

**“Fish for the Future” –
The History of Fish and Fisheries Management in Ontario**

Considering that Ontario contains approximately one-fifth of the world's fresh water supply, it should come as no surprise that the province is also home to various species of fish that have played an important part in its history.¹ Indeed, with countless lakes and rivers scattered across the region, the people of Ontario have long relied on fishing to meet their economic and social needs. This has consequently fostered a provincial political culture which recognizes the immense value that fish have to offer and the necessity of preserving their populations for future generations. In fact, the public administration of Ontario's fisheries dates back centuries, with the provincial government implementing many laws, policies, and programs over the years in an effort to ensure the sustainability of this precious wildlife resource. The Ontario Ministry of Natural Resources and Forestry (OMNRF) assumed responsibility for protecting the over 150 species of fish which reside in Ontario's waters when it was established in the early 1970s. The Ministry's current approach to fisheries management involves the use of scientific and ecological knowledge "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."² Taking a look at how fisheries management in Ontario has evolved over the past 200 years provides a better understanding of how the OMNRF came to adopt this modern, environmentally progressive mandate.

Ontario's lakes and rivers have always contained a diverse range of fish species, but a few stand out for their social and economic significance. For example, walleye, also known as pickerel, is one of the most coveted sport fish species in the province. With a typical length of

¹ "About Ontario: Key facts," *Government of Ontario*, <https://www.ontario.ca/page/about-ontario#section-3> (accessed 12 October 2016).

² "Ontario's Provincial Fish Strategy: Fish for the Future," *Ontario Ministry of Natural Resources and Forestry* (Queen's Printer for Ontario, 2015), 3.

about 35.5 to 58.4 centimetres (14-23 inches), and averaging roughly 1.5 to 3 pounds (0.68-1.36 kg) in weight, walleye can be found in lakes and rivers across the province, and can be identified by their large, elongated bodies which are olive-green to brown in colour. In 2010 it was the most common species caught by anglers nationwide, including Ontario. In addition, millions of pounds of walleye are harvested by the province's commercial fishing industry each year. Similarly, the yellow perch has attracted considerable attention from both recreational and commercial fishers. With its distinct light yellow body and dark vertical stripes, perch are smaller than walleye and can also be found in waters throughout Ontario.³ Many other fish, such as smallmouth bass, northern pike, and lake trout, are abundant in Ontario's waters, while some, such as lake sturgeon, are deemed at-risk. Atlantic salmon, listed as extinct in Ontario by the Committee on the Status of Endangered Wildlife in Canada, has been the focus of restoration programs for many years.

Ontario's Indigenous peoples were the first to rely upon and care for the province's fish populations. For thousands of years prior to European contact, Indigenous peoples used spearing, angling, and netting techniques to capture fish for their own subsistence and for use in intertribal trade.⁴ However, the establishment of a colonial government and the arrival of foreign settlers eventually threatened the traditional fishing rights of Ontario's First Nations. For example, during the mid-1800s Ojibwa in the Lake Huron-Georgian Bay region entered into multiple agreements with both private companies and the government in an effort to protect their title to

³ S.J. Kerr, *An Historical Review of Fish Culture, Stocking and Fish Transfers in Ontario, 1865-2004* (Peterborough: Ontario Ministry of Natural Resources, 2006), 130; "Walleye," *Government of Ontario*, <https://www.ontario.ca/page/walleye> (accessed 17 June 2017); "Survey of Recreational Fishing in Canada, 2010," *Fisheries and Oceans Canada*, http://www.dfo-mpo.gc.ca/stats/rec/can/2010/RECFISH2010_ENG.pdf, page 7 (accessed June 17 2017); "Yellow perch," *Government of Ontario*, <https://www.ontario.ca/page/yellow-perch> (accessed 17 June 2017); "Fisheries statistics: Historical harvest data," *Ontario Commercial Fisheries' Association*, <http://www.ocfa.ca/fisheries-industry/fisheries-statistics> (accessed 17 June 2017).

⁴ Peter A. Baskerville, *Sites of Power: A Concise History of Ontario* (Oxford University Press, 2004), 10-11.

nearby fish supplies, but “commercial companies often ignored the agreements, and the state did nothing to enforce Native rights.”⁵ Nonetheless, the Indigenous communities continued to fight for their sovereignty in general and their fishing rights in particular well into the twentieth century, and this would later have a significant influence on how the OMNRF managed Ontario’s fisheries.

Fish was one of the first natural resources in Ontario to be exploited and regulated by Euro-Canadian colonists. European exploration of Ontario began in the early seventeenth century, and the subsequent development of the fur trade helped establish fish as a valuable commodity for both trade and as a source of protein. The commercial fishing industry began to emerge in Upper Canada (present-day Ontario) during the nineteenth century, and it did not take long for the effects of pollution and overexploitation to take their toll on the province’s fish supplies. These forces prompted the colonial government to draft new laws that were designed to protect this resource. For example, in 1807 an *Act for the Preservation of Salmon* “was passed based on concerns about the decline of Atlantic salmon” in Lake Ontario.⁶ In 1885, the government of Ontario enacted legislation that gave authority for fisheries management to the Department of Lands and Forests (predecessor to the OMNRF).⁷ The federal government had even become involved with Ontario’s fisheries through breeding and stocking programs from as early as the 1860s.⁸ Yet the question of managing Ontario’s fisheries also created some conflict between the provincial and federal governments because the *British North America Act, 1867* was unclear on which government had jurisdiction over the matter. The question was finally

⁵ Ibid., 61.

