

Fish and Wildlife Special Purpose Account

Annual Report 2016-17



Cette publication hautement spécialisée Special Purpose Account Expenditure Report n'est disponible qu'en Anglais en vertu du Règlement 411/97 qui en exempte l'application de la Loi sur les services en français. Pour obtenir de l'aide en français, veuillez communiquer avec FLS Information Access Representative au ministère des Richesses naturelles et Forêts au outdoorscard.mnr@ontario.ca

All photos are by MNRF staff unless otherwise indicated.

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Introduction

The Ministry of Natural Resources and Forestry (MNRF) is responsible for fish and wildlife management in Ontario. This includes policy, planning, program development and delivery to sustain healthy fish and wildlife populations. In 1995, the MNRF established a separate account to serve as the financial mechanism to dedicate fish and wildlife revenue to fish and wildlife management.

All licence fees, fines and royalties collected under the *Fish and Wildlife Conservation Act, 1997* (FWCA) flow into the Fish and Wildlife Special Purpose Account (FW SPA) and are applied to fish and wildlife management programs, such as monitoring populations and enforcing regulations.

Pursuant to section 85(4) of the FWCA, the Minister of Natural Resources and Forestry is required to ensure that a report is prepared annually on the financial affairs of the FW SPA. This annual report of the 2016-17 fiscal year provides an overview of the financial details and associated achievements delivered through the FW SPA.

Fish and Wildlife Heritage Commission

The Fish and Wildlife Heritage Commission (FWHC), established under the provisions of the *Heritage Hunting and Fishing Act, 2002*, provides recommendations on matters referred to it by the Minister. The FWHC has a membership of eleven, including the commission chair, who represent a cross-section of key interests in the sustainable use of Ontario's fish and wildlife resources. During the 2016-17 fiscal year, the Minister had eight members and a chair appointed to the Commission. The FWHC members are appointed by Order-in-Council.

The membership for 2016-17 was as follows:

Position	Member Name	Location
Chair (retired as Chair in Fall 2017)	Brooke, Thomas (Tom)	Campbellford
Member/Chair (appointed Chair in Fall 2017)	Reid, Kathleen (Kathy)	Norwood
Member	Dickinson, Leonard (Len)	Lanark
Member	Mitchell, Gord	Field
Member	Morin, Conrad R.	Hearst
Member	Richer, Gerald (Gerry)	Aylmer
Member	Rivard, Deb	Murillo
Member	Wheeler, Shannon	Bradford
Member	Williamson, John C.	Inverary

The FWHC reviewed materials and/or provided input on a variety of initiatives including:

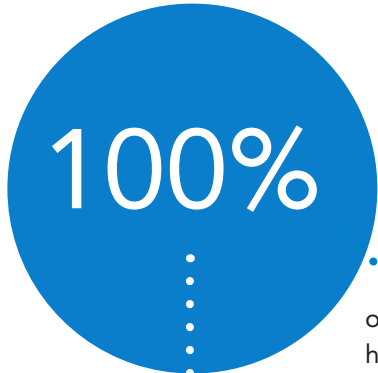
- Black Bear management
- Ontario cage aquaculture guidelines
- Development of a Small Game and Furbearer Management Framework for Ontario
- Development of a White-tailed Deer Management Policy for Ontario
- Elk management
- Fisheries management approaches
- Hunter education program modernization
- Learn to Fish
- Renewal of the fish and wildlife licensing service
- Moose management and monitoring
- Provincial Bait Policy Review
- Provincial Wildlife Management Strategy
- Sustainability Strategy for the Fish and Wildlife Special Purpose Account
- Wolf and Coyote management approaches

In addition, the FWHC provided recommendations related to the marketing of fishing and hunting activities, and the management of the FW SPA.

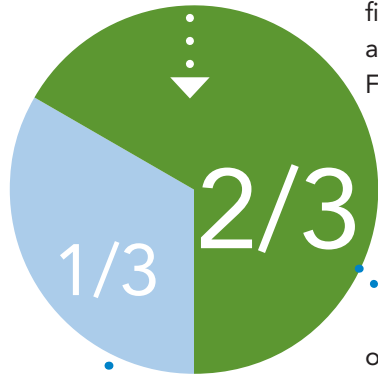
Fish and Wildlife Program at a Glance

\$71 million

In 2016-17, the FW SPA contributed \$71M to fish and wildlife management in Ontario



of all fishing and hunting licence fees, fines and royalties are deposited in the FW SPA

