council opted to postpone any significant changes to recreational walleye regulations due to the absence of adequate monitoring data at the landscape scale, deferring discussions on walleye management to future planning sessions.

2.1 Walleye Monitoring

Fisheries independent (i.e., index netting) and fisheries dependant (i.e., creel surveys) information has been collected by MNR for decades. Between 1999 and 2017, MNR's fisheries-independent data came from Fall Walleye Index Netting (FWIN; Morgan 2002), a common assessment tool for monitoring walleye populations. Since 2008, MNR has carried out the Broadscale Monitoring Program (BsM), which follows a provincially standardized protocol (Sandstrom et al. 2013).

Fisheries-dependent data were historically collected through roving creel surveys conducted during the open water and winter angling seasons on select waterbodies. Creel surveys involve conducting recreational angler counts and interviews, to provide estimates of catch, effort (i.e., angler- or rod- hours), and harvest (Malvestuto et al. 1978; Lester and Korver 1996). Fisheries-independent data are supplemented with information from the Survey of Recreational Fishing in Canada (MNRF 2020). There is currently no plan to continue lake-level roving (or access) creels to support planning throughout the zone.

To date, the BsM Program has completed three Cycles of monitoring throughout FMZ 6: Cycle 1 (2008 – 2012), Cycle 2 (2013 – 2017), and Cycle 3 (2018 – 2024), with Cycle 4 scheduled to being in 2025. For more details on the provincial monitoring program, please visit < https://www.ontario.ca/page/broad-scale-monitoring-program>.

2.1.2 Fisheries-Independent Monitoring Assessment

Walleye that are captured during index netting surveys or sampled from angler catches from creel surveys are measured for a variety of biological attributes that provide information on population status including length, weight, sex, and age.

These measures are used to describe several important characteristics of a walleye population, including relative abundance (i.e., catch per unit effort), age structure, growth, biomass, and mortality. A minimum size is often used in the calculation and reporting of common fisheries metrics, often referred to as recruit-sized fish (Gutowsky et al. 2019; Giacomini et al. 2020). Unless stated otherwise, the bulk of this administrative update will report on walleye greater than or equal to 350 mm total length to represent the portion of fisheries that are fully recruited to the fishery (vulnerable to netting gear and other fishing, i.e., angling). Reporting on recruit- or harvestable-sized fish (≥ 350 mm total length) is considered an acceptable threshold as this is the average size that recreational anglers begin to target and harvest walleye, and avoids bias related to gear selectivity (Walker et al. 2013; Giacomini et al. 2020).

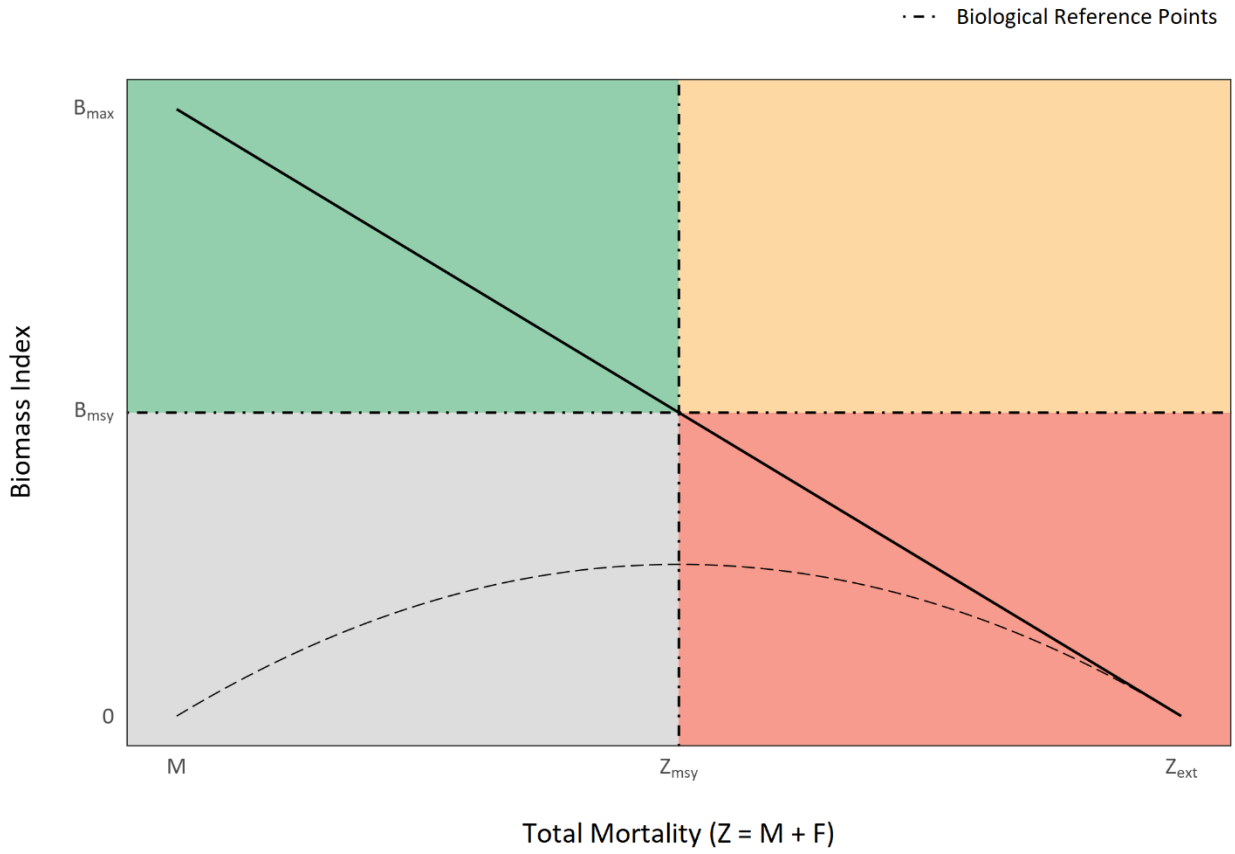

Figure 4: Graphical representation of the diagnostic quad plot. The quad plot is the primary indicator of walleye stock status at the landscape level for fisheries management in Ontario. The horizontal and vertical dash-dotted lines represent the biomass (B_{msy}) and mortality (Z_{msy}) benchmarks/biological reference points at maximum sustainable yield. Superimposed on the quad plot is a conceptual model of sustainable fishing (Graham 1935): the dashed lined represents a sustainable yield curve, and the solid line represents how abundance (biomass) declines as total mortality increases. Adapted from Lester et al. 2003; MNRF 2015; Lester et al. 2021.

2.2 Walleye Issues Identification

While developing the 2009 FMZ 6 Fisheries Management Plan, the Advisory Council reported that recreational anglers were satisfied with the walleye fishery in the zone. Consequently, the council decided to delay any proposed changes to walleye possession or size limits due to the lack of comprehensive monitoring data. Supported by provincial monitoring results (i.e., BsM Cycle 1-3; Section 2.3.2), the Advisory Council's opinion on the status of walleye in FMZ 6 remains unchanged. The objectives of the fisheries management plan are being met, and there was no desire from the Advisory Council to consider relaxing the current regulations.

The Advisory Council acknowledged that, although there is currently no evidence to support it, future issues could arise due to variability in ice-off dates, making walleye more vulnerable to harvest in early spring, potentially impacting their sustainability. Such climate-change issues may be revisited in future planning cycles.

2.3 Goals and Objectives

The Provincial Fish Strategy (MNRF 2015) directs the Ministry of Natural Resources and Forestry to develop and implement fisheries management plans with measurable objectives tailed to Fisheries Management Zones. These objectives, in the context of fisheries management planning, are precise, quantifiable statements outlining intermediate tasks. They guide fisheries managers in achieving organizational goals by defining the "what" and "how" of desired outcomes (Barber and Taylor 1990). Importantly, FMZ fisheries management objectives must align with the goals and objectives of the Provincial Fish Strategy. Furthermore, they should be accompanied by performance measures to evaluate the plan's progress and effectiveness.

2.3.1 FMZ 6 Fisheries Management Goals

The 2009 fisheries management goals for FMZ 6 were updated to incorporate language from the Provincial Fish Strategy, as part of Fisheries Management Zone 6 Amendment #1 (MNRF 2021):

Goal #1: Healthy ecosystems that support self-sustaining native fish communities.

FMZ 6 supports a variety of recreational, commercial, First Nations, and Métis fisheries, all dependant on healthy aquatic ecosystems and high-quality fish habitats. The objective of FMZ 6 Goal #1 is to protect and rehabilitate or restore native fish communities and their supporting ecosystems and habitats, and to avoid introductions of new species. Some aquatic ecosystems within FMZ 6 have undergone irreversible changes, with introduced species now naturalized, offering significant economic, social, and often ecological benefits. Like native species, naturalized species and their supporting ecosystems and habitats should be protected and restored in accordance with established fisheries management goals and objectives.

Goal #2: Sustainable fisheries that provide benefits for Ontarians.

A well-managed fishery, supported by high-quality fish habitat and a healthy aquatic ecosystem, is a renewable resource that replenishes itself annually and provides outdoor activity, wholesome food, employment and income, and social and cultural benefits for present and future generations. The economic benefits of FMZ 6's recreational, commercial, and First Nations and Métis fisheries are valued at more than $90 million (MNRF 2015a) and are of particular importance to the local economies of northern Ontario. For First Nations and Métis communities, fishing for food, social and ceremonial purposes is a part of their traditional way of life and often provides an essential component to their nutritional intake. First Nations and Métis peoples are also involved in commercial fishing, and in an array of other activities related to fisheries.

The social and cultural benefits of recreational fishing are more difficult to define. In addition to the opportunity to catch fresh, healthy food, fishing provides a variety of nonmaterial benefits such as spiritual enrichment, relaxation, anxiety and stress relief, aesthetic experience, exercise, healthy lifestyles, and activities that build social cohesion and connections. Fishing is an activity that initiates, builds, and strengthens intergenerational relationships, where values and skills are passed on and generations share healthy outdoor activity together.

2.3.2 Walleye Objective

The 2009 FMZ 6 Fisheries Management Plan (MNR 2009) set the zone-wide objective to "*maintain the current walleye abundance"*. The FMZ 6 Plan Examination (MNRF 2019) found that BsM data indicated the zone was on track to meet this objective. However, it recommended updating the objective's wording to avoid relying on individual indicator metrics. This acknowledges that the interpretation of fisheries-independent data evolves, and that the tools for analyzing species trends and status may change over the course of a fisheries management plan.

The preliminary assessment of three cycles of BsM walleye data (MNRF 2019) aligns with the final assessment in this report. At a landscape scale, FMZ 6 walleye populations are among the healthiest in the province (see Figure 5 & 6) in terms of relative abundance and status in comparison to biological reference points.

Members of the FMZ 6 Advisory Council discussed the status of the walleye resource in FMZ 6 during their review of the 2009 FMZ 6 Fisheries Management Plan Examination (MNRF 2019) and while developing new walleye objectives as part of the current planning exercise (March – September 2023). They agreed with the status of the fisheries from BsM data and noted that walleye fishing quality had not declined since the 2009 fisheries management plan. Constituency groups (and their representatives on the Advisory Council) were satisfied with the quality of walleye fishing under the regulations implemented in 1999. The Advisory Council suggested that relaxing the current regulations, which could risk a decline in angling quality, would not be well received by the public.

