



## Fish and Wildlife Special Purpose Account Annual Report 2018-19

Date: JANUARY 19, 2023

## Introduction

The Ministry of Natural Resources and Forestry (MNRF) manages Ontario's fish and wildlife resources to ensure the sustainability of wild populations, and the management of fishing, hunting and trapping opportunities for recreational and commercial purposes. The Fish and Wildlife program accomplishes its mandate through resource management planning, research and monitoring, and the delivery of public services to sustain healthy fish and wildlife populations for Ontario's future.

Recreational fishing is important to the province, both economically and socially. Ontario anglers enjoy the greatest fish diversity in Canada, with 145 species. Walleye, Yellow Perch, Smallmouth Bass and Northern Pike are the most caught and harvested species. With more than 250,000 lakes and countless rivers and streams, Ontario's vast aquatic resources give anglers a wide range of fishing opportunities, from fishing off shorelines in the city to fly-in fishing trips in remote areas of the province. The 1.5 million anglers who enjoy Ontario's recreational fisheries spend \$1.75 billion per year on recreational fishing in Ontario<sup>1</sup>.

Ontario is home to a wealth of forests, shrublands, grasslands and wetlands that provide abundant wildlife habitat. The diversity of wildlife species in Ontario reflects the diversity of ecosystems in the province. Game wildlife species are not only important components of the ecosystems in which they are found but they provide sustainable hunting opportunities throughout much of the province. Ontario's goal for the management of these species is to ensure sustainable populations and ecosystems on which they rely, and for the continuous provision of ecological, cultural, social and economic benefits for the people of Ontario. Hunters in Ontario spend over \$560M on hunting activities each year.

In 1995, MNRF established the Fish and Wildlife Special Purpose Account (FW SPA) to demonstrate investment in fish and wildlife management activities. All revenue from licence fees, fines and royalties collected under the *Fish and Wildlife Conservation Act*, 1997 flows into this account.

Funds held in the FW SPA may only be spent on:

- the conservation and/or management of fish and wildlife populations including the ecosystems which they rely upon
- matters related to the activities of people as they interact with, or affect wildlife or fish populations, including any matter related to safety, or,
- a refund of all or part of a fee or royalty

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<sup>1</sup>Source: 2015 Survey of Recreational Fishing in Canada: Selected Results for Ontario Fisheries.

Pursuant to section 85(4) of the *Fish and Wildlife Conservation Act*, the MNRF must publish an annual report outlining the financial affairs of the FW SPA. This report summarizes the highlights and financial expenditures of the 2018-19 fiscal year.

## Fish and Wildlife Heritage Commission

The Fish and Wildlife Heritage Commission (FWHC), established under subsection 2(1) of the *Heritage Hunting and Fishing Act*, 2002, provides recommendations on matters referred to it by the Minister. The FWHC members are appointed by Order-in-Council and represent a cross-section of key interests in the sustainable use of Ontario's fish and wildlife resources. The responsibilities of the FWHC include providing advice on:

- practices that will contribute to recreational hunting and fishing being valued by future generations
- public participation in fish and wildlife conservation programs
- youth participation in hunting, fishing and other fish and wildlife activities
- tourism related to hunting, fishing and other fish and wildlife related activities
- new opportunities for hunting, fishing and other fish and wildlife related activities, and
- the operation of the FW SPA

The Commission was engaged in 2018-19 to provide advice on many FW SPA funded items including fisheries management, wildlife management, and invasive species, as well as marketing and communications. The Commission was also regularly updated on the financial position and sustainability of the FW SPA. Information about the Commission or current membership may be found [here](#).

## Services Funded by the Fish and Wildlife Special Purpose Account

### Fisheries Management

#### Fish Culture and Stocking

The province operates nine fish culture stations which produce and stock fish into public waters to rehabilitate degraded fish stocks and to create, maintain and enhance angling opportunities. The FW SPA covers a significant portion of the operating costs.

MNRF sets stocking targets, including those for community hatchery programs. Actual numbers produced in any year depend on the availability and quality of fertilized eggs.

This year, 8.08 million fish, weighing 199 metric tonnes were stocked into 1,282 waterbodies, including the Great Lakes and inland lakes, 10 percent above target. In addition, the ministry also supplied community hatchery program partners with 2.11 million fertilized fish eggs or fry, 13 percent over target. Classroom hatchery partners received 0.56 million fertilized fish eggs for eventual stocking into public waters, fully meeting the target.

Table 1: Number of fish stocked by species over the last five years

Species	2014	2015	2016	2017	2018
Atlantic Salmon	543,429	580,901	403,819	376,274	595,060
Aurora Trout	15,634	64,276	2,689	45,392	35,954
Bloater	48,495	35,597	161,680	170,410	91,653
Brook Trout	1,013,488	974,238	971,508	874,332	1,113,343
Brown Trout	263,067	297,117	269,766	231,596	250,405
Chinook Salmon	492,247	440,549	308,190	260,506	196,554
Lake Whitefish	146,055	145,219	140,908	106,645	144,376
Lake Trout	3,050,397	3,390,470	3,103,617	2,775,682	2,672,139
Muskellunge	0	1,818	0	194	398
Rainbow Trout	349,405	440,499	358,594	410,732	386,977
Splake	617,839	636,723	583,813	635,678	614,939
Walleye	1,179,944	1,298,029	560,832	2,472,591	1,980,873
<b>Annual total</b>	<b>7,720,000</b>	<b>8,305,436</b>	<b>6,865,416</b>	<b>8,360,032</b>	<b>8,082,671</b>

Of the 8.08 million fish stocked by MNRF in 2018, 54 percent were released into the Great Lakes. The other 46 percent were released into inland waters (Table 2).