⁶ S.J. Kerr, *Fish and Fisheries Management in Ontario: A Chronology of Events* (Peterborough: Ontario Ministry of Natural Resources, 2010), 1-8.

⁷ Richard S. Lambert and Paul Pross, *Renewing Nature’s Wealth: A Centennial History of the Public Management of Lands, Forests, and Wildlife in Ontario, 1763-1967* (Toronto: Ontario Department of Lands and Forests, 1967), 449.

⁸ Kerr, *An Historical Review of Fish Culture, Stocking and Fish Transfers in Ontario*, 1.

settled in 1898 by the Judicial Committee of the Privy Council in England, which determined that the Ontario government would be responsible for the bulk of duties surrounding fisheries management in the province. Unfortunately, “By this time conditions in both game and fish were so bad as to arouse acute anxiety about the whole future of wildlife resources in the Province.”⁹

Indeed, as the twentieth century dawned, the state of Ontario’s fisheries was grim. For example, the Atlantic salmon, once native to Lake Ontario, had all but disappeared by the early 1890s.¹⁰ The government of Ontario responded to concerns over its wildlife and fish policies by appointing a Royal Commission to investigate the matter. In 1892, the Ontario Game and Fish Commission (OGFC), under the chairmanship of Dr. G.A. MacCallum, issued a report which offered “a painful and sweeping indictment of the prevailing practices in the treatment of wildlife” in the province.¹¹ In terms of fisheries, the OGFC identified overfishing, water pollution (particularly from sawmills), and “the prevention of access to spawning grounds by obstacles placed in streams” as the three most prevalent and preventable causes of Ontario’s declining fish populations.¹² Despite these early warning signs, Ontario’s fisheries faced many difficulties during the first half of the twentieth century, including “the continued deterioration in water quality on the lower Great Lakes and the introduction and spread of several invasive species.”¹³

As a result, the Ontario government initiated a major overhaul of its fishing laws and its means of administering them during this period. In the early 1890s it introduced legislation

⁹ Lambert and Pross, 449.

¹⁰ *Minister of Natural Resources: Annual Report (1986-87)*, 56

¹¹ Lambert and Pross, 449.

¹² *Ontario Game and Fish Commission: Commission: Commissioners’ Report* (Toronto: Warwick & Sons, 1892), 468, <http://archive.org/stream/commissionersrep1892ontauoft#page/n5/mode/2up> (accessed 14 October 2016).

¹³ Kerr, *Fish and Fisheries Management in Ontario*, 1.

designed to protect and regulate the province's commercial fisheries, and established angling seasons and harvest limits for certain species of game fish.¹⁴ It also enhanced enforcement and penalties for infractions, namely by hiring the province's first game wardens (predecessors to today's conservation officers with the OMNRF), who were tasked with ensuring that these new regulations were respected.¹⁵ Then, in 1907, the Department of Game and Fisheries was formed. By combining scientific knowledge with practical experience, the Department was able to steadily improve upon the province's conservation laws over time.¹⁶ For example, in 1929 it established the Biological and Fish Culture Branch in order to better manage the province's hatcheries and fish stocking programs.¹⁷ By the end of the Second World War, the Department was amalgamated with the Department of Lands and Forests (DLF), thereby becoming the Division of Fish and Wildlife. By the mid-1960s, the Division employed nearly 70 biologists and over 250 conservation officers.¹⁸

The creation of the Ministry of Natural Resources (the title "Forestry" was not added until 2014) signaled the beginning of the Ontario government's shift toward managing the province's natural resources, including fish, in a more environmentally sensitive manner.¹⁹ In 1972, Premier William "Bill" G. Davis's Progressive Conservative government amalgamated the DLF with the Department of Mines and Northern Affairs to form the Ministry of Natural Resources (MNR) as part of a broader effort to improve the overall efficiency of the provincial

¹⁴ Lambert and Pross, 450-451.

¹⁵ Joe Fisher, *Game Wardens: Men and Women in Conservation* (Queen's Printer for Ontario, 1992), 15.

¹⁶ Lambert and Pross, 451.

¹⁷ Kerr, *An Historical Review of Fish Culture, Stocking and Fish Transfers in Ontario*, 3.

¹⁸ Lambert and Pross, 452-454.