Consequently, the FMZ 6 Advisory Council agreed to carry forward the 2009 walleye objective in the current planning exercise. However, they recommended updating the wording to incorporate the development of new analytical/assessment tools from the BsM Program, and potential for changes in future monitoring protocols, as advised by the FMZ 6 Plan Examination (MNRF 2009):

> ***Objective 2023-1:*** *Maintain the current status of walleye populations across FMZ 6.*
>
> *Based on the indicators available for walleye from the provincial BsM Program, populations of walleye are generally stable across FMZ 6. Currently, the main indicators of walleye population health are observed biomass (ACUEW) and mortality of recruit-sized fish (i.e., ≥ 350 mm total length), compared to current biological reference points (Figure 2). However, it is recognized that new BsM analytical/assessment tools may be developed over the life of this management plan amendment.*
>
> *The objective for walleye is to ensure that future landscape analyses, using updated status indicators, do not indicate a decline in walleye populations at a landscape scale from BsM Cycle 4 onward, compared to Cycles 1-3.*

One stakeholder group on the Advisory Council expressed disagreement with the wording of this objective. They pointed out that some FMZ 6 walleye trend lakes fall within the lower right (low biomass / high mortality) quadrant of the quad plot (Figure 6). They argued that the objective should be to "*maintain or improve*" walleye status in the FMZ, as simply aiming to maintain status quo overlooks the potential for improving these lakes.

To clarify, Objective 2023-1 focuses on the overall status of walleye in FMZ 6, rather than individual lakes, following the current landscape approach to fisheries management in Ontario outlined in the Provincial Fish Strategy (MNRF 2015). While the BsM program assesses individual lake populations, improvements (or lack of) in specific lakes should not be seen as a failure to meet Objective 2023-1. However, the current exercise will not include specific actions to improve the status of individual lakes.

NB: The information presented in Figure 5 & 6 should be considered preliminary; BsM data continues to be collected across the province. In case of discrepancies between this report and any forthcoming information products (i.e., fisheries management plans, reports, or presentations), the latter should be considered more appropriate.

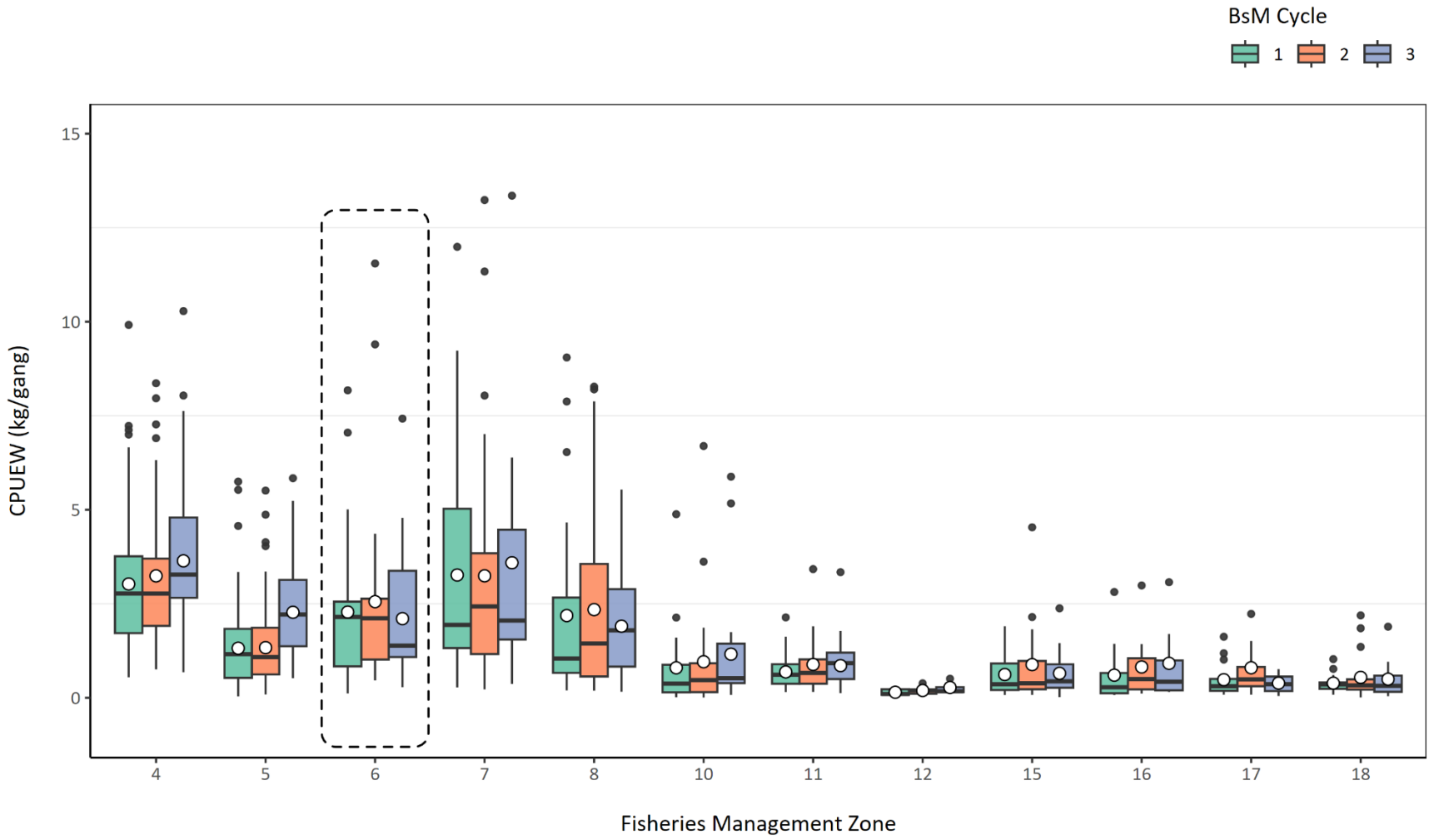

Figure 5: Mean (area-weighted) catch-per-unit effort (CPUEW; kg/gang) of all recruit-sized walleye (≥ 350 mm total length) captured in large mesh (NA1) nets by FMZ and BsM Cycle. This information comes from BsM trend walleye lakes. For assistance in interpreting a boxplot, please consult Appendix B.

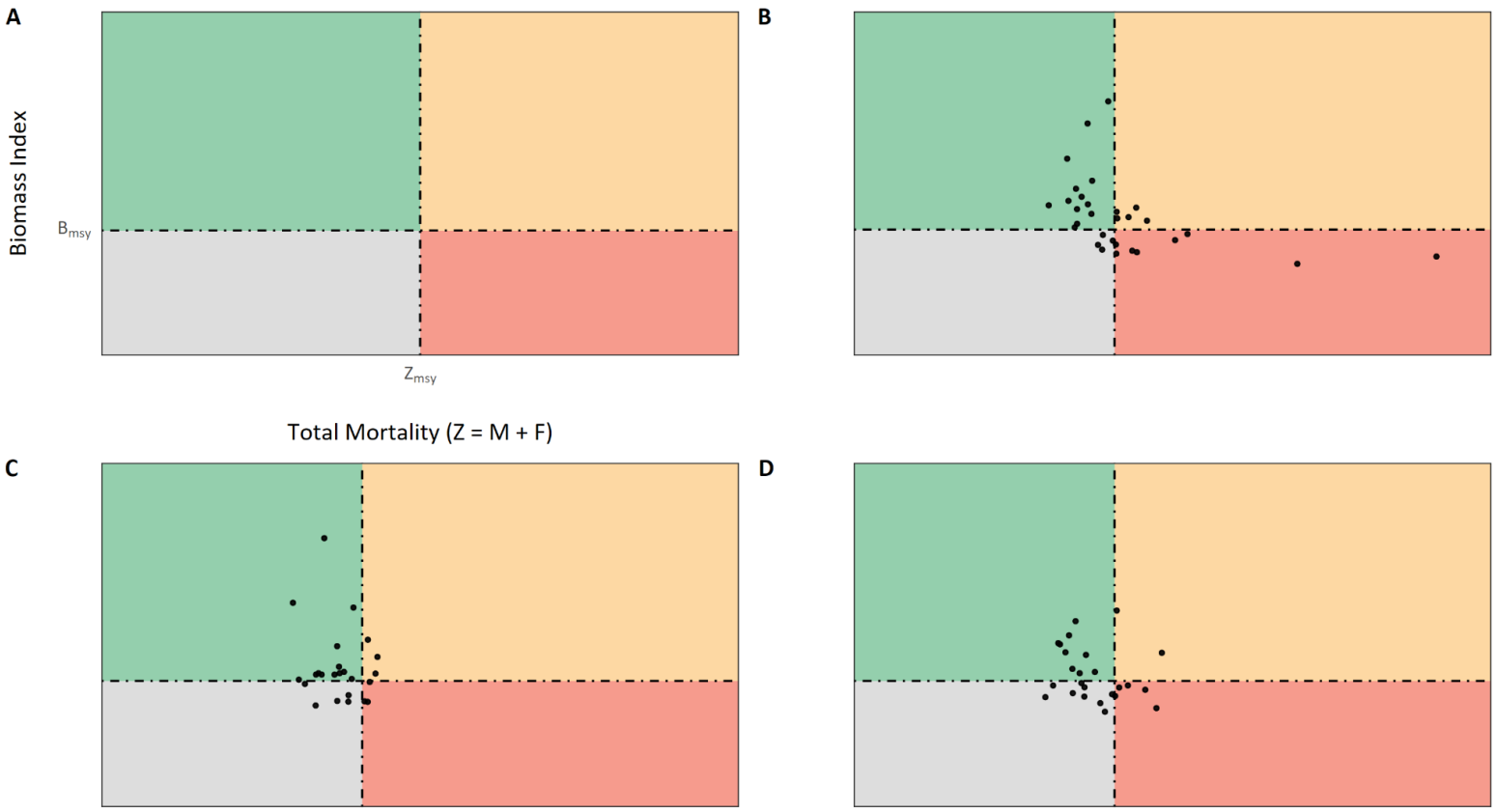

Figure 6: Graphical representation of the quad plot (A). The horizontal and vertical dash-dotted lines represent the biomass (B_{msy}) and total mortality (Z_{msy} = 2M, where M is natural mortality) benchmarks/biological reference points at MSY. (B), (C), and (D) illustrate the status of walleye in FMZ 6 from (B) Cycle 1 (2008 – 2012), (C) Cycle 2 (2013 – 2017), and (D) Cycle 3 (2018 – 2024) monitoring, respectively. This information comes from BsM walleye trend lakes.

2.4 Walleye Management Actions

Fisheries management must balance ecological, social, and economic goals, and involves more than just scientific data. The MNR's structured, adaptive approach to fisheries management and planning allows Indigenous communities and stakeholders to provide input and influence the setting of fisheries objectives and decisions. This active involvement adds valuable perspectives and knowledge, complementing the MNR's understanding of fisheries resources and helping to achieve broader public acceptance of management decisions.

The FMZ 6 Advisory Council participates throughout the fisheries management planning process, from developing objectives to determining appropriate actions. At key stages in the process, broader input from Indigenous communities and the public is sought, informing the Advisory Council's advice and the MNR's decisions. This approach results in fisheries management plans and objectives that reflect a shared vision for the future of fisheries, with meaningful input that garners support from Indigenous communities and the public.