Table 2: Species stocked by region in 2018

Species	Great Lakes	Northeast Region	Northwest Region	Southern Region	Species Total
Atlantic Salmon	595,060	0	0	0	595,060
Aurora Trout	0	35,954	0	0	35,954
Bloater	91,653	0	0	0	91,653
Brook Trout	0	479,328	390,143	243,872	1,113,343
Brown Trout	177,911	1,673	0	70,821	250,405
Chinook Salmon	196,554	0	0	0	196,554
Lake Whitefish	0	0	0	144,376	144,376
Lake Trout	2,048,066	285,259	235,901	102,913	2,672,139
Muskellunge	398	0	0	0	398
Rainbow Trout	148,133	89,847	47,347	101,650	386,977
Splake	0	235,869	211,489	167,581	614,939
Walleye	1,082,176	814,658	0	84,039	1,980,873
<b>Regional Total</b>	<b>4,339,951</b>	<b>1,942,588</b>	<b>884,880</b>	<b>915,252</b>	<b>8,082,671</b>

Of the 3.74 million fish stocked into inland waters, about 33 percent will help protect, reintroduce and rebuild fish populations in areas where they have been suppressed or eliminated. The other 67 percent were stocked, to enhance recreational fishing opportunities through put-and-take, put-grow-and-take and supplemental stocking. These types of stocking create hatchery-dependent fishing opportunities. They can also protect other species by diverting angling pressure away from waterbodies with naturally reproducing fish stocks that are vulnerable to overharvest. We promote these recreational angling opportunities on the [Fish ON-Line](#) website.

### **Fisheries Legislation, Regulation and Policy**

Fisheries legislation, regulation and policy, developed through engagement with stakeholders, partners, Indigenous communities and organizations, and the public, is the foundation of recreational and commercial fisheries management in Ontario. Regulations and policies outline where, when, and how fishing may be conducted in the province.

FW SPA expenditures support staff costs to deliver fisheries policy activities, such as:

- developing variation orders that implement changes to seasons, quotas and limits in fisheries management zones across the province
- requesting amendments to federal and provincial fishery regulations, and
- reviewing policies and procedures governing the allocation of aquaculture and commercial bait licences

### **Broad-scale monitoring**

Broad-scale monitoring (BsM) is a long-term monitoring program that provides information on the state of Ontario's inland lake fish and fisheries to inform policy development and resource management decisions. Approximately 100-150 lakes across the province are sampled annually using standardized methods, with reporting on results for Fisheries Management Zones every five years.

Intensive inland lakes monitoring is targeted, long-term monitoring on selected lakes with significant social or economic, benefits and that require more intensive management due to stressors like harvest, land use, and invasive species. Examples include Lake of Woods, Lake Nipigon, Lake Simcoe, and the Kawartha Lakes.

Data and reports from BsM and intensive inland lake monitoring support fisheries management planning and other resource management activities and are used by a wide range of stakeholders, indigenous groups, anglers, and the public.



In 2018-19, the FW SPA supported BsM sampling of 143 lakes and focused aquatic monitoring on several significant inland fisheries, including Lake of the Woods, Lake Nipissing, Lake Nipigon, Rainy River and the Tri-Lakes. MNRF collected status and trend data and collaborated with the Ministry of the Environment, Conservation and Parks (MECP) to evaluate water quality and fish contamination.

## **Recreational Fisheries Population Management**

### **Northwest Region**

Fisheries Management Zone (FMZ) 6 completed its first fisheries management plan in 2009, followed by FMZ 4 and FMZ 5 in 2014. These plans need to be examined periodically with the zone's advisory council to update the fisheries information, confirm the plan objectives, report on actions taken, and identify emerging fisheries issues.

The first plan to be examined was FMZ 6. The review began in 2018, to correspond to the Cycle 3 broad-scale monitoring and results. The Advisory Council met in November 2018 to begin discussions on the plan examination.

### **Northeast Region**

The Fisheries Management Zone (FMZ) 10 advisory council has been in place since 2007. Prior to 2018, the council discussed management direction and actions on individual species, rather than doing comprehensive FMZ planning (e.g., significant changes to Lake Trout regulations implemented in 2010 and increased opportunities for bass angling in 2014).

At the beginning of 2018, the zone held four Indigenous information sharing sessions. This resulted in expanded Indigenous involvement on the FMZ 10 advisory council. A reinvigorated council with broader membership (First Nation and Métis) began comprehensive planning in 2018.

The FMZ 11 advisory council was established in 2010. A draft FMZ management plan was completed in 2018. The draft plan was posted on the Environmental Registry for comment in 2019, and four open house sessions were hosted in major communities within FMZ 11.