¹⁹ "Ontario Ministry of Natural Resources adds forestry to its title," *CBC News*, 14 July 2014, <http://www.cbc.ca/news/canada/sudbury/ontario-ministry-of-natural-resources-adds-forestry-to-its-title-1.2706127> (accessed 17 October 2016).

bureaucracy.²⁰ Moreover, the formation of the Ministry was partly a response to the Ontario public's growing concern for environmental issues in general and the need to modernize the government's approach to natural resource management in particular.²¹ Responsibility for fisheries was initially allocated to the Division of Fish and Wildlife, which aimed "to provide and encourage recreational and industrial opportunities based on the fish [and] wildlife resources of Ontario."²²

Throughout the 1970s the MNR devoted considerable energy to boosting the vitality of Ontario's fish populations. One aspect of this initiative was to ensure the sustainability of the province's commercial freshwater fish industry, which maintained a relatively stable annual harvest of about 45 to 50 million pounds during this decade. At the same time, however, the Ministry also acknowledged that "Fish production potentials of many Ontario lakes have lost their stability during recent decades" due to overfishing, pollution, and the introduction of invasive species. Consequently, it called for "a more intensive degree of fisheries management effort throughout the Province."²³ A key development in this regard was the *Strategic Plan for Ontario Fisheries (SPOF)*, a program created by the Ontario and federal governments in order to manage "provincial fisheries for the benefits of all society not just those of competing interests."²⁴ Approved by the Ontario cabinet in 1978, *SPOF* provided new policies, more staff, and additional funding for the Ministry in order to aid its efforts to resolve the problems that were affecting the province's fish supplies.²⁵ The MNR also promoted recreational fishing

²⁰ *The Ministry of Natural Resources Act, 1972*, Statutes of Ontario 1972, Chapter 4, 67-71.

²¹ "Public concern growing on environment: Davis," *The Globe and Mail*, 24 August 1971, page 5; Mark S. Winfield, *Blue-Green Province: The Environment and Political Economy of Ontario* (UBC Press, 2012), 21

²² *Ministry of Natural Resources: Annual Report (1973)*, 8.

²³ *Ministry of Natural Resources: Annual Report (1979)*, 25.

²⁴ Kerr, *Fish and Fisheries Management in Ontario*, 42.

²⁵ *Ministry of Natural Resources: Annual Report (1979)*, 25.

opportunities in Ontario. In fact, *SPOF* pointed to the immense economic potential of this industry, and even recognized its social value as well.²⁶ Along with selling thousands of licences to resident and non-resident anglers each year and enforcing relevant legislation, the Ministry has always played an educational role in sport fishing. For example, in 1976 it produced a booklet which “provided information on 4,582 Ontario lakes and their resident fishes for anglers.”²⁷ Nonetheless, there were still relatively few restrictions on the activities of Ontario’s recreational fishers in the 1970s; indeed, at this time all of the province’s sport fishing regulations could be summarized on just one sheet of paper.²⁸

More generally, the Ministry carried out an extensive amount of fisheries-related research in the 1970s. Many of these studies focused on “the impact of man’s growing and varied use of our waters and their fish communities,” particularly as it related to fishing, pollution, invasive species, shoreline development, and water level changes.²⁹ From its earliest days, the Ministry has worked closely with the Great Lakes Fishery Commission (GLFC), which was established in 1955 by the Canadian and American governments in order to control the invasive sea lamprey and improve management of fish stocks in the Great Lakes.³⁰ In 1973, for instance, the GLFC published a number of reports authored by the MNR’s scientists on the state of Lakes Ontario, Huron, Superior, and Opeongo.³¹ Fish culture and stocking has been another long-standing element of the Ministry’s fisheries research and management strategies. Although the history of fish culture and stocking in Ontario dates back to the mid-nineteenth century, “By the 1970s ... fish health management was improved and more emphasis was placed on genetic considerations

²⁶ Dr. Nigel Lester, e-mail message to author, 16 June 2017.

²⁷ Kerr, *Fish and Fisheries Management in Ontario*, 43.

²⁸ Dr. Nigel Lester, e-mail message to author, 16 June 2017.

²⁹ *Ministry of Natural Resources: Annual Report (1975)*, 13.

³⁰ Kerr, *Fish and Fisheries Management in Ontario*, 34.

³¹ *Ministry of Natural Resources: Annual Report (1973)*, 10.

of individual fish stocks.”³² Over the course of the 1970s the MNR stocked Ontario’s waters with millions of eggs and fish while simultaneously investigating the impact of disease and other factors on these populations. In particular, the Ministry rigorously studied the effects of environmental degradation on Ontario’s fish, noting that the “loss of significant portions of fish habitat continues to be a problem.”³³

By the turn of the decade, Ontario’s fisheries were centres of both thriving activity and looming hardships. While the recreational and commercial fishing industries continued to contribute millions of dollars annually to the provincial economy, in 1981 the Ministry explained that “our fish populations have been under stress for years. Some areas are almost fished out, streams and lakes debilitated and degraded and poisons and pollutants from many sources are affecting the fish in many water bodies.”³⁴ Moreover, the mid-to-late 1980s witnessed a major resurgence in public concern for environmental issues in Ontario, and thus the MNR was faced with ever-mounting pressure to administer the province’s natural resources in a more environmentally and socially responsible manner.³⁵ Along with the implementation of *SPOF*, the Ministry adopted a number of new strategies and programs which ultimately helped successfully combat, though not completely remedy, the many problems facing Ontario’s fisheries.