2.4.1 Zone Wide Regulatory Action

Based upon the FMZ 6 objective for walleye (Section 2.3.2), no changes will be made to the current zone-wide seasons and limits for recreational walleye angling:

> ***Walleye and Sauger combined***
>
> *Season: January 1 to April 14 and third Saturday in May to December 31*
>
> *Limits: Sportfishing license 4 and Conservation license 2; not more than 1 greater than 46 cm*

2.4.2 Review of existing regulatory exceptions for walleye

Periodic review of existing regulatory exceptions in the context of current fisheries management objectives is a standard step in fisheries management planning in Ontario.

2.4.2.1 Nipigon River and associated waterbodies

During the development of the 2009 FMZ 6 Fisheries Management Plan, the Nipigon River, Jessie Lake, Lake Helen, and Polly Lake were considered part of the Lake Nipigon Specially Designated Water (SDW) complex (see Figure 7 for general location). The FMZ 6 Advisory Council, Indigenous communities, and stakeholders were informed that these waterbodies were excluded from the fisheries management planning process. This decision was made with the anticipation that they would be subject to a stand-alone planning process independent of the zone.

After finalizing the 2009 fisheries management plan, MNR reviewed the concept of Specially Designated Waters. Recognizing the ongoing need for intensive monitoring and management of certain fisheries and the challenges encountered implementing the network of SDWs, the Ministry established a more systematic and risk-informed approach for selecting candidate waterbodies. This new approach, termed Provincially Significant Inland Fisheries (PSIF), aimed to prioritize intensive monitoring and management efforts. This commitment was emphasized in the PFS (MNRF 2015).

Several criteria were used to identify candidate waterbodies that would be eligible to be labeled as a Provincially Significant Inland Fishery. These criteria included the existing status as an SDW, lake size, the scale of recreational fishing activity, and the presence of diverse fisheries (e.g., both commercial and recreational) targeting the same fish stocks. This process led to the identification of approximately 55 waterbodies for further candidacy.

Subsequently, candidate PSIFs underwent a comprehensive risk assessment. This assessment investigated economic and social dimensions of the fishery alongside risks specific to the fisheries themselves. Parameters considered included environmental stress, fish community stressors, i.e., invasive species, imbalance in fish communities, current stock status, and harvest pressure. The top 12 fisheries identified through this risk analysis were designated as PSIFs. The finalized list of PSIFs within FMZ 6 were most notably Lake Nipigon. However, the Nipigon River and associated waterbodies were excluded and are now slated for inclusion in zone-wide planning for FMZ 6. Necessary changes to lake trout regulations in these waters were implemented as part of FMZ 6 Amendment #1 (MNRF 2021).

The Nipigon River and Lake Helen fall within the Nipigon Bay Area of Concern (AOC), established under the Canada-U.S. Great Lakes Water Quality Agreement (Figure 7). Pollution from various sources such as industrial and wastewater discharge, hydroelectric development in Lake Nipigon and the Nipigon River, as well as debris from historical logging activities, has contributed to compromised water quality and environmental health within this area. Seven out of 14 beneficial use impairments (BUIs) were identified, which gauge the impact of poor water quality on the environment, human health, or economy (ECCC 2023). One of the identified BUIs was the "*degradation of fish and wildlife populations*". To address this concern, the regulatory exception was implemented in Nipigon Bay (FMZ 9) in 1998, later extended to the Nipigon River, Lake Helen, and Polly Lake in 1999: walleye and sauger fishing - closed year-round.

The "degradation *of fish and wildlife populations*" BUI was restored in 2016. Presently, all seven BUIs for the Nipigon Bay AOC have been restored, and efforts are underway to delist the entire AOC (ECCC 2023; ECCC 2023a). However, it's important to note that the BUI criteria do not align with MNR's fisheries assessment tools (see Section 2.1.2), and the delisting process doesn't automatically lead to the removal of the closed season exception for walleye and sauger.

Recommendation 1.0. *The FMZ 6 Advisory Council recommends that the closed season for walleye and sauger remain in place for the Nipigon River, Lake Helen, and Polly Lake until such a time as the FMZ 9 Advisory Council recommends the removal of the exception for Nipigon Bay proper. At that time, walleye and sauger angling regulations for the Nipigon River and associated waterbodies should be decoupled from those of Nipigon Bay and revert to the FMZ 6 zone-wide regulations for walleye.*

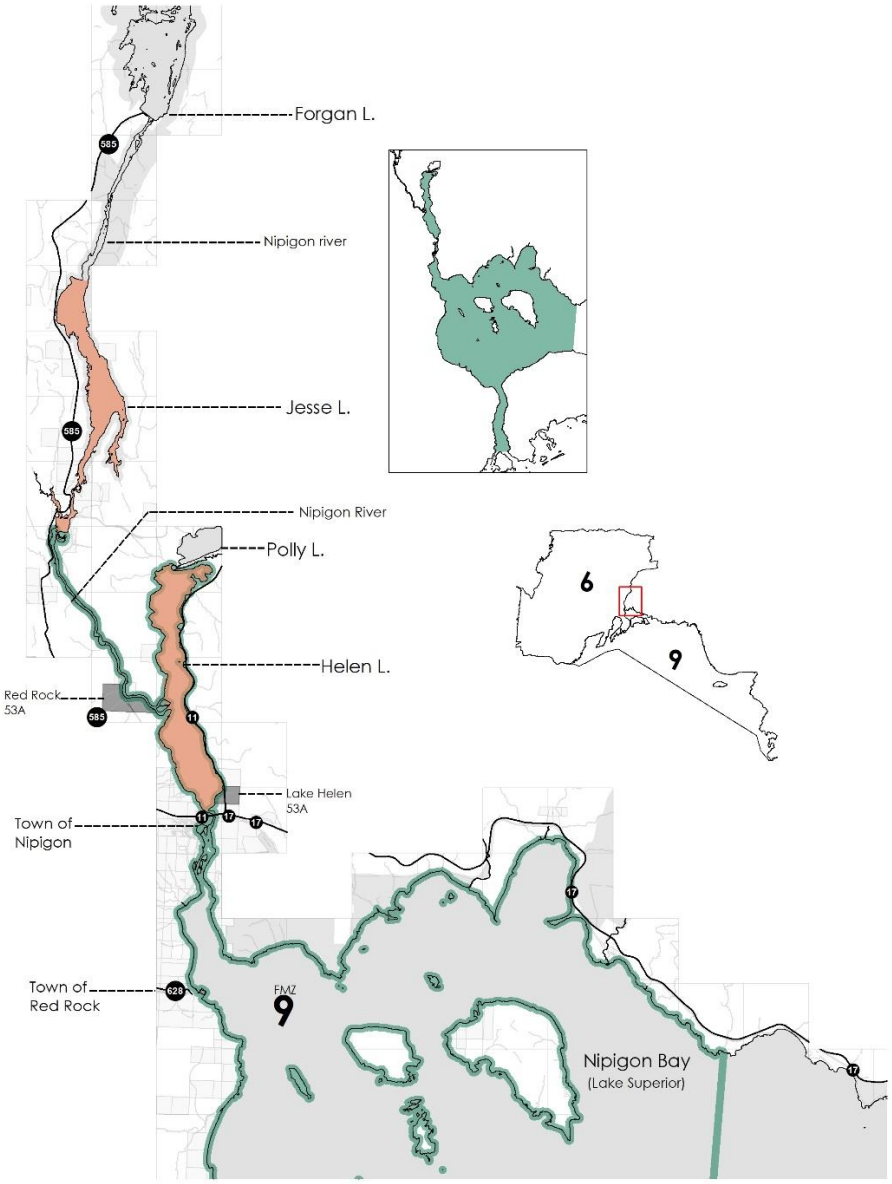

Figure 7: Nipigon Bay Area of Concern. The inset (green shaded area) shows the Area of Concern location. Adapted from InfoSuperior 2023.

2.4.2.2 Former Fisheries Assessment Unit Research Lakes

In 1969, MNR allocated five lakes west of Lac des Mille Lacs for use in walleye population research: Argon Lake, Gessie Lake, Henderson Lake, Ice Lake, and Savanne Lake (Figure 8). Additionally, Squeers Lake was designated for lake trout research (Friday and Armstrong 2016) and has already been addressed in FMZ 6 Amendment #1 (MNRF 2019). Apart from Squeers Lake, these lakes are situated within or partially within large parcels of private land managed by Wagner Forest Management Ltd., which regulates public access through a paid permit system (Wagner 2023). Since their designation as research lakes, these waterbodies have been subject to a year-round sanctuary regulation that prohibits all fishing for all species, with periodic intensive monitoring conducted by the now defunct Quetico-Mille Lacs Fisheries Assessment Unit.

In 2018, MNR's Fisheries Assessment Units were dissolved as part of an initiative to standardize the monitoring of recreational fisheries in inland lakes across Ontario. Despite this, Henderson and Savanne Lakes persist as waterbodies for research, primarily as part of science development for the Ministry's Science and Research Branch; therefore, MNR proposed to the FMZ 6 Advisory Council that, at the very least, sanctuaries should be maintained on these two lakes.

The Advisory Council deliberated whether to maintain fish sanctuaries on Argon, Gessie, and Ice Lakes or to remove the exception in favor of the zone-wide regulations for all species. The Advisory Council's consensus was that fishing opportunities (particularly walleye) are abundant throughout FMZ 6; however, opening these lakes to fishing would offer only limited new opportunities while compromising their value for future research. These lakes, which have been free from recreational angling for over 40 years, and continue to naturally sustain walleye populations, present a distinctive resource in Ontario. Once opened to fishing, their potential for future research would be lost.

Recommendation 2.0. *Retain the year-round fish sanctuaries on the former FAU research lakes indefinitely, with the expressed intent of preserving these lakes against future walleye research needs.*

No fishing – closed all year.

Argon Lake – Grand Trunk Pacific Block 2
Gessie Lake – Goodfellow Township
Henderson Lake – Grand Trunk Pacific Block 2
Ice Lake – Goodfellow Township
Savanne Lake – Grand Trunk Pacific Block 2

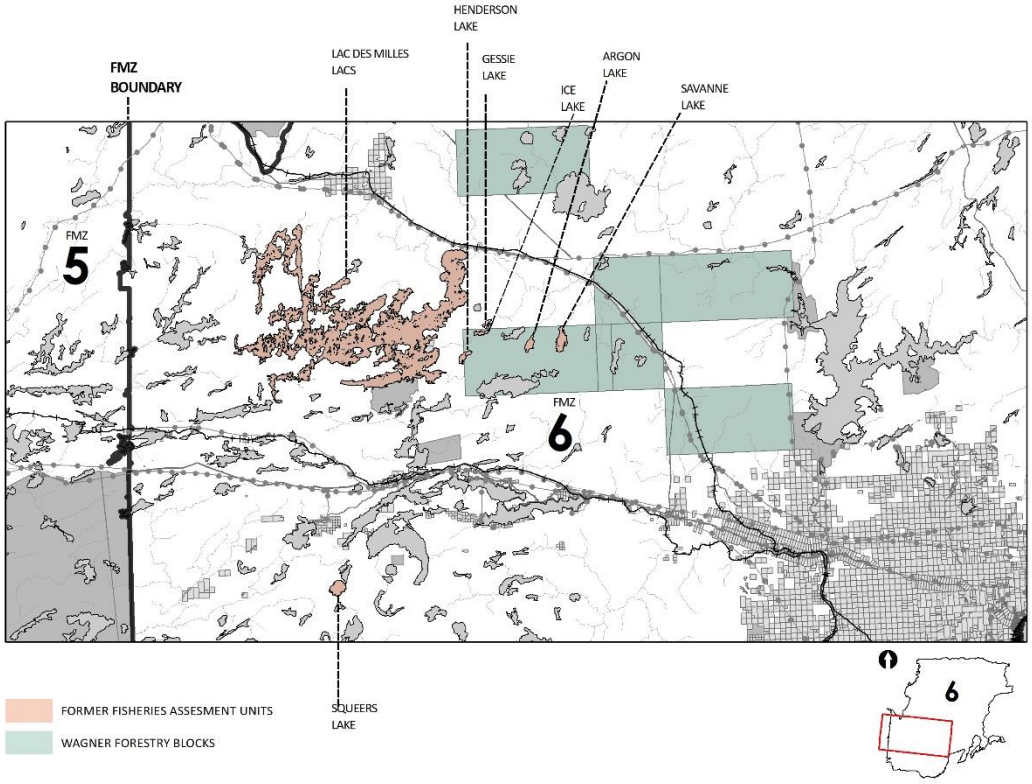

Figure 8: Former FAU walleye research lakes. Parcels of private land managed by Wagner Forest Management Ltd are highlighted in teal.