### **Southern Region**

The fisheries management plan for the Ottawa River (FMZ 12) was approved in April 2018. This plan will guide the management of the fisheries resources of the Ottawa River, from the north shores of Lake Temiskaming to the southeast end of Lac Dollard des Ormeaux. The plan commits the provinces of Ontario and Quebec to collaboratively manage the Ottawa River fishery so users from both provinces can benefit from this unique and valuable resource. Fisheries management approaches and other

management activities will be harmonized to meet the joint vision and stated goals and objectives for fisheries within this zone.

Fisheries management planning is underway in FMZ 15. The first advisory council meeting was held in March 2017. A draft plan should be ready for review by the advisory council in Spring 2021. After review, the draft plan will be posted for public review on the Environmental Registry.

## **Fisheries Research**

Applied research, focused on fish populations and their ecosystems, provides a foundation of knowledge for provincial fisheries management, policy, and regulations, including catch limits. Work includes gaining new relevant knowledge about fish and fisheries and the cumulative impacts of threats such as invasive species and climate change on the integrity of inland and Great Lakes fisheries. Population and ecosystem models, decision support tools, advances in research and development, as well as scientific advice, help sustain our fisheries and the \$1.75 billion in economic benefits they provide. Highlights for this year include:

- Lake Whitefish recruitment declines in Lake Huron were investigated. This research will inform fisheries management decisions related to sustainability of this commercially harvested species. Field work included collecting larval fish and plankton samples from the Fishing Islands spawning shoal. Samples were processed and analyzed in the laboratory to determine if low food availability limits recruitment during the spring larval fish hatch.
- An ecosystem model for Lake Simcoe was built and simulations run to examine the effects of invasive species on the food web and to investigate alternative management scenarios related to water quality and fisheries harvest. Results were presented to Lake Simcoe fisheries managers and the Lake Simcoe Fisheries Stakeholders Committee.
- The Northern Fisheries field program sampled fish in 10 Boreal Shield lakes in headwaters of primary Far North drainage basins to support research into food web and contaminants, and in 14 streams near the Ring of Fire mineral deposit to study environmental effects monitoring.
- Climate change scenarios were simulated, and high-resolution projections of future climate conditions were developed to assess the impact of climate change on fish habitat and fisheries in the Laurentian Great Lakes Basin.
- Aerial counts of angler activity in the province were analyzed to determine whether drivers of angler activity have changed over time, and in which regions angler activity estimates were the most uncertain. These analyses were used to optimize aerial counts to focus on those areas of high uncertainty.

- Work was initiated on a new statistical modelling framework for the Lake Nipissing Walleye fishery. This model allows for the simulation of new management options, such as size or harvest restrictions.
- A report was produced describing the traits, origins and pathways of established and anticipated aquatic invasive species threatening the Great Lakes Basin and Ontario.

## **Aquaculture Management**

Aquaculture is the propagation, cultivation or rearing of aquatic organisms. Many different species of finfish, crustaceans, molluscs and aquatic plants may be farmed. Aquaculture management includes licensing, inspections and monitoring of all 160 facilities in Ontario.

Private-sector fish culture in Ontario has evolved from the initial use of ponds to the highly intensive facilities that use long rectangular concrete raceways or circular tanks. Cage aquaculture raises fish from fingerling to market-size in net-pens moored in the open waters of Lake Huron.

In 2018, cage aquaculture in Lake Huron accounted for 90% of all private aquaculture production in Ontario and produced 12.8 million pounds of Rainbow Trout. These sites are located in the North Channel and in Parry Sound of Georgian Bay.

## **Baitfish Management**

Ontario's commercial bait industry is the largest in Canada, with approximately 1,050 commercial bait licences issued in 2018. Estimates suggest that 60 to 80 percent of Ontario anglers use live baitfish at some point during the year.

The use, movement and harvest of live bait, however, can spread invasive species and fish diseases. This poses a significant ecological risk to Ontario's fisheries and the businesses and industries they support.

To reduce this risk, MNRF has spent the past few years reviewing its bait policies and evaluating new options for bait management. In 2017, the draft "Strategic Policy for Bait Management" was posted on the Environmental Registry. In 2018, the ministry gathered and summarized feedback from anglers, the bait industry, stakeholders and Indigenous communities on the proposed policy. Between November 2018 and February 2019, MNRF's Parliamentary Assistant held six listening sessions with community members, residents and stakeholders to gather feedback and perspective about current baitfish management strategies.

In the fall of 2018, MNRF coordinated and administered the Lake Simcoe Emerald Shiner Viral Hemorrhagic Septicemia (VHS) pilot program. This program enables approved harvesters to get their Lake Simcoe shiners tested for VHS, and if they are



free of VHS, allows them to transport and sell their bait outside of the Lake Simcoe management zone. This program, first initiated in 2012, is based upon the recommendations from the bait industry.

MNRF actively communicates with commercial bait operators through provincial mailouts. It also educates anglers and bait operators about the risks posed by invasive species and the ecological danger of dumping unused bait.

## **Commercial Fishery Management**

Ontario's commercial fishing industry operates in the Great Lakes, large inland lakes such as Lake Nipigon and Lake Nipissing, and a number of smaller lakes found mostly in the northwest region of the province.