Protecting and restoring fish habitats was central to the MNR’s fisheries policy during the 1980s. Under *SPOF*, the Ministry expressed its commitment “to the maintenance and protection ... and to the rehabilitation of those waters which have become degraded.”³⁶ This included

³² Kerr, *An Historical Review of Fish Culture, Stocking and Fish Transfers in Ontario*, 5.

³³ *Ministry of Natural Resources: Annual Report (1979)*, 25.

³⁴ *Ministry of Natural Resources: Annual Report (1981)*, 45.

³⁵ Mark S. Winfield, *Blue-Green Province: The Environment and Political Economy of Ontario* (UBC Press, 2012), 40.

³⁶ *Ministry of Natural Resources: Annual Report (1981)*, 45.

collaborating with the Ministry of the Environment to study the impact of acid rain on Ontario's waters and fish. In fact, the MNR eventually developed its Fisheries Acidification Program, which quickly determined "that acid rain and snow can be extremely harmful to fish populations. However ... there is still hope for fish in lakes where water quality improves." By 1986, the Ministry had conducted chemical surveys of over 5,000 lakes across Ontario and continued to work with the Ministry of the Environment to neutralize the acidity of various waterbodies.³⁷ In a broader sense, by the end of the decade the MNR had increased its emphasis on protecting fish habitat in the province. For example, over the course of 1989-1990 it contributed about \$900,000 to over 150 projects to rehabilitate fish habitat, and also trained hundreds of its non-fisheries staff members – including those involved with land management, engineering, and forestry – on "methods to protect fish habitat from the potential adverse effects of development."³⁸ In addition, the Ministry began "developing a system for classifying fisheries habitat to enable identification and protection of critical areas around the province."³⁹

Fish culture and stocking efforts continued to be of the utmost importance to the Ministry. For example, the reintroduction of the Atlantic salmon to Lake Ontario, a native species which disappeared from this waterbody in the late nineteenth century, has been one of the Ministry's most notable fish stocking programs. Launched in the mid-1980s, the project involved releasing thousands of eggs and young salmon into Lake Ontario streams each year while also conducting research into the viability of eventually developing a self-sustaining population.⁴⁰ This initiative has carried over into the new millennium, and although it has

³⁷ *Ministry of Natural Resources: Annual Report (1986)*, 54.

³⁸ *Minister of Natural Resources: Annual Report (1989-90)*, 22.

³⁹ *Minister of Natural Resources: Annual Report (1987-88)*, 40.

⁴⁰ Kerr, *An Historical Review of Fish Culture, Stocking and Fish Transfers in Ontario*, 26-29; *Minister of Natural Resources: Annual Report (1986-87)*, 56; *Minister of Natural Resources: Annual Report (1989-1990)*, 22.

enjoyed mixed results over the years, there have certainly been signs of progress. In the mid-2000s, for instance, it was reported that Atlantic salmon were spawning in the Credit River, which empties into Lake Ontario, for the first time in 150 years.⁴¹ Overall, the Ministry generally enhanced its fish culture initiatives during this period. In 1982, for instance, it developed a new stocking policy which recognized different objectives for stocking fish, determined that mandatory aquatic habitat inventory surveys must first be conducted to ensure proper habitat conditions, and suggested stocking densities for various species.⁴² By the end of the decade, the MNR was stocking approximately 1,000 lakes and rivers across Ontario with about 12 million fish each year.⁴³

Supporting both the commercial and recreational fishing industries in Ontario also captured much of the MNR's attention. Since the early 1980s, Ontario has boasted the largest freshwater commercial fishing industry in North America, with most of this activity occurring on the Great Lakes, especially Lake Erie. In 1983, the Ontario government approved an MNR proposal to modernize the province's commercial fishing industry as a "response to intense fishing pressure, habitat deterioration, and reduced demand for fish." While this plan contained a number of elements, its most crucial aspect involved implementing "a new approach to commercial licensing" in order to "help keep fishermen afloat economically" while also providing "greater protection of the fisheries resource."⁴⁴ A few years later, Ontario's commercial fishers set a new record for their annual harvest, catching about 61 million pounds of fish at a value of nearly \$50 million. At the same time, the MNR continued to monitor fish stocks

⁴¹ "After 150 years, Atlantic salmon return to the Credit River," *The Globe and Mail*, 30 July 2011, page A13.

⁴² Kerr, *Fish and Fisheries Management*, 46.

⁴³ *Minister of Natural Resources: Annual Report (1986-87)*, 56; *Minister of Natural Resources: Annual Report (1989-1990)*, 20.