2.4.2.3 Border Waters Sanctuaries

Two seasonal fish sanctuaries intended to protect walleye spawning aggregations, are situated on border waters shared with the State of Minnesota. The first is Saganaga Falls, located where the Granite River meets Saganaga Lake (refer to Figure 9), while the second encompasses Little Gunflint and Little North Lakes, positioned between Gunflint and North Lakes along the Pine River (refer to Figure 10). The Ontario waters of both sites fall within La Verendrye Provincial Park (waterway class). In 1990, these areas were protected by an extended closed season for walleye, which transitioned to a seasonal sanctuary in 1993, with the designation of "Fish Sanctuary – No Fishing April 1 – May 31". The State of Minnesota has implemented a corresponding restriction in the American waters of these sites: "*Saganaga Falls (Grate River Mouth) and the channel connecting Little Gunflint and Little North Lakes are closed to fishing from April 1 to May 31".*

The Ontario and Minnesota sanctuaries coincide in geographic extent at the Saganaga Falls site, where the sanctuary area is confined to the falls and the mouth of the Granite River. However, there is a discrepancy in the delineation of the Little Gunflint/Little North seasonal sanctuary; the sanctuary distances upstream and downstream of the Pine River between the two lakes is different in Canadian vs. American waters. Further, the wording in the annual Ontario Fishing Regulations Summary incorrectly states that the Ontario sanctuary covers the entirety of the Ontario waters of Little Gunflint and Little North Lakes, as well as the Pine River near Gunflint Lake (~ 50 hectares). The reasoning behind these inconsistencies could not be ascertained from the available historical documentation.

The FMZ 6 Advisory Council addressed this inconsistency and proposed aligning the size of the Ontario sanctuary in Little Gunflint and Little North Lakes with the boundaries of the Minnesota portion. This recommendation is consistent with the La Verendrye Provincial Park Management Plan (MNR 1993) and has received endorsement from the Park Superintendent (M. Holmes, pers. comm.). The revised sanctuary should affect Little North Lake, within 90m of the inlet to the Pine River, the Pine River between Little North and Little Gunflint Lakes, and Little Gunflint Lake within 275m of the mouth of the Pine River

Recommendation 3.0. *No changes to the Saganaga Falls sanctuary.*

Recommendation 4.0. *Reduce the area of the Little Gunflint/Little North sanctuary to match the wording of Minnesota, i.e., the channel between Little Gunflint and Little North Lakes.*

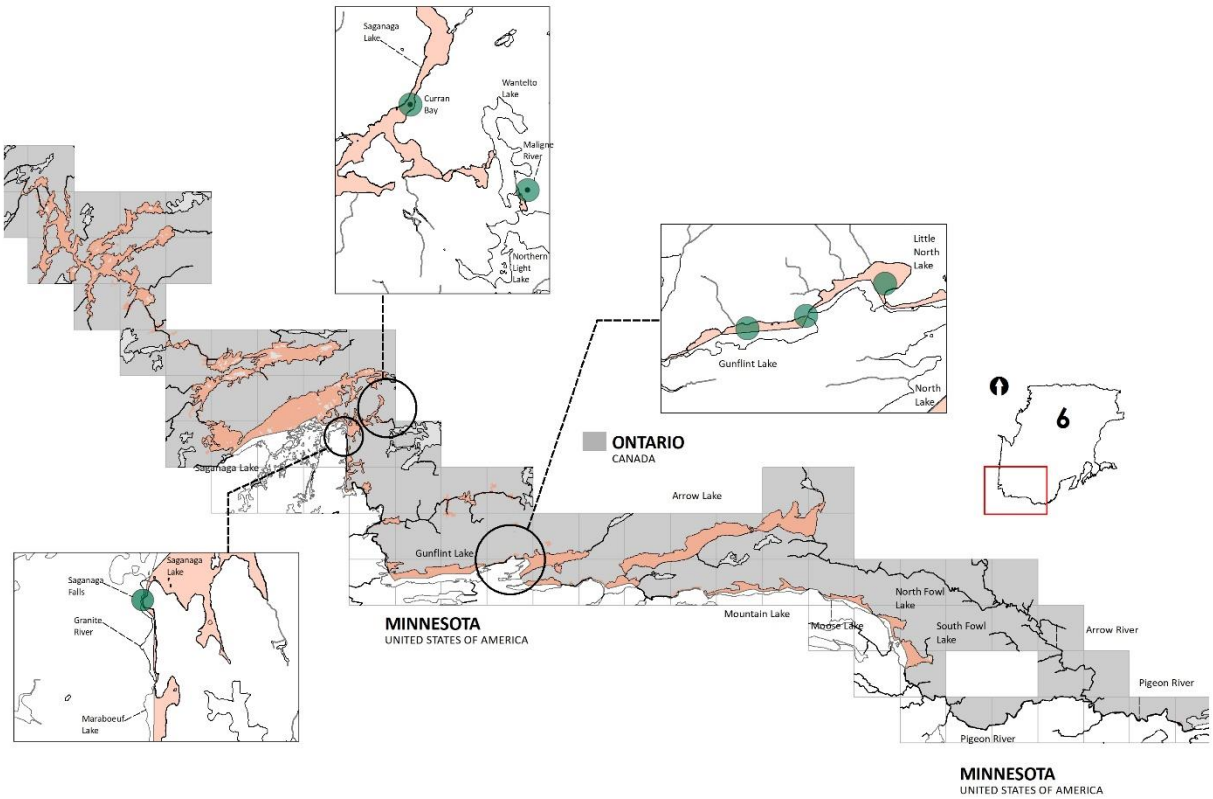

Figure 9: Map of border water sanctuaries.

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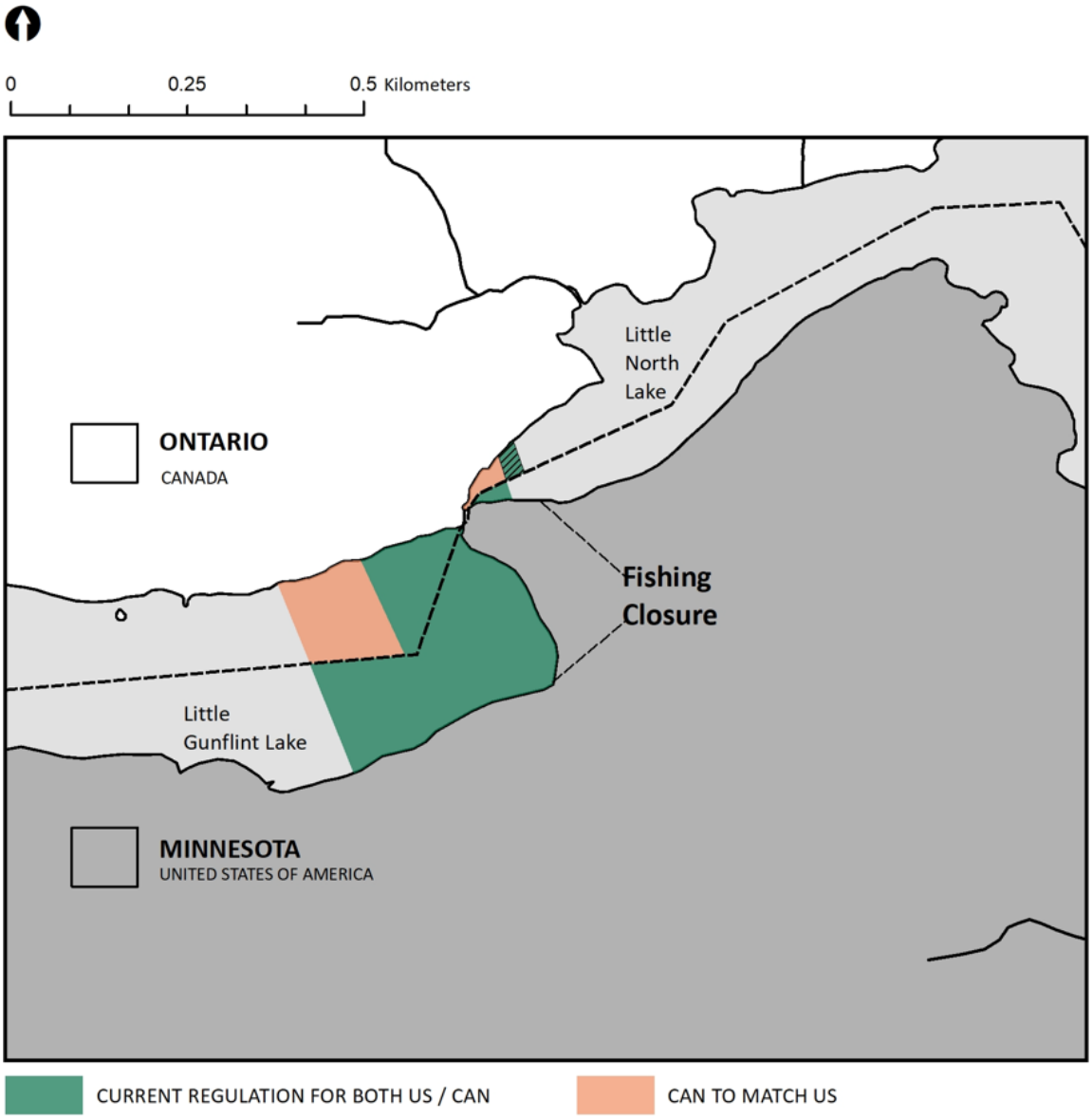

Figure 10: Map of Little Gunflint and Little North Lakes. The green area represents the current regulation for both Minnesota and Canada. The hashed area on Little North represents the area to be removed to match the closure in Minnesota. The soft orange area on Little Gunflint Lake (Canada) is the area to increase to match the closure in Minnesota. The dashed line represents the border separating Canada and the United States.