Commercial fishing operations in the province range from small, one-person operations to larger corporate fleets. This industry plays a significant role in the economic and social welfare of many communities that depend upon the fishing industry. Commercial fishing is also important to several Indigenous communities throughout the Great Lakes and northern Ontario. Approximately 85 percent of the commercial fish harvested in 2018 came from Lake Erie.

## **Great Lakes Management**

The ministry manages the Great Lakes to ensure long-term sustainable economic and social benefits by:

- developing fisheries management objectives with Indigenous communities, stakeholders, the commercial fishing industry and partners including binational agencies
- engaging the public and local recreational fishing clubs
- aquatic ecosystem research
- fisheries assessment and monitoring

Fisheries management in the Great Lakes is supported by three management units: Upper Great Lakes (Huron and Superior), Lake Erie and Lake Ontario. These management units develop fisheries management objectives in conjunction with Ontario stakeholders and partners as well as with United States partner agencies under the auspices of the Great Lakes Fishery Commission.

The lake units monitor the status of fisheries and the health of the Great Lakes, and research the factors that affect them. Monitoring and research includes:

- migratory fish assessments
- fish community assessments
- fish stocking and egg collection

- angler diaries
- invasive species monitoring and prevention (i.e., Asian Carp)

## Upper Great Lakes Management

The FW SPA supports fishery management activities, fishery assessments, cage aquaculture management and licensing, and commercial, recreational and Indigenous fishing interests on Lake Huron (including Georgian Bay and the North Channel) and Lake Superior with offices located in Owen Sound, Sault Ste. Marie and Thunder Bay.

In 2018-19 in Lake Huron, the ministry supported stocking 1.6 million Lake Trout into Georgian Bay and the North Channel to support species restoration. The lake unit also completed a lake-wide fisheries assessment program and set commercial fish quotas. MNRF also initiated management planning for the development of a Walleye management plan and non-native salmonid stocking plan for the lake, including the development of background technical documents to support the engagements.

On Lake Superior, the ministry supported a lake-wide fisheries assessment program from Thunder Bay to Sault Ste. Marie. This included a large-scale Walleye acoustic telemetry project in Black Bay to determine spawning site fidelity and fish movement in and out of the bay. Commercial fish quotas were also set for each quota management area of the lake, including the active Lake Herring fishery in the Thunder Bay area.

As part of a binational aquatic invasive species survey, 31 sites in Thunder Bay were sampled. No new occurrences of aquatic invasive species were detected.

## Lake Erie Management

The Lake Erie Management Unit carries out operations between Sarnia and Niagara Falls, including work within the Huron Erie Corridor (including Lake St. Clair), Lake Erie, and the upper Niagara River.

In 2018-19, the Lake St. Clair international aerial creel survey was completed. This was the first lake-wide coordinated effort to survey recreational fishing on both sides of the Canada/U.S. border. The study estimated the catch and harvest of all fish species, monitored age, length and composition of fish species, and examined angler effort, success and demographics.

A quota of 12.0 million pounds of Walleye and Yellow Perch was set for commercial fishing on Lake Erie. Approximately 9.9 million pounds of commercially caught fish was inspected through the review and validation of 6,319 daily catch records.

Quotas are managed on a binational basis on Lake Erie through the Lake Erie Committee (LEC) of the Great Lakes Fishery Commission. Stakeholder input is received by the LEC through two separate committees. The first is through the Lake

Erie Percid Management Advisory Group (LEPMAG). This group is a binational multi stakeholder advisory group that is facilitated by Michigan State University's Quantitative Fisheries Centre. Additionally, Fisheries Management Zone 19 (many of the members are also LEPMAG members) provide input on Ontario and LEC fisheries management planning. FMZ 19 also provides a venue for information sharing between MNRF and our valued stakeholder partners.

This year, 531 water samples were taken from 94 locations in the Lake Erie and Lake Huron watersheds, looking for evidence of Asian Carp. None has been found to date.

## **Lake Ontario Management**

Lake Ontario fisheries are managed by the Lake Ontario Committee, which consists of MNRF in partnership with New York State. The Lake Ontario Fish Community Objectives (2013) provide bi-national fisheries management direction to protect and restore native species and to maintain sustainable fisheries.

MNRF, in partnership with the United States Geological Survey and the New York State Department of Environmental Conservation, conducted a lake-wide prey fish survey to inform joint Ontario/New York stocking decisions. MNRF stocked over two million fish into Lake Ontario to support species restoration and provide angling opportunities. Species stocked include Chinook Salmon, Rainbow Trout, Brown Trout, Atlantic Salmon, Lake Trout, Walleye and deep-water cisco (Bloater).

MNRF completed a lake-wide fisheries assessment program to monitor the health of the fishery, including the main lake, Hamilton and Toronto Harbours, the Bay of Quinte, the upper St. Lawrence River and Lake St. Francis.

The Walleye telemetry study in the Bay of Quinte and eastern basin of Lake Ontario now has 149 tagged fish from both Ontario and New York State waters. Lake Whitefish and cisco were also implanted with acoustic tags to learn more about their movements and habitat use.

The Lake Ontario Prey Fish Team conducted 208 trawls between April and early May with the support of the Lake Ontario large vessel fleet. The results of the prey fish survey show that adult Alewife abundance was low in 2018.