⁴⁴ *Minister of Natural Resources: Annual Report (1984)*, 25.

and levels, set catch restrictions on certain species, and even bought out the licences of numerous commercial operators on Lake Ontario to prevent overfishing.⁴⁵ In terms of sport fishing, an industry which attracted over two million resident and non-resident anglers who spent an estimated \$700 million in Ontario on fishing trips and equipment in 1985-86 alone, the Ministry continued to perform its traditional regulatory functions and provide information.⁴⁶ For example, in 1987 it introduced a new sport fishing licence for Ontarians between the ages of 18 and 64. The revenue generated from the sale of these licences was used by the MNR to fund “projects to improve spawning areas, upgrade fish culture facilities and rehabilitate lakes, study fish habitat, produce education programs and create access points.”⁴⁷

A key aspect of the Ministry’s overall mandate during the 1980s was encouraging public participation in its activities and programs, and this was particularly evident with fisheries management. More specifically, the Community Fisheries Involvement Program (CFIP), introduced in 1982, provided an outlet for volunteers to become involved with MNR projects related to fisheries management. In its first year of operation, 22 different projects were approved under CFIP, providing an estimated 3,000 days of volunteer work.⁴⁸ The number of volunteers and projects committed to CFIP grew at a remarkable rate, and within a matter of years the Ministry was proudly expounding upon the accomplishments of the program and its participants, describing them as “truly impressive.” In 1984, for instance, CFIP volunteers had created or improved thousands of square miles of walleye and trout spawning beds, and stocked millions of walleye, rainbow trout, and brown trout in Ontario’s waters.⁴⁹ As the decade drew to a close, the

⁴⁵ *Minister of Natural Resources: Annual Report (1988-89)*, 21.

⁴⁶ *Minister of Natural Resources: Annual Report (1985-86)*, 48.

⁴⁷ *Minister of Natural Resources: Annual Report (1988-89)*, 20; Kerr, *Fish and Fisheries Management*, 50.

⁴⁸ Kerr, *Fish and Fisheries Management*, 46; *Minister of Natural Resources: Annual Report (1983)*, 27.

⁴⁹ *Minister of Natural Resources: Annual Report (1985)*, 37.

Ministry noted that “CFIP is more popular than ever and its projects are becoming more varied.”⁵⁰

The MNR underwent a significant ideological transformation during the 1990s, and this had a clear impact on its management of Ontario’s fisheries. Despite a deep and widespread recession across North America, ongoing budget cuts, and a general decline in public concern for environmental causes, the Ministry nonetheless strove to reframe its overarching goals within the broader context of ecological sustainability.⁵¹ More specifically, rather than treating natural resource management as a compartmentalized activity, the MNR embraced strategies which reflected the interconnectedness of the environment and the centrality of its long-term well-being. At the same time, the Ministry aimed to balance these concerns with the economic and social benefits traditionally offered by Ontario’s bountiful resources. In this regard the MNR modified many of its fisheries policies during the 1990s, decisions which ultimately had a positive influence on the province’s fish stocks and waterbodies as a whole.

One of the first major events to have an effect on Ontario’s fisheries during this decade related to Indigenous peoples. In 1990, the Supreme Court of Canada rendered a landmark verdict in the *Sparrow* case, whereby the traditional fishing rights of the Indigenous population were constitutionally affirmed. In fact, it was determined that “First Nation communities have a right of access to the fishery resource which may not be restricted by arbitrary rules.” Furthermore, restrictions on Indigenous fishing rights could now “only occur as a last resort and only where a true conservation concern has been established.” However, in a separate case, the Supreme Court confirmed the Ontario government’s authority to regulate commercial fishing by

⁵⁰ *Minister of Natural Resources: Annual Report* (1987-88), 40.

⁵¹ *Ministry of Natural Resources: Annual Report* (1992): 7; Anne Koven, “Policy Networks and Paradigm Change in Ontario Forest Policy, 1988-2014,” (PhD Diss., University of Toronto, 2015); ii; Winfield, 66.

Indigenous peoples.⁵² Nonetheless, the *Sparrow* decision certainly marked a watershed in the history of Aboriginal fishing rights, and it continues to shape the MNRF's overall fisheries policy. Indeed, as the Ministry noted in 2005, "the *Sparrow* decision ... found that ... the Aboriginal right to harvest fish for food, social and ceremonial purposes must be given priority after conservation and resource management concerns have been satisfied." More importantly, the MNR added that its policies "recognize the priority rights of Aboriginal people exercising a constitutionally protected right to harvest fish and wildlife for personal or community subsistence purposes."⁵³

In the early 1990s the Ministry undertook a noteworthy revision of its fisheries management policies, namely by producing an updated version of *SPOF*. After much public consultation, the MNR released *SPOF II*, which was officially approved and adopted by the Ontario government in 1991-92.⁵⁴ Unlike its predecessor, *SPOF II* focused on managing entire aquatic ecosystems rather than narrowly concentrating on a single fish species or specific bodies of water.⁵⁵ The overarching goal of this program was best described by the Ministry when it asserted that it "is faithful to the concept of sustainable development" and endeavours "to have healthy aquatic ecosystems that provide long-term benefits to help satisfy society's need for a high-quality environment, wholesome food, employment and income, recreational activity, and cultural heritage."⁵⁶ Under *SPOF II*, the Ministry identified the degradation of fish habitat, loss

⁵² Kerr, *Fish and Fisheries Management*, 52.