2.4.2.4 Other Sanctuaries

Fisheries Management Zone 6 currently regulates seven small, localized seasonal fish sanctuaries aimed at protecting walleye spawning aggregation, where fishing is prohibited from April 1 to May 31 (Figure 11). These sanctuaries include:

- Greenwater Creek – from the dam on Greenwater Creek to the first island in Upper Shebandowan Lake
- Kashabowie River – from the dam on Kashabowie Lake to the island in Upper Shebandowan Lake
- Sawmill Creek and Sawmill Bay – Upper Shebandowan Lake
- Swamp River and Swamp Bay of Lower Shebandowan Lake – Conacher and Hagey Townships
- Weikwabinonaw River (three locations)
    - Between Marks Lake and Weikwabinonaw Lake
    - From Marks Lake upstream to the Weikwabinonaw Lake Road
    - From Trafalgar Bay on Northern Light Lake extending upstream to its confluence with Nelson Creek, including the unnamed lake known locally as Lily Lake

Based on advice from MNR Enforcement staff (D. Viehbeck, MNR, pers. comm.), the FMZ 6 Advisory Council endorsed the notion that these sanctuaries maintain their ecological significance in line with the FMZ 6 walleye objectives (Section 2.3.2). Additionally, the sanctuaries are generally well supported by local recreational anglers and property owners.

Recommendation 5.0. *No changes to sanctuaries on Greenwater Creek; Kashabowie River; Sawmill Creek and Sawmill Bay; Swamp Creek and Swamp Bay, and; Weikwabinonaw River.*

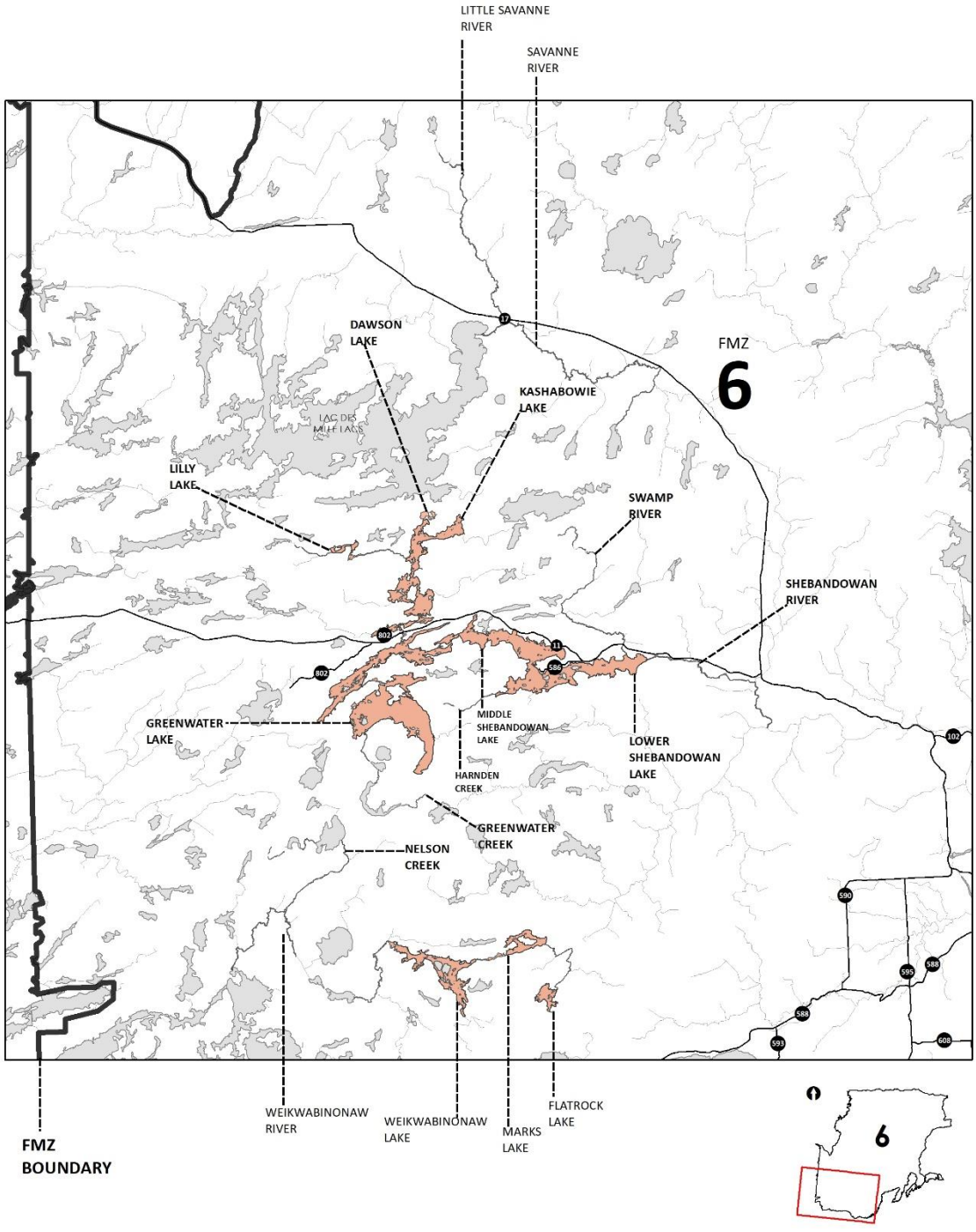

Figure 11: Map of seasonal sanctuaries within FMZ 6.

2.4.2.5 Lac des Mille Lacs and Affiliated Waterbodies

Lac des Mille Lac is a cornerstone of recreational fisheries in FMZ 6 (MNR 1989):

> *"Lac des Mille Lacs is the single largest contributor to angling opportunities in the District. It receives heavy non-resident use through the tourism industry as well as significant use by resident anglers, sustains a commercial fishery and has extensive cottage development. A specific plan for this waterbody will provide refined, detailed management direction, necessary to maintain the high quality fishery. The commercial fishery will continue to be monitored to protect the sport fishery. Water level regulation will be an important consideration in the plan".*

In 1978, MNR's Strategic Plan for Ontario Fisheries (SPOF) Working Group No. 1 recommended the establishment of Fisheries Assessment Units (FAU) across Ontario, with the stated intent of "develop[ing] the new broader knowledge base essential for more effective future management of Ontario fisheries" (MNR 1978). Subsequently, the Quetico-Mille Lacs (among others across the province) Fisheries Assessment Unit (QMLFAU) was established in 1979, whose responsibilities included monitoring Lac des Mille Lacs and Whitefish Lake. However, in 2018, the QMLFAU was integrated with other program areas within MNR's Science and Research Branch.

Due to its regional significance, resource utilization on Lac des Mille Lacs is subject to stringent regulations. The Thunder Bay District Fisheries Management Plan (MNR 1988) advocated for a dedicated fisheries management plan for the lake, leading to the development of a comprehensive management plan (MNR 1992) addressing fisheries and land use issues. This plan was amended in 2007 (MNR 2007a), pre-dating the establishment of the FMZ 6 Advisory Council. Water levels in Lac des Mille Lacs are governed by the Seine River Water Management Plan (Brookfield 2004).

Most shoreline areas on Lac des Mille Lacs are encompassed by provincial protected areas: the Lac des Mille Lacs Enhanced Management Area (E2280r) and the Lac des Mille Lacs Conservation Reserve (C2279). Each of these areas has designated permitted uses outlined in their respective Crown Land Use Policy Reports. It is noteworthy that the land use regulations for the Enhanced Management Area stipulated that although existing commercial fishing activities may continue, no new commercial fishing licences will be permitted.

Regulatory oversight of the recreational walleye fishery in Lac des Mille Lacs dates to 1994, when the northern pike season was extended to align with the walleye season. This adjustment aimed to mitigate the unintentional mortality of walleye caught by northern pike anglers. Subsequent regulatory modifications targeting walleye in Lac des Mille Lacs and its connected waters (i.e., Cushing Lake, Little Savanne River, and Savanne River) included:

- 1997: implementation of seasonal sanctuaries and a 33 cm minimum size limit.
- 1999: reduction of catch and possession limits across Northwestern Ontario.
- 2000: introduction of a “one-over” modifier regulation allowing one fish over 46 cm.
- 2002: removal of seasonal sanctuaries from Lac des Mille Lacs and Cushing Lake.

Since 2002, the recreational angling exception for walleye on Lac des Mille Lacs, Cushing Lake, and the entire Little Savanne and Savanne Rivers is as follows:

- Season – January 1 to April 14 and the third Saturday in May to December 31 (consistent with FMZ 6)

- Limits – Sportfishing Licence (4) and Conservation Licence (2); must be greater than 33 cm and not exceed 1 greater than 46 cm.

Additionally, seasonal sanctuaries (no fishing from April 1 to May 31) are in place for the following waters:

- Little Savanne River from the Canadian Pacific Railway right-of-way to the first Canadian National Railway right-of way.

- Savanne River from One Mile Creek to Dexter Creek.

2.4.2.5.1 Evaluation of the 33 cm minimum size limit

In 1997, a minimum harvest size of 33 cm total length for walleye was implemented on Lac des Mille Lacs to promote an increase of survival and recruitment into the fishery. Creel data indicated that fish below this size comprised a substantial portion of the catch and harvest (approximately 35%; MNR (1994) unpublished data). Post-implementation of the regulation, ongoing fisheries-dependent surveys by the former QMLFAU revealed consistent findings, showing a sizable portion of walleye caught on Lac des Mille Lacs were still below 33 cm (see Table 2).

Table 2: Summary of walleye catch from QMLFAU creel surveys. Included are the percentage of walleye caught below and above 33 and 46 cm.

Year	Total Catch	% caught < 33 cm	% caught > 46 cm
2006	5701	44	4.0
2011	3947	43	5.4
2016	4742	35	3.4

While there are been no open water or winter creel surveys conducted on Lac des Mille Lacs since 2016, fisheries-independent information continues to be collected through the provincial Broad-

scale Monitoring program (Figure 12). Considering both historical and present information (i.e., three cycles of Broad-scale Monitoring data), along with recognizing the importance of the Lac des Mille Lac walleye fishery to FMZ 6, the Advisory Council expressed support for retaining the current exception for Lac des Mille Lacs and its associated waterbodies.

Recommendation 6.0. *Retain current size limit exception on Lac des Mille Lacs, Cushing Lake, Savanne River and Little Savanne River.*

Walleye – S-4 and C-2; must be greater than 33 cm, not more than 1 greater than 46 cm.