The FMZ 20 council members represent a broad spectrum of interests across the zone including Muskies Canada, Bay of Quinte and Upper St. Lawrence River Guides, Central Lake Ontario Sport Anglers, Metro East Anglers, Port Credit Salmon and Trout Association, Halton Region Salmon and Trout Association, St. Catharines Game and Fish Association, Ontario Sportfishing Guides Association, Ontario Commercial Fisheries Association, Ontario Federation of Anglers and Hunters, competitive bass anglers, tributary anglers, academia, environmental interests and several unaffiliated anglers.

In 2018, the FMZ 20 council has been engaged in a binational fish stocking decision to address prey fish declines that could place the Chinook Salmon fishery at risk. Other topics the council discussed in 2018 include adult Walleye harvest assessment in the eastern basin of Lake Ontario, Largemouth and Smallmouth Bass angling seasons, and rules governing the permitted number of fishing rods.

## Fish and Wildlife Local Monitoring and Management

MNRF conducts local and regional activities for identified fish and wildlife management needs or reporting requirements. For example, MNRF conducts snow surveys, moose aerial inventories, and creel and aerial fisheries surveys. The ministry monitors and analyzes fish and wildlife populations across the province.

The ministry also identifies local fish stocking requirements, creates multi-year stocking plans and coordinates fish stocking locations across the province.

Regional activities include issuing and renewing licences for commercial fish and wildlife activities and trapping licences, auditing compliance with natural resources acts, managing licence regulations, and initiating enforcement action for delinquencies, errors and/or omissions.

From time to time, fish and wildlife populations experience sudden die-offs. Local incident management responds to fisheries incidents like die-off events and spill response. Information and direction are provided to the public and other agencies as required. Responses may include conducting site inspections, contacting members of the public, collecting fish samples and coordinating fish health testing.

## Wildlife Management

### Wildlife Legislation, Regulation and Policy

Wildlife legislation, regulation and policy, developed through consultation engagement with stakeholders, partners, Indigenous communities and organizations, and the public, is the foundation of wildlife management. Regulations and policies outline where, when and how wildlife-related activities can be conducted in the province.

They cover a wide range of actions associated with habitat, hunting, trapping, human-wildlife conflict, wildlife health, wildlife in captivity, and possession, buying, and selling of wildlife.

FW SPA expenditures support the delivery of the wildlife management program, including the review and allocation of harvest opportunities, public planning and engagement opportunities.

Here are some key initiatives in 2018-19:



- implementation of the small game and furbearer management framework for Ontario
- supporting the development of the new Fish and Wildlife Licensing Service, including requirements for new mandatory hunter reporting requirements
- development of a trapping regulations summary for trappers
- regulatory amendments to support Ontario's status in the *Agreement on International Humane Trapping Standards*
- regulatory amendments to the Sunday gun hunting municipality list
- consultation on a proposed hunting season for double-crested cormorants
- revising the Ontario Wildlife Rehabilitation Study Guide and Exam

## Game wildlife research

Game wildlife research generates new information on wildlife populations, distribution, health, behaviour, and habitat use of species such as waterfowl and other game birds, elk, lynx, deer, mink, fisher, moose, wolves, coyotes, and black bear.

The FW SPA provides partial funding for wildlife research and monitoring. The program is delivered by scientists who design and conduct studies and programs that support diverse, healthy, sustainable wildlife populations and habitats.

## Big Game

### Moose

Ontario's abundant forests and wetlands provide valuable moose habitat that sustains a healthy moose population. Moose hunting is a popular outdoor activity pursued by Ontario residents and non-resident hunters from Canada, the United States, and beyond.

This year, a moose management review was launched, working with a newly formed Big Game Management Advisory Committee. The committee was tasked with recommending ways to improve moose management in 2019-20.

In 2018-19, moose aerial inventory surveys were conducted across 11 Wildlife Management Units, including the Chapleau Crown Game Preserve.

### Deer

Deer are an important component of Ontario ecosystems. They can be found from the boreal forest to the southern Ontario agricultural belt. Winter severity is the main factor limiting population growth and northern range expansion. As a result, the range and density of deer populations can change over time, in response to weather (short-term), climate (long-term) and habitat changes.



Deer contribute substantial ecological, social and economic benefits to the people of Ontario. They are one of the most sought-after big game species for harvest by licensed hunters, both as a heritage activity and a food source. Deer are also popular for non-consumptive activities like wildlife viewing. In some situations, deer come into conflict with people. They can damage agricultural crops and are the most common big game species involved in collisions with vehicles.

This year, the ministry has increased its monitoring for Chronic Wasting Disease (CWD) due to recent cases in Quebec. In addition to regular annual surveillance, the ministry carried out additional testing. There were 765 white-tailed deer and one red deer tested for CWD. To date, CWD has not been detected in any samples.

## Bear

Black bears are a highly valued and unique part of Ontario's wildlife heritage, integral to a functioning ecosystem and Ontario's biodiversity. MNRF has been refining Ontario's black bear management program for several decades, in part through FW SPA funding. The province moved forward with harvest assessment, population management and inventory, allocation, communication, resolution of human-bear conflicts, and science and research.