⁵³ "The Regulatory Role of The Ontario Ministry of Natural Resources and the Ministry's Relations with Aboriginal People," *Ministry of Natural Resources* (December 2005): 10, https://www.attorneygeneral.jus.gov.on.ca/inquiries/ipperwash/policy_part/projects/pdf/mnr_relations.pdf (accessed 27 October 2016).

⁵⁴ Kerr, *Fish and Fisheries Management*, 52-53.

⁵⁵ *Ministry of Natural Resources: Annual Report* (1991-92), 17.

⁵⁶ "Strategic Plan for Ontario Fisheries (SPOF II): An Aquatic Ecosystem Approach to Managing Fisheries," *Ontario Ministry of Natural Resources* (Queen's Printer for Ontario, 1992), 2.

of fish, and shareholder conflicts as the three major issues facing Ontario's fisheries. It therefore proposed a number of initiatives, including limiting human access to fish resources and fostering conditions to encourage the natural reproduction of fish, in the hope of mitigating these pressing problems.⁵⁷

The Ministry also put into effect multiple changes to its recreational and commercial fishing policies during these years. In 1993, for example, it introduced a new system for licensing resident anglers and hunters in Ontario in order to improve the process of issuing, purchasing, and verifying fishing and hunting licences. The Ministry would now issue a mandatory plastic identification card, known as the Outdoors Card, to all Ontarians wishing to fish and hunt in the province, and this system remains in place today.⁵⁸ Sport fishing in general remained immensely popular in Ontario, with one MNR survey indicating that nearly 2 million anglers harvested over 39 million fish in 1995 alone.⁵⁹ The Ministry concurrently undertook a review of the province's commercial fisheries, beginning with a series of public meetings held across Ontario that culminated in a 1991 report that offered numerous recommendations for improving the industry's operations relating to issues such as resource allocation, royalties, and incidental catch. Consequently, the Ministry later announced that commercial operators would begin paying a two percent royalty on their fish harvests, representing an annual revenue of approximately \$1 million for the Ontario government.⁶⁰ By the late 1990s, the industry reported that the province's commercial freshwater fishing industry, one of the largest in the world, was valued at about \$200 million and directly or indirectly employed around 20,000 people.⁶¹

⁵⁷ *Ibid.*, 5-18.

⁵⁸ *Ministry of Natural Resources: Annual Report (1991-92)*, 17.

⁵⁹ Kerr, *Fish and Fisheries Management*, 55; *Ministry of Natural Resources: Annual Report (1992-1995)*, 2.

⁶⁰ Kerr, *Fish and Fisheries Management*, 51; *Ministry of Natural Resources: Annual Report (1991-1992)*, 18.

⁶¹ *Ministry of Natural Resources: Business Plan (1997-1998)*, 7.

The Ministry also did much to protect and stock Ontario's waterbodies, and continued to actively encourage the public to become involved with these and other fisheries-related initiatives. In terms of habitat protection, the MNR played a central role in setting the guidelines for the *Fish and Wildlife Conservation Act, 1997*, which provided a comprehensive, streamlined, legislative framework for the conservation and management of Ontario's fish and wildlife resources. This legislation remains in place today, and allows the Ministry to, among other things, enforce effectively the relevant policies designed to protect fish habitats.⁶² In addition, the MNR's fish stocking programs reached new heights during this decade. In 1997-98, for instance, the Ministry stocked 7.8 million fish in provincial waters, exceeding its goal by 300,000, and it aimed to increase that number to 8.5 million the following year.⁶³ Finally, CFIP proved to be remarkably successful throughout the 1990s, allowing Ontarians to volunteer on hundreds of projects ranging from stream restoration to working in small-scale fish hatcheries.⁶⁴ In fact, in 1992, as a result of its work with CFIP volunteers and other similar groups, the MNR received the Institute of Public Administration of Canada's Gold Award, the nation's most prestigious award in public administration, for its "innovative partnerships in involving [its] clients and customers."⁶⁵

The twenty-first century has presented many new challenges and opportunities for Ontario's fisheries, and this has forced the MNRF to adjust how it administers this resource. Perhaps most importantly, fisheries management in Ontario is now almost entirely about recreational fisheries (aside from the Great Lakes with a \$42-million commercial fishery landed

⁶² *Fish and Wildlife Conservation Act, 1997*, Statutes of Ontario 1997, Chapter 41, <https://www.ontario.ca/laws/statute/97f41> (accessed 31 October 2016).

⁶³ *Ministry of Natural Resources: Business Plan (1998-1999)*, 3-4.

⁶⁴ *Ministry of Natural Resources: Annual Report (1992-1995)*, 1.