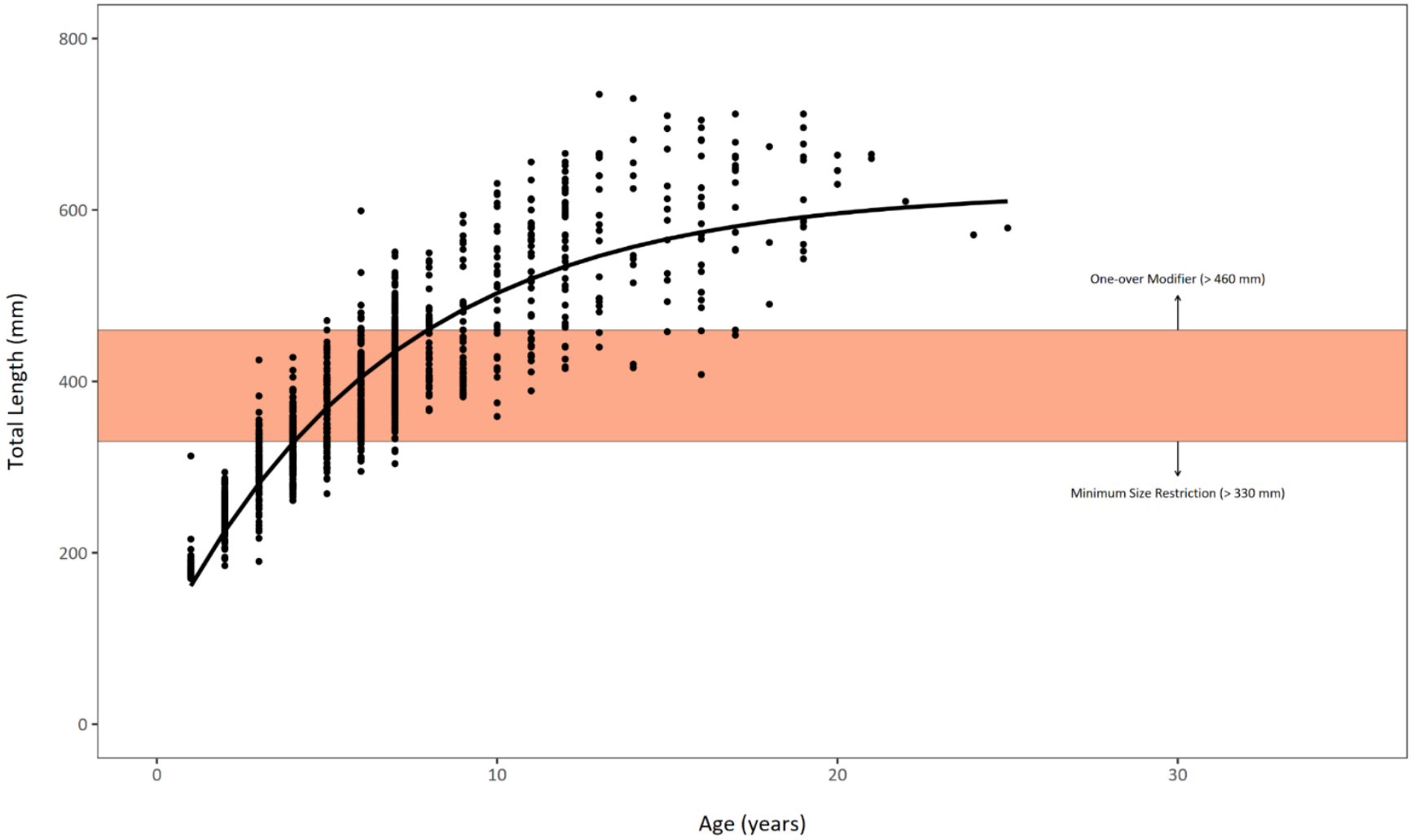

Figure 12: Observed length-at-age of walleye (black points) from LDML BsM Surveys. The superimposed von Bertalannfy growth curve (solid black line) represents the modeled/predicted length-at-age. The pale orange segment denotes the range between the minimum size limit (330 mm or 33 cm) and the one-over modifier (460 mm or 46 cm) restrictions. Individual fish data are pooled from three cycles of BsM surveys (NA1; large mesh only) collected on Lac des Mille Lacs.

2.4.2.5.2 Geographic description of Cushing Lake

The current waterbody exception for Cushing Lake (Figure 13) does not include the connecting waters to Lac des Mille Lacs. The Ministry is proposing to revise the wording for the regulatory exception to ensure it is enforceable.

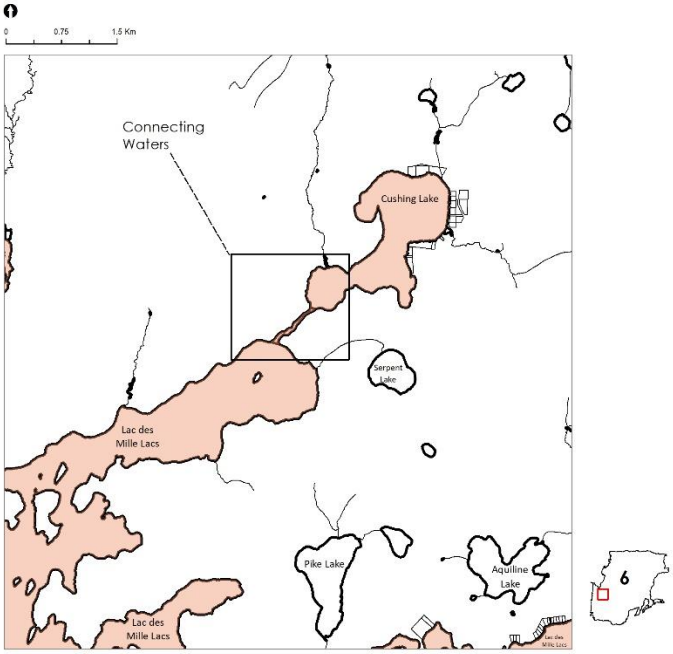

Figure 13: Map of Cushing Lake showing the proposed recommendation to include the connecting waters to Lac des Mille Lacs in the waterbody exception.

Recommendation 7.0. *Revise the wording for the exceptions on Cushing Lake to read: Cushing Lake (48°56'10"N, 90°30'11"W) – Inwood Township, including those waters connecting Cushing Lake to Lac des Mille Lacs.*

2.4.2.5.3 Geographic description of Little Savanne River

The current waterbody exception for Little Savanne River applies a size limit restriction to its whole extent, which is disjointed by several lakes where the exception does not apply (Figure 14). Similarly, the extent of the size limit restriction does not match the wording of the seasonal sanctuary.

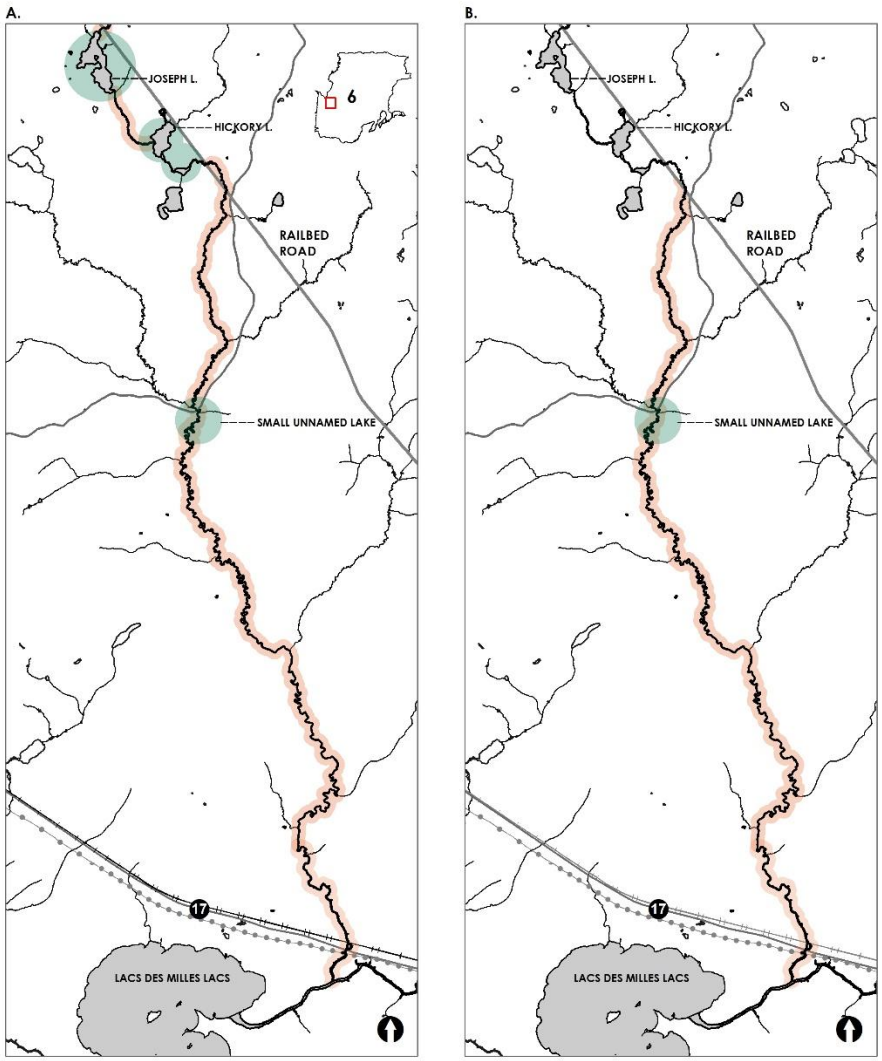

Figure 14: Map of Little Savanne River. Panel (A) shows the current waterbody exception, and Panel (B) shows the proposed recommendation.

Recommendation 8.0. *Revise the extent of the portion of the Little Savanne River to which the size limit exception applies to match that of the seasonal sanctuary.*

Recommendation 9.0. *Revise the seasonal sanctuary reference to the current the C.P.R right-of-way and C.N.R right-of-way to read:*

Little Savanne River (48°57'N., 90°15'W.) – from where it crosses at Railbed Road to its confluence with the Savanne River.

2.4.2.5.4 Savanne River and Little Savanne River seasonal sanctuary

The extent of the seasonal sanctuary for the Savanne River is from One Mile Creek to Dexter Creek; at the time of its implementation, it was restricted to this area due to the interest in recreational fishing (i.e., dock fishing) on the lower reaches of the river where it flows into Lac des Milles Lacs (Figure 15). Enquiries from stakeholder groups and the general public have suggested the need for added protection, notably in the early spring when walleye are most vulnerable.

Recommendation 10.0. Extend the area of the seasonal sanctuary to include the lower reach of the Little Savanne River; the entirety of the Savanne River:

Extend the seasonal sanctuary from Savanne Lake (48°50'51.79" N 90°5'37.57" W) to the confluence of the Savanne River and Lac des Mille Lacs (48°56'25.11" N 90°17'7.06" W).

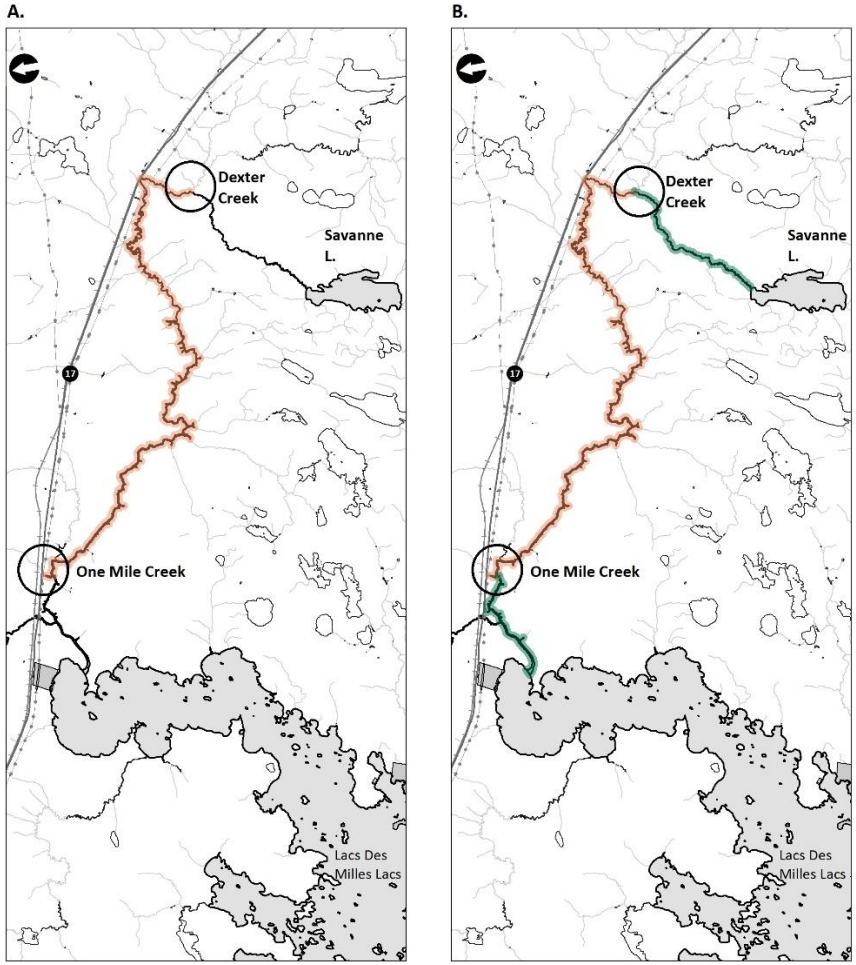

Figure 15: Map of Savanne River and Lac des Mille Lacs. Panel (A) represents the current season sanctuary from One Mile Creek to Dexter Creek. Panel (B) represents the proposal to extend the seasonal sanctuary from Savanne Lake to the confluence of the river at Lac des Mille Lacs.