In 2018-2019, the ministry continued to implement the provincial scale population monitoring program to update population estimates for black bears in Ontario. The barbed-wire hair trap program (BWHT) has been collecting data since 2017 to generate scientifically defensible bear population estimates.

Effective monitoring is particularly important now, due to changes in hunting seasons, increased interest in bear hunting among Ontario residents, and concerns about human-bear conflicts.

From 2017 through 2019, bears were sampled over much of their provincial range. Black bear density is estimated at trapline and wildlife landscape zone scales. In 2018-19, more than 21,000 hair samples were collected from 35 traplines in 25 Wildlife Management Units. Genetic analyses revealed more than 5,000 independent detections of more than 1,600 individual bears. The sampling will end in 2021.

## Rabies management

Ontario is a recognized leader in rabies surveillance and control. Since the province's most recent rabies outbreak, which began in December 2015, 459 cases of raccoon strain rabies and 21 cases of fox strain rabies have been confirmed in southern Ontario. In response, over four million oral rabies vaccine baits have been distributed, immunizing most raccoons, skunks and foxes that ate them. Funding from the FW SPA partially supported this work.

More than 1.4 million baits were distributed in southern Ontario by hand and air. Close to 1,300 raccoons and skunks were vaccinated during the trap-vaccinate-release program in 2018. MNRF responded to more than 300 public calls to the Rabies Information Line.

The ministry's efforts have reduced the total annual cases by about 50 percent each year since 2016. In 2018, 72 rabies cases were detected in Ontario (65 raccoon strain and seven fox strain). MNRF staff used DRIT to test more than 3,800 mammals.

The ministry continues to work closely with municipal and ministry partners to inform and engage the public and key audiences about rabies in wildlife. The MNRF rabies program conducts research, including a study on the coinfection of wildlife with rabies and canine distemper virus and annual post-baiting serology.

## Invasive Species

The ministry provides policy leadership and program funding to protect, conserve and restore vital habitat, such as wetlands, that are important for healthy fish and wildlife populations and recreational enjoyment. An essential aspect of this work involves supporting efforts to reduce the threat of invasive species, including prevention, detection, response and management of invaders. To achieve these objectives, the ministry continues to work closely with partners to implement the Ontario Invasive Species Strategic Plan and *Invasive Species Act, 2015*, as well as the Wetland Conservation Strategy for Ontario.

Key initiatives supported by FW SPA funding in 2018-19 included:

- continued strategic partnerships to support education and outreach, research, monitoring/reporting, prevention and control of high-risk invasive species
- supporting the Ontario Federation of Anglers and Hunters to deliver the Invading Species Awareness Program (ISAP)
- continued implementation of an innovative social media awareness campaign to educate the public on how to identify and fight the spread of invasive species,
- advancing the work of interprovincial and international working groups focused on reducing the threat and impacts of invasive species in Canada and specifically within the Great Lakes basin
- collaborating with partners to develop and implement plans to control high-risk invasive species such as water soldier and water chestnut
- working with partners to develop innovative tools to control invasive Phragmites throughout Ontario's sensitive ecosystems

## Conservation Officers and Enforcement

Conservation officers provide regulatory enforcement for the protection of Ontario's natural resources and public safety. They employ specialized units, services and equipment to support field enforcement, including a canine program, intelligence and special investigation services.

In 2018-19, out of 201,407 enforcement contacts, 162,288 (81 percent) were related to fish and wildlife laws and regulations and identified 7,790 violations. Overall, there was a 96 percent rate of compliance with fish and wildlife laws and regulations.

Officers conduct public outreach and education to increase awareness and knowledge, and to promote compliance with Ontario's *Fish and Wildlife Conservation Act, 1997*. Conservation officers attend events, such as outdoors shows and fishing derbies, as well as fish and game clubs and trapping councils.

A key part of conservation officer outreach is educating youth about natural resources and engaging them in outdoor activities. Visits are made to school classrooms, youth clubs and family-focused outdoor events.

This year, conservation officers interacted with 56,013 people at 588 outreach events across the province, including hunter and trapper groups, hunter education courses, trade shows, and naturalist and outdoor clubs.

## Customer Service

On November 26, 2018, the ministry launched a new [Fish and Wildlife Licensing Service](#) to provide a more accessible and convenient way to purchase hunting and fishing licences. To support the new licensing service, several fishing and hunting regulations were also updated effective January 1, 2019.

A new single Outdoors Card was introduced that replaces separate cards for fishing and/or hunting. Valid small game and fishing licences are still printed on the back of the Outdoors Card if the licence and Outdoors Card are bought at the same time.

The licensing service tracks hunter accreditation to determine which products hunters are eligible to buy, and issues paper tags rather than seals.

Hunters and anglers can now skip the line and buy all these products online. They can opt to carry a digital licence summary of their valid hunting and fishing products.

The licensing service website allows hunters the convenience of submitting their mandatory hunter reports online. Once a voluntary postcard, hunter reports are now mandatory, even for hunters who did not hunt or harvest an animal. The reports support sustainable wildlife.

Almost two million anglers and hunters use the licensing service to purchase Outdoors Cards and fish and wildlife licence products, and to participate in big game draws and reporting.