⁶⁵ *Ministry of Natural Resources: Annual Report (1991-92)*, 7.

value in 2016), with the Ministry shifting emphasis away from the commercial sphere in recent years.⁶⁶ Furthermore, the Ministry has expanded upon many of the concepts and ideas that rose to prominence within its ranks during the previous decade, thereby asserting its commitment to infusing modern scientific and ecological principles into practically all of its duties. In addition, the general public has demonstrated a fairly strong and consistent interest in environmental issues in Ontario since the turn of the century, and this has helped add credence to many of the MNRF's policies and programs. These trends have arguably been most readily apparent in fisheries management. In this regard, the Ministry has implemented a wide range of initiatives during the new millennium which recognize that "Ontario's fish resources are an important part of its biodiversity" and aim to preserve them for the sake of the "province's economic, social, and environmental well-being."⁶⁷

In terms of the science behind fisheries management, the MNRF has introduced various strategies which seek to administer Ontario's fish resource in an environmentally sustainable manner in order to ensure that it remains healthy for future generations. In 2005, for instance, it introduced the Ecological Framework for Recreational Fisheries Management, leading to the establishment of ecologically-based fishing regulations, increased public involvement in management programs, standardized "broad-scale" monitoring approaches, adaptive management strategies, and "systematic state-of-the-resources reporting." Most significantly, this framework divided the province into twenty Fisheries Management Zones (FMZs) which are now used as the unit of measurement for most fisheries in Ontario and form the basis for fishing regulations such as catch and release seasons. On the Great Lakes, they are used to manage both

⁶⁶ Dr. Nigel Lester, e-mail message to author, 16 June 2017.

⁶⁷ "Ontario's Provincial Fish Strategy: Fish for the Future," *Ontario Ministry of Natural Resources and Forestry* (Queen's Printer for Ontario, 2015), 3.

sport and commercial fisheries. The framework has provided unprecedented transparency and stakeholder access to Ministry decision-making and has ushered in a new era of cooperation on fisheries regulation and commercial fish quota-setting. Moreover, management decisions and their consequences are analyzed within the context of entire FMZs, not just single lakes (of which there are more than 250,000 in the province), because the MNR asserts that lake-by-lake management cannot adequately address many of the problems facing Ontario's fisheries.⁶⁸ More broadly, in the early 2000s the Ministry assembled members of government, industry, the public, and environmental and conservation groups to formulate Ontario's Biodiversity Strategy, described as "an overarching plan to protect Ontario's rich natural heritage of plants, animals and ecosystems and use our natural resources sustainably." This included reviewing the *Endangered Species Act, 2007*, which presently lists about thirty different species of fish as being at risk in Ontario, as well as improving upon the use of protective measures surrounding the province's lakes and rivers.⁶⁹

More recently, in 2015 the OMNRF released *Ontario's Provincial Fish Strategy: Fish for the Future*, a strategic policy framework designed to guide the management of Ontario's fisheries from this point onward. A comprehensive program, *Fish for the Future* has two primary goals: to improve the administration of fisheries and their associated ecosystems, and to uphold fishing as a socially, economically, and culturally significant activity so that it may continue to offer many benefits to the people of Ontario. This includes emphasizing the importance of science and ecosystem-based solutions to fisheries-related issues, community and stakeholder collaboration (especially with Indigenous peoples), and adaptive and landscape management

⁶⁸ Ibid., 5; Nigel P. Lester *et al.*, "A Broad-Scale Approach to Management of Ontario's Recreational Fisheries," *North American Journal of Fisheries Management*, 23 (2003), 1312-1328.

⁶⁹ "Published Results-based Plan," *Ministry of Natural Resources* (2007-08), 9.

approaches.⁷⁰ An example of a specific, concrete objective outlined in *Fish for the Future* is to “prevent unauthorized introduction and slow the spread of invasive fish and other aquatic species, including pathogens.” The MNRF proposes that this issue be dealt with by working closely with other relevant parties to implement actions related to the prevention and early detection of invasive species, and to support the regulation of species under the Ontario government’s *Invasive Species Act*.⁷¹

The commercial and sport fishing industries continue to be valuable parts of Ontario’s economy and culture. Ontario’s recreational fishing sector generates \$1.7 billion annually, and attracts over one million resident and non-resident anglers each year. This largely has to do with the fact that fishing is a major tourist attraction for the province, particularly in northern Ontario where remote tourism fisheries contribute to millions of dollars in revenues every year⁷². Unsurprisingly, then, in an effort to avoid overfishing, regulations surrounding recreational fishing have proliferated in Ontario in recent years, prompting the MNR to release 100-page booklets each season which summarize the myriad of rules surrounding this activity. In a nutshell, these regulations, which have gradually evolved over the decades, dictate where and when one can fish, as well as how many fish and what size of fish can be kept (for different species). While this might seem like common sense to the modern angler, in the past the Ministry simply did not think that recreational fishing could cause overfishing, so there were very few rules. Today, of course, this is far from the case.⁷³ Likewise, the Ontario government, with the

⁷⁰ “Ontario’s Provincial Fish Strategy: Fish for the Future,” *Ontario Ministry of Natural Resources and Forestry* (Queen’s Printer for Ontario, 2015), 3.