2.4.2.5.5 Other waters connected to Lac des Mille Lacs

Provincial enforcement staff have encountered difficulties related to several lakes connected to Lac des Mille Lacs that are accessible by boat to recreational anglers. These lakes, specifically, Panache (49.911° N, 90.443° W) Lake, Pike Lake (48.893° N, 90.510° W)), and Casino Lake (48.933847, -90.715816), currently do not have the minimum size restriction of 33 cm applied to them (Figure 16). To address this issue, the Ministry is proposing to extend the waterbody exception on Lac des Mille Lacs to include these connected waters. However, this change may require targeted consultation with resort owners and other affected stakeholders.

Figure 16: Map of Lac des Mille Lacs and connected waters. The insets highlight the lakes that are recommended to be included to the list of connecting waters and apply the minimum size restriction.

Recommendation 11.0. *Apply the minimum size restriction to other waters connected to Lac des Mille Lacs: Panache (49.911° N, 90.443° W) Lake, Pike Lake (48.893° N, 90.510° W)), and Casino Lake (48.933847, -90.715816).*

Walleye – S-4 and C-2 must be greater than 33 cm, not more than 1 greater than 46 cm.

3. Miscellaneous Exceptions

The Provincial Fish Strategy typically advises that alterations to recreational fishing regulations align with measurable fisheries management objectives. However, certain exceptions exist for species lacking zone-wide objectives. It is considered best practice to periodically review these exceptions to ensure alignment with zone-wide fisheries management goals (see Section 2.3.1) and enforceability.

3.1 Whitefish Lake Yellow Perch Exception

This subsection aims to review to the current yellow perch exception for Whitefish Lake in FMZ 6 to streamline current regulations. Future planning for yellow perch across the entire fisheries management zone may be necessary to address their ecological status.

In 2000, Ontario introduced a daily yellow perch catch and possession limit to the former Division 21 (now FMZ 6) administrative unit, reducing it from unlimited (i.e., no limit) to 50 for a sport licence and 25 for a conservation licence. Whitefish Lake was initially exempted, allowing a daily catch and possession limit of 100. In 2002, this exception was revised: the daily catch limit for Whitefish Lake was reduced to 50, with a possession limit of 100 for a sport licence and 25 for a conservation licence. Only two other waterbodies in the province, Lake Erie and Lake Simcoe, have similar regulations due to their unique yellow perch fisheries.

As a (former) specially designated waterbody, Whitefish Lake received intensive monitoring by the QMLFAU. Both fisheries-independent and fisheries-dependant information was collected through creel surveys, and various index netting programs including FWIN, BsM, and Near-shore Community Index Netting (NSCIN). Open-water creel information collected from 1995-2015 suggested that recreational angler effort, catch, and harvest for yellow perch had declined significantly (Table 3).

Table 3: Estimated recreational angler yellow perch effort, catch, and harvest on Whitefish Lake. This information comes from 1995 to 2015 open-water creel surveys. This information was adapted from historical QMLFAU data (MNRF 2023 unpublished data).

Year	Effort (hours/ha)	Catch (number)	Harvest (number)
1995	28	130,294	81,007
2001	23	129,438	47,330
2008	14	164,644	75,355
2015	8	70,983	33,179

Similarly, trends in estimates of relative abundance (i.e., catch per unit effort; fish/net) measured from FWIN and BsM survey data indicated a declined in yellow perch (Table 4).

Table 4: Summary of yellow perch relative abundance (CPUE). This information comes from both Fall Walleye Index Netting and BsM Programs (1995-2018).

Year	Relative Abundance (CPUE; fish/net)
1995	36.7
1996	60.2
2001	62.7
2003	22.2
2005	17.9
2008	42.4
2008*	18.6
2011	22.0
2013*	2.4
2016	9.7
2017	2.9
2018*	8.6

* Indicates the sampling year in which Whitefish Lake was surveyed by the provincial Broad-scale Monitoring program. Estimates from these sampling years were area-weighted by depth-strata.

While there was agreement amongst the Advisory Council and MNR that the yellow perch exception on Whitefish Lake should be reverted to the zone-wide limits, it was recognized that that further consultation would be required with lodge owners before implementing any regulatory changes.

Recommendation 12.0. *Remove the Whitefish Lake yellow perch species exception and revert to the current zone-wide limits.*

Season: open all year
Limits: S-50 and C-25

3.2 Arrow River Brown Trout Exception

The brown trout introduction to the Arrow River was carried out in collaboration with the now defunct (*c 2018*) Thunder Bay Fly Fishing Club, with stocking efforts initiated in 1990 and continuing from 1993 to 1996. Regulatory exceptions were subsequently introduced in 1994 to accommodate this stocking initiative and unique fishing opportunity in FMZ 6. The Arrow River now supports a self-sustaining brown trout population; however, the current reference to geographic townships in the regulatory exception poses challenges for recreational anglers and enforcement alike. Province-wide, the Ministry is actively working to eliminate such references, aiming for more streamlined regulations. With the endorsement of the FMZ 6 Advisory Council, the following recommendation was put forward for the Arrow River brown trout exception (see also Figure 17):

Recommendation 13.0. *Revise the Arrow River brown trout exception to read:*

Arrow River – between the dam on Arrow Lake (Hardwick Township) and the upstream side of the bridge on Highway 593 (ON-593) - Only artificial flies may be used.

Arrow River – between the upstream side of the bridge on Highway 593 (ON-593) and its confluence with the Pigeon River in Devon Township - Only artificial lures may be used.

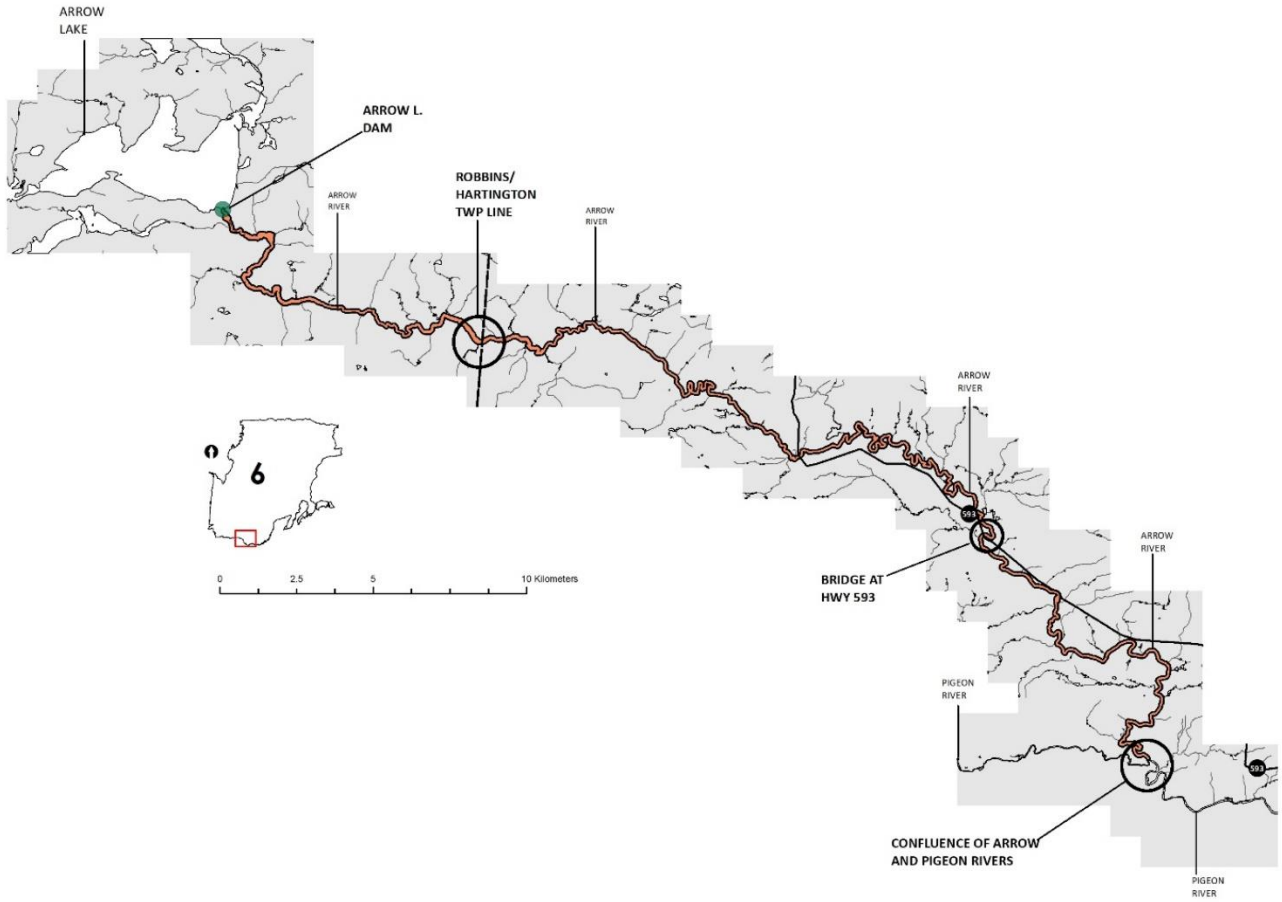

Figure 17: Map of the Arrow River. Highlighted are the current (i.e., Robbins/Hartington Township Line and confluence of the Pigeon River) locations where the waterbody exceptions apply, and the proposed extension where artificial flies may be used (i.e., upstream side of the bridge at Highway 593).

3.2 Sleeping Giant Provincial Park Baitfish

Sleeping Giant Provincial Park, situated on the Sibley Peninsula east of Thunder Bay, Ontario, covers a network of lakes and streams within FMZ 6, along with the waters of Lake Superior surrounding the peninsula (Figure 18).

The Sleeping Giant Provincial Park Management Plan (MNR 2007b) contains guidance on fisheries management within the park, including the following excerpt:

> *"Sport fishing is permitted in the park, although the use and possession of baitfish is prohibited in park waters, with the exception of Lake Superior. All fishing activity will be subject to the policies and regulations of the Ontario Fishing Regulations."*

Like other provincial parks such as Quetico Provincial Park and Algonquin Provincial Park, appropriate regulatory exceptions are established through the Ontario Fishery Regulations (OFR; 2007), or a Variation Order, depending on the specific exception. However, the bait restriction in Sleeping Giant Provincial Park is not listed in the OFR, and consequently, it does not appear in the annual Recreational Fishing Regulations Summary.