Anglers and hunters can purchase licences and apply to draws over the internet, by phone or in person at 66 [ServiceOntario](#) locations and 500 participating private [licence issuers](#) across the province. This year, more than 900,000 fishing licences, 500,000 hunting licences and 600,000 Outdoors Cards were issued.

Table 3: Fishing and hunting licence sales and revenue by residency

2018-19 fishing and hunting licence sales	Number sold	Revenue earned (\$ in millions)	% of revenue
Resident fishing licences	531,179	\$ 16.76	27%
Resident hunting licences	484,580	\$ 20.34	33%
Canadian resident fishing licences	56,448	\$ 1.67	3%
Non-resident fishing licences	336,067	\$ 14.92	24%
Non-resident hunting licences	20,933	\$ 3.22	5%
Outdoors Cards	616,648	\$ 5.29	8%
Receipt replacements	14,142	\$0.13	0%
Total	2,059,997	\$ 62.33	

Hunters made more than 245,000 draw applications, 76 percent of which were processed electronically, via phone and internet. The remaining 24 percent were made in person.

The Natural Resources Information and Support Centre answers questions about Outdoors Cards and licensing, hunting and fishing regulations, hunting accreditation, big game draws, wildlife conflicts, land use and other MNR topics of interest. In 2018-2019, the centre responded to over 175,000 inquiries from anglers, hunters, and vendors of fishing and hunting licences. Most of the requests (94 percent) were phoned in. The rest arrived via email.

## Marketing and Communication

The ministry promotes fish and wildlife outdoor activities through social media, annual fishing and hunting regulation summaries, outreach events, the [Kids' Fish Art Contest](#), [Learn to Fish](#) and [Fish ON-Line](#). These activities increase public awareness of fish and wildlife resources, demonstrate the social, economic, health and lifestyle benefits of fishing and hunting, and sustain Ontario's recreational fishing and hunting heritage.

## Learn to Fish

[Learn to Fish](#) gives anyone new to fishing a line on a rewarding and relaxing outdoor activity. Learn to Fish teaches anglers of all ages the basics of fishing, including fish identification, casting, regulations, information about invasive species, and more. After an hour of instruction, participants bring their newfound skills to the water with an hour of supervised hands-on fishing.

The program, offered at nine locations across Southern and Central Ontario, added two new locations in 2018, Balsam Lake Provincial Park and Long Sault Parkway (operated by Parks of the St. Lawrence). The mobile unit continued to travel the province to offer pop-up programs. From May to September, a total of 10,738 people participated in the program and learned how to fish. For more information visit [www.ontario.ca/learntofish](http://www.ontario.ca/learntofish) (FR: [www.ontario.ca/apprenezapecher](http://www.ontario.ca/apprenezapecher)).

## Fish ON-Line

[Fish ON-Line](#) is a handy mobile fishing tool with maps and information on fishing in Ontario. It offers data on 20,000 lakes and rivers across the province. It helps anglers plan fishing trips, check fishing regulations, and learn about Ontario sport fish. In 2018-19, Fish ON-Line got 534,419 page views.

## Hunter Education

The Ontario Hunter Education Program (OHEP) is administered by the Ontario Federation of Anglers and Hunters on behalf of MNRF. This year, more than 17,500 students completed the hunter education course. The ministry is exploring ways to modernize course delivery through new technology in order to reduce barriers to learning and increase hunter recruitment.

## Social Media

MNRF uses Twitter and Facebook to promote safe and informed hunting and fishing, provide resources to the public, and share information about upcoming changes. This valuable real-time connection is also used to share stories, program achievements and milestones via [Twitter](#) and [Facebook](#) posts.

Social media users can “Like us” on Facebook and follow us on Twitter by searching for @FishWildlifeON (en français @PêcheFauneON).

## Stakeholder and Advisory Committee Engagement and Consultation

Stakeholder engagement and consultation is an important part of managing fish and wildlife resources. Committees representing stakeholders, residents, tourism outfitters and Indigenous communities provide input to MNRF regarding big game quotas, fisheries management planning, commercial fish quotas and other matters.





This year, the ministry supported meetings of the Big Game Management Advisory Committee (BGMAC), Ontario Moose-Bear Allocation Advisory Committee (OMBAAC), Fish and Wildlife Heritage Commission, Great Lakes Fishery Commission, Lake Simcoe Fisheries Management Committee and fisheries management zone councils.

## Financial Summary

### Revenue

FW SPA revenue fluctuates significantly from year to year because of an ongoing three-year purchasing cycle for Outdoors Cards.

Table 4: FW SPA revenue over the past three fiscal years (\$ in millions)

Source of revenue	2016-17	2017-18	2018-19	2018-19 % of total
Angling and hunting licences/ permits and Outdoors Cards*	\$ 69.0	\$ 65.7	\$62.7	86%
Commercial fishing licences and royalties	\$ 1.6	\$ 2.0	\$ 2.9	4%
Commercial bait licences	\$ 0.3	\$ 0.3	\$ 0.3	0%
Furbearer licences and royalties	\$ 0.9	\$ 0.8	\$ 1.0	1%
Rabies vaccine royalties	\$ 0.5	\$ 0.5	\$ 0.5	1%
Fines and penalties	\$ 0.6	\$ 0.7	\$ 0.7	1%
Interest	\$ 0.2	\$ 0.4	\$ 0.6	1%
Service fee revenue	\$ 4.5	\$ 4.3	\$ 3.5	5%
Other revenue	\$ 1.3	\$ 0.8	\$ 0.8	1%
Total revenue	\$ 78.9	\$ 75.5	\$ 73.0	100%

\*Revenue for the fiscal year does not align with revenue in Table 3 due to the timing of payments received and recorded in the financial system.