⁷¹ *Ibid.*, 35.

⁷² Economic Solutions Inc. (2002), “Ontario Resource-based Tourism Diversification Opportunities Report,” *Ontario Ministry of Northern Development and Mines*, i.

⁷³ “Fishing Ontario, 2017: Recreational Fishing Regulations Summary,” *Ontario Ministry of Natural Resources and Forestry*, <https://dr6j45jk9xcmk.cloudfront.net/documents/5007/2017-ontario-fishing-regulations-summary-english.pdf> (accessed 19 June 2017); Dr. Nigel Lester, e-mail message to author, 16 June 2017.

aid of the MNRF, regulates commercial fishers through annual quotas, annual commercial fishing licences that outline specific conditions, safety inspections and more. In 2016, it was reported that Ontario's commercial fishery, still one of the largest in the world, had a landed value of about \$42 million.⁷⁴

The MNRF's modern fish culture and stocking programs are indicative of its larger commitment to environmentally sound resource stewardship. In the early 2000s, for example, the Ministry updated the scientific components of its provincial fish stocking guidelines for Ontario's inland waters.⁷⁵ On average, the MNRF presently stocks provincial waters with 8 million fish per year, with a particular emphasis on rehabilitating species whose populations have suffered serious declines.⁷⁶ For instance, in 2009-10 the Ministry released the one millionth Atlantic salmon into Lake Ontario as part of the Lake Ontario Atlantic Salmon Restoration Program.⁷⁷ Similarly, a few years later the OMNRF concluded that the walleye population in Lake Nipissing was "in a stressed condition, with fishing-related mortality being a critical factor in the decline." After collaborating with First Nations and other interested stakeholders, the Ministry changed the sport fishing regulations on this lake in order to slow the degradation of walleye stocks, and continued to work with the public and others to combat this problem.⁷⁸

In a similar vein, the OMNRF still endeavours to protect the province's waterbodies and fish habitats, and regularly provides the public with opportunities to lend a helping hand with these and other fish management projects. The former objective is generally facilitated through

⁷⁴ Kerr, *Fish and Fisheries Management*, 63.

⁷⁵ *Ibid.*, 63.

⁷⁶ "Results-based Plan," *Ministry of Natural Resources* (2013-14), 12.

⁷⁷ "Results-based Plan," *Ministry of Natural Resources* (2009-10), 34.

⁷⁸ "Results-based Plan," *Ministry of Natural Resources* (2013-14), 39; "Results-based Plan," *Ministry of Natural Resources* (2014-15), 44.

the Ministry's broader resource management programs such as the aforementioned Biodiversity Strategy and *Fish for the Future*, which naturally strive to prevent the degradation of Ontario's water, forests, and land. Public participation, on the other hand, for a number of years was guided by the Community Fish and Wildlife Involvement Program (CFWIP), formed in 1998 through an amalgamation of CFIP and the Community Wildlife Involvement Program.⁷⁹ CFWIP attracted thousands of volunteers and expedited the undertaking of hundreds of projects annually, ranging from habitat restoration to the monitoring of fish and wildlife populations. In fact, in 2008-09 alone over 38,000 people contributed 271,189 hours of volunteer work through CFWIP.⁸⁰ Although the program has since been discontinued, the OMNRF has recently partnered with the Ontario Federation of Anglers and Hunters (OFAH) to operate the Community Hatchery Program (CHP), which aims to foster local partnerships and community involvement with fish culture and stocking activities. While CHP is technically delivered by OFAH, the Ministry still has regulatory responsibilities and helps fund the program.⁸¹ In 2013, the MNRF also established the Land Stewardship and Habitat Restoration Program, which provides matching funds for projects that maintain or restore habitats that benefit fish, as well as animals and/or plants. Eligible projects include stream and wetland restoration, invasive species control, native species reintroduction and more.

The history of fish management in Ontario has certainly featured its ups and downs, but under the MNRF its future looks bright. Indeed, centuries of minimal regulatory oversight undoubtedly threatened the future of our province's fish populations, and while some measures were eventually imposed to address this problem, for much of the twentieth century the public

⁷⁹ Kerr, *Fish and Fisheries Management*, 57.

⁸⁰ "Results-based Plan," *Ministry of Natural Resources* (2010-11), 16.

⁸¹ "Results-based Plan," *Ministry of Natural Resources* (2014-15), 12.

administration of this resource was often still quite lax. Fortunately, the formation of the MNRF has brought a sense of stability to Ontario's waters. The Ministry has clearly been able to convert its mantra of ecological sustainability and environmental protection into reality. This largely stems from its reliance on the most trusted scientific evidence and its receptive attitude towards the advent of social change, both of which have contributed to shifts in policy direction. As we have seen, its management of the province's fisheries provides a prime example of this behaviour, and while it has undoubtedly faced problems in the past, the MNRF will make every effort to guarantee that Ontarians will always have fish for the future.