> ***Recommendation 14.0.*** *Create a new OFR amendment for Sleeping Giant Provincial Park: live fish may not be used as bait or possessed for use as bait, except for those Park waters in Lake Superior (FMZ 9).*

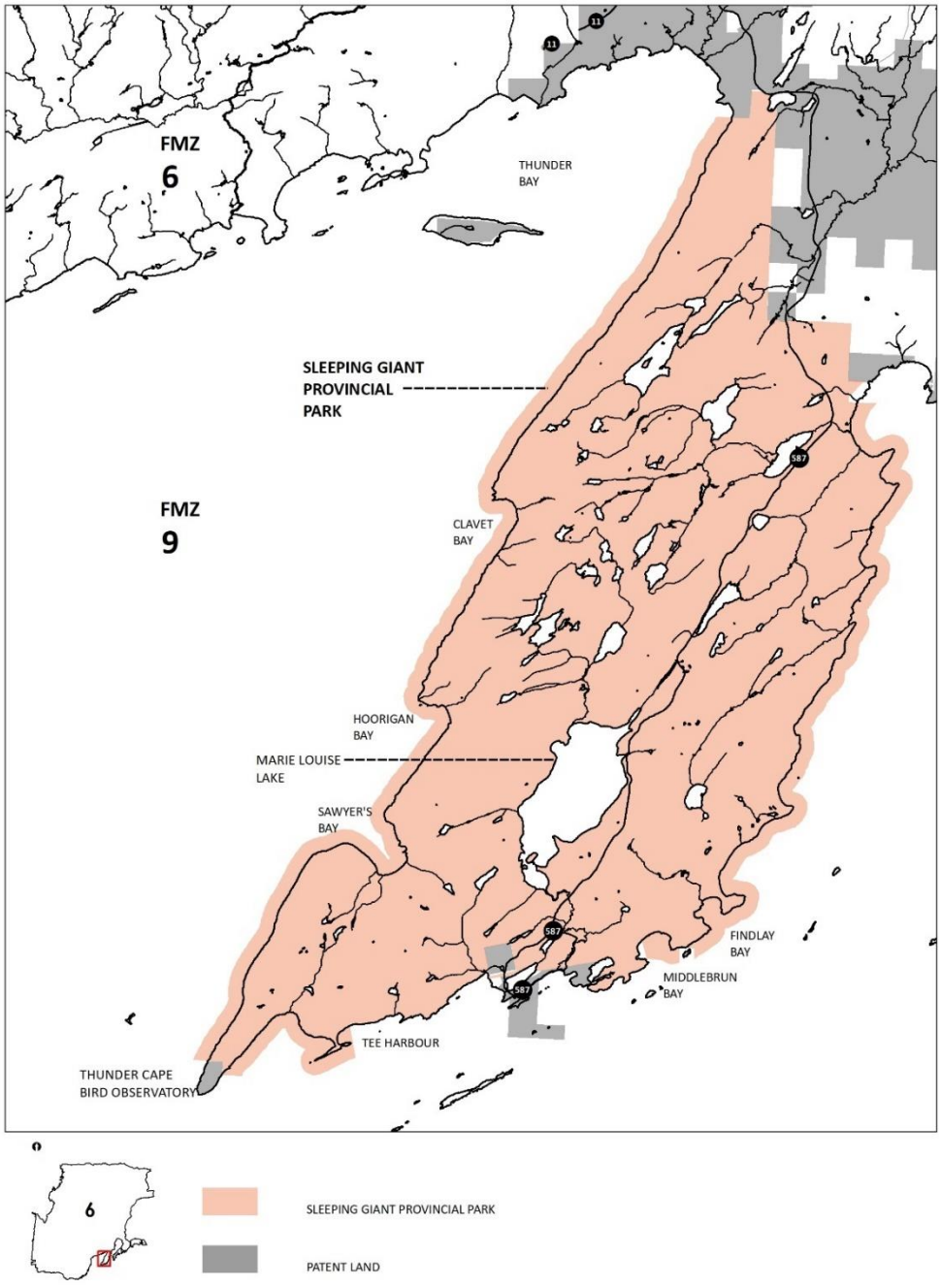

Figure 18: Sleeping Giant Provincial Park administrative boundary.

List of Acronyms

AOC – Great Lakes Area of Concern

B_{MAX} – Maximum biomass (carrying capacity)

B_{MSY} – Biomass at Maximum Sustainable Yield

B_{OBS} – Observed biomass

BsM – Broadscale Monitoring Program

BUI – Beneficial Use Impairment

DFO – Fisheries and Oceans Canada (including its preceding agencies)

ECCC – Environment and Climate Change Canada

EFFM – Ecological Framework for Fisheries Management

FAU – Fisheries Assessment Unit

FMZ – Fisheries Management Zone

GLFC – Great Lakes Fishery Commission

MECP – Ontario Ministry of the Environment, Conservation and Parks

MNR – Ontario Ministry of Natural Resources

MNRF – Ontario Ministry of Natural Resources and Forestry

MSY – Maximum Sustainable Yield

NSSA – North Shore Steelhead Association

OFR – Ontario Fishery Regulation, 2007

OGFC – Ontario Department of Game and Fisheries

PFS – Provincial Fish Strategy

PGT – Put-Grow-Take stocking

PSIF – Provincially Significant Inland Fisheries

QML – Quetico-Mille Lacs Fisheries Assessment Unit

SDW – Specially Designated Waters

SPOF – Strategic Plan for Ontario Fisheries

TOHA - Thermal-Optical Habitat Area

USFWS – United States Fish and Wildlife Service

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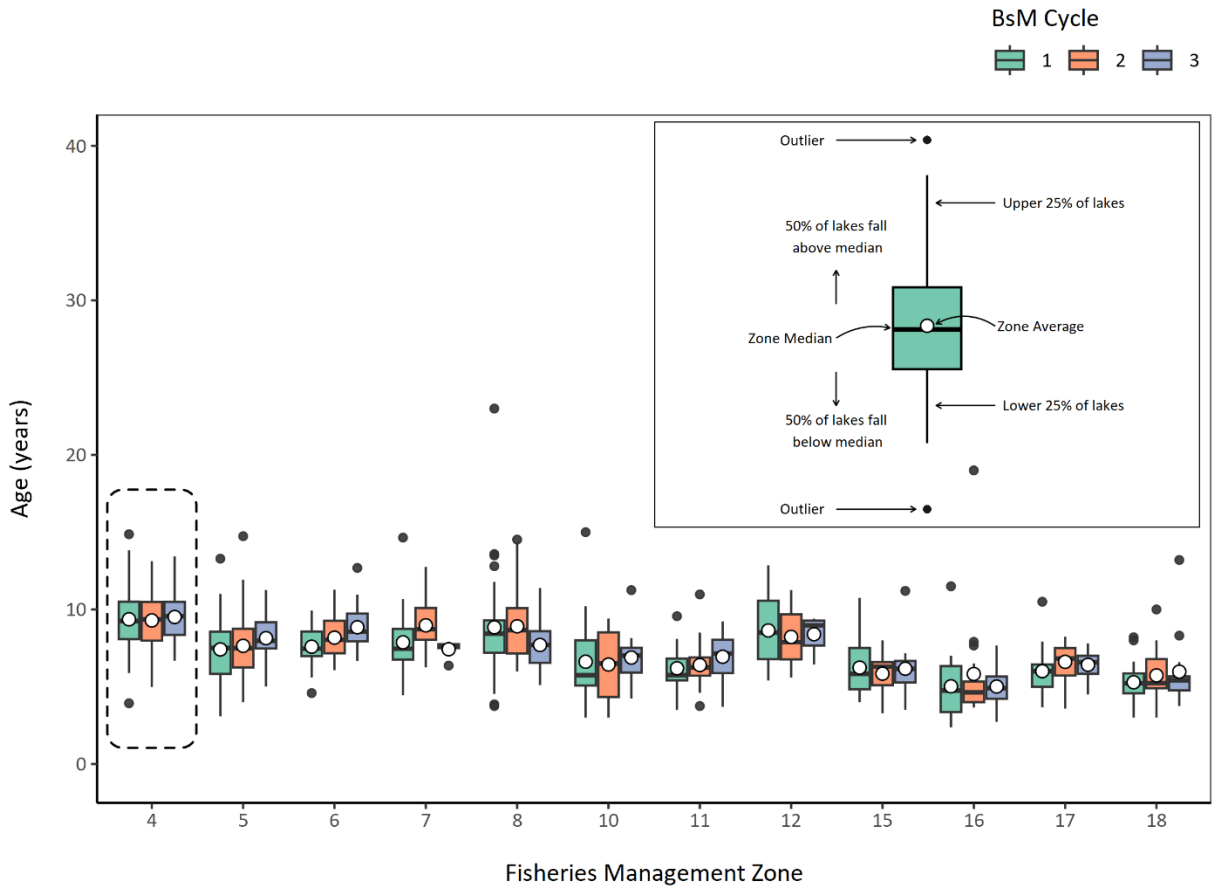
Appendix A: FMZ 6 Walleye Stocking History, 1920-2005

Table A1: Number of stocking events by waterbody (and date range) in Fisheries Management Zone 6.

Waterbody Name	Date Range	Number of stocking events
Addie Lake	1969	1
Anders Lake	1990	1
Armistice Lake	1980	6
Arrow Lake	1948	1
Baril Lake	1928 - 1953	4
Bedivere Lake	1988	1
Black Sturgeon Lake	1956	1
Buck Lake	1980	2
Caldwell Lake	1956	1
Castle Lake	1951	1
Cheeseman Lake	1988	3
Cloud Lake	1964 - 2005	6
Coral Lake	1953	1
Cowan Lake	1993	1
Dog River	1980 - 1981	11
Eaglehead Lake	1979	3
Eaglehead River	1986 - 1987	5
Edmonson Lake	1989	4
Elizabeth Lake	1980	2
Frazer Lake	1969 - 1980	4
Garden Lake	1977 - 1979	4
Gutteridge Lake	1993	1
Hay Lake	1953	1
Heaven Lake	1980	2
Hicks Lake	1970	1
Iron Range Lake	1967	1
Kashabowie Lake	1924 - 1925	2
Keelor Lake	1987 - 1990	6
Keemle Lake	1970	1
Lac des Mille Lacs	1930	1
Lang Lake	1953	1
Lake Marie Louise	1962 - 1964	2
Lake Nipigon	1930 - 1934	2
Long Lake	1925 – 1930	2
Mawn Lake	1986	6
Milton Lake	1951 - 1953	2
Mug Lake	1981	6

Muskeg Lake	1992	1
Nipigon River	1985 - 1990	12
Oliver Lake	1953	1
One Island Lake	1964	1
Ozone Creek	1982	1
Pace Lake	1982	2
Pounsford Lake	1964	1
Rountable Lake	1969	1
Sandstone Lake	1967	1
Shebandowan Lakes	1925 - 1953	7
Smiley Lake	1987	11
South Trout Creek	1984 - 1986	5
Stewart Lake	1982 - 1983	2
Surprise Lake	1948	1
Swallow Lake	1969	1
Tease Lake	1988	3
Tib Lake	1979	2
Tomlinson Lake	1953	1
Upsala Lake	1953	1
Whitefish Lake	1938	1
Windigoostigwan Lake	1935 - 1948	5
Worthy	1953	1

Appendix B



Boxplot interpretation of average age (years) of walleye by FMZ and BsM Cycle. Each boxplot visually represents the range, median, mean, and distribution of averages ages observed within a specific FMZ and BsM Cycle combination. Please note that this data is exploratory and intended solely for interpretive guidance.