### Expenditures

Total fish and wildlife operating expenditures in fiscal year 2018-19 came to \$118.5 million. The FW SPA funded 64 percent of those expenditures (\$76.3 million). The remaining \$42.2 million in fish and wildlife expenditures was funded by the Consolidated Revenue Fund (CRF).

Annual expenditures from the FW SPA are based on a three-year rolling average of expected revenue. The ministry maintains a residual balance in the FW SPA each year to balance ongoing program delivery and long-term funding requirements. Treasury

Board approves the FW SPA recovery level and ending balance as part of the ministry's annual budget submission.

Table 5: Summary of 2018-19 FW SPA actual expenditures (\$ in millions)

<b>Fisheries management</b>	<b>(\$ in millions)</b>
Fish culture	\$ 6.53
Broad-scale monitoring	\$ 5.40
Fisheries research	\$ 2.00
Recreational fisheries population management	\$ 1.78
Legislation, regulation and policy development	\$ 1.46
Fisheries legislation and regulations (operational costs)	\$ 0.87
Baitfish licensing and authorizations	\$ 0.55
Fisheries local incident management, such as fish die-off, invasive species detection, sediment/chemical spills	\$ 0.34
Commercial fisheries and aquaculture licensing and authorizations	\$ 0.18
<b>Total fisheries management</b>	<b>\$ 19.11</b>
<b>Conservation officers and enforcement</b>	
Conservation officer salaries, benefits and operating costs	\$ 14.71
<b>Total conservation officers and enforcement</b>	<b>\$ 14.71</b>
<b>Wildlife management</b>	
Wildlife population management	\$ 4.37
Wildlife licensing and authorizations	\$ 1.45
Wildlife legislation, regulation and policy	\$ 1.41
Human/wildlife conflict communications	\$ 1.03
Licence issuance and related activities to manage furbearer populations	\$ 0.73
Trapping harmonization agreements with Provincial Treaty Organizations (PTO's)	\$ 0.39
Wildlife legislation, regulation and policy (operational costs)	\$ 0.38
Rabies management	\$ 0.36
Wildlife disease surveillance	\$ 0.32
<b>Total wildlife management</b>	<b>\$ 10.44</b>
<b>Customer service/engagement</b>	
Licensing and client services	\$ 7.06
Educational outreach to public and stakeholders	\$ 2.14
Fees paid to private licence issuers	\$ 1.25
Hunter education	\$ 0.44
Trapper licence and education service agreements	\$ 0.39

<b>Total customer service/engagement</b>	<b>\$ 11.28</b>
<b>Great Lakes management</b>	
Fisheries population assessments - Lake Erie	\$ 2.59
Fisheries population assessments - Lake Huron and Lake Superior	\$ 2.16
Fisheries population assessments - Lake Ontario	\$ 1.76
<b>Total Great Lakes management</b>	<b>\$ 6.51</b>
<b>Licensing service development, system hosting and mailouts</b>	
Fish and Wildlife Licensing Service	\$ 4.38
<b>Total licensing service development, system hosting and mailouts</b>	<b>\$ 4.38</b>
<b>Fish and wildlife local monitoring and management</b>	
Snow and fisheries surveys, data analysis, fish stocking	\$ 3.13
<b>Total fish and wildlife local monitoring and management</b>	<b>\$ 3.13</b>
<b>Financial and other management</b>	
Financial administration	\$ 1.87
Oversight of hunter education and trapper licensing, education and harmonization agreements	\$ 0.20
<b>Total financial and other management</b>	<b>\$ 2.07</b>
<b>Invasive species management</b>	
Legislation, regulation and policy development	\$ 1.50
Ontario invasive species management transfer payment	\$ 0.20
<b>Total invasive species management</b>	<b>\$ 1.70</b>
<b>Marketing and communications</b>	
Public outreach and education regarding angling and hunting	\$ 1.03
Fishing and hunting regulation summaries	\$ 0.41
<b>Total marketing and communications</b>	<b>\$ 1.44</b>
<b>Information management/information technology</b>	
Systems to support fish and wildlife management	\$ 0.75
Information technology to support data analysis of fisheries populations	\$ 0.43
<b>Total information management/information technology</b>	<b>\$ 1.18</b>
<b>Stakeholder/advisory committees</b>	
Stakeholder/advisory committees such as FMZ councils, Fish and Wildlife Heritage Commission, Big Game Management Advisory	\$ 0.30

Committee, Ontario Moose-Bear Allocation Committee and Great Lakes Fishery Commission	
<b>Total stakeholder/advisory committees</b>	<b>\$ 0.30</b>
<b>Grand total</b>	<b>\$ 76.25</b>