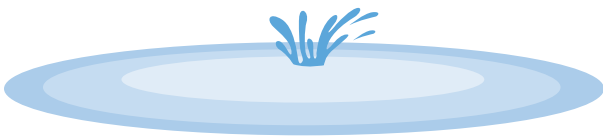


of fish and wildlife management is funded from the FW SPA

is funded by other Ontario Government funds

1.2 million

licensed anglers enjoy Ontario's recreational fisheries annually



2 million +

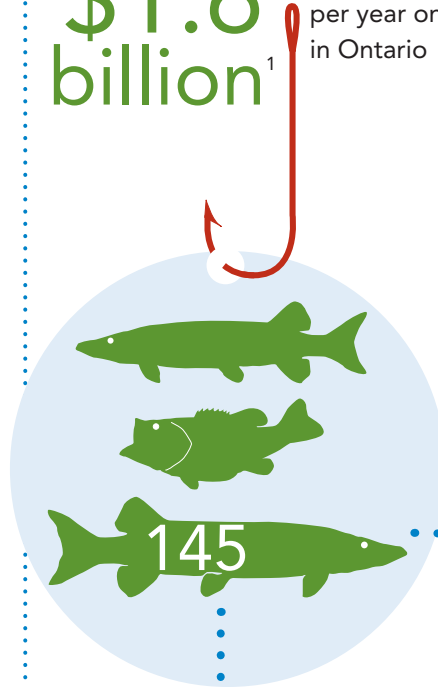
Outdoors Cards and fishing and hunting licences sold annually

\$62 million

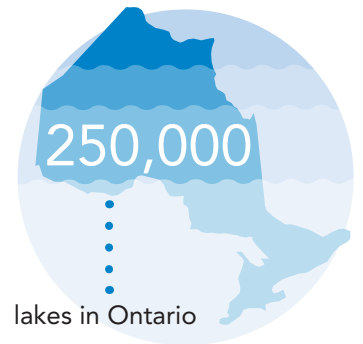
Average annual revenue from fishing and hunting licences

\$1.6 billion¹

Anglers spend about \$1.6B per year on recreational fishing in Ontario



fish species in Ontario



lakes in Ontario

\$230 million

The commercial fishery contributes \$230M to the economy

\$431 million

Ontario residents spend \$431M on hunting activities



92.3 million

hectares of Crown Land in Ontario

1. Source: The 2010 Survey of Recreational Fishing in Canada: Selected Results for Ontario Fisheries

Financial Summary

Fish and Wildlife Expenditures

Fish and Wildlife related expenditures are funded through a combination of FW SPA, general tax and other revenues through the Consolidated Revenue Fund (CRF). Capital expenditures to support the program (i.e. vessels, vehicles, fish culture stations etc.) are funded solely through the CRF.

Fish and Wildlife operating expenditures, including enforcement, amounted to \$117.4 million in fiscal year 2016-17. Approximately 60% of these expenditures (\$71.0 million) were funded by the FW SPA. The remaining \$46.4 million in program expenditures were funded by the CRF. Over the last 10 years the Fish and Wildlife Program expenses have increased while the FW SPA portion of fish and wildlife management activities has remained relatively consistent. The following table summarizes the FW SPA and CRF contributions since 2007-08.

TABLE 1: FISH AND WILDLIFE EXPENDITURES (\$ in millions)

Fiscal Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
FW SPA Expenditures	\$ 60.5	\$ 61.6	\$ 64.2	\$ 64.5	\$ 67.6	\$ 68.6	\$ 65.8	\$ 69.8	\$ 70.8	\$ 71.0
FW CRF Expenditures	\$ 19.6	\$ 34.2	\$ 34.8	\$ 44.0	\$ 38.4	\$ 43.7	\$ 46.7	\$ 39.2	\$ 41.0	\$ 46.4
Total Expenditures	\$ 80.1	\$ 95.8	\$ 99.0	\$ 108.5	\$ 106.0	\$ 112.3	\$ 112.5	\$ 109.0	\$ 111.8	\$ 117.4

FW SPA Revenues and Expenditures

The *Fish and Wildlife Conservation Act, 1997* (FWCA) requires that revenues collected under that Act flow into the FW SPA. This includes all licence fees, royalties and fines paid under the FWCA and its regulations.

Money held in this account may only be spent on:

- the conservation or management of wildlife or fish populations or the ecosystems of which those populations are a part;

- 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.

Annual recoveries from the FW SPA are planned based on a 3-year rolling average of expected revenues, due to significant annual fluctuations resulting from the Outdoors Card 3-year purchasing cycle. Treasury Board approves the FW SPA recovery level as part of the ministry's annual budget submission.

TABLE 2: SUMMARY OF REVENUES, RECOVERIES AND YEAR-END ACCOUNT BALANCES (\$ in millions)

Item	2014-15	2015-16	2016-17	2016-17	2016-17	2017-18
	Actual	Actual	Plan	Actual	Variance	Plan
Opening Balance	\$ 19.5	\$ 19.2	\$ 18.5	\$ 18.5	\$ 0.0	\$ 26.4
Revenues	\$ 69.5	\$ 70.1	\$ 75.4	\$ 78.9	\$ 3.5	\$ 71.3
Recoveries	(\$69.8)	(\$70.8)	(\$71.3)	(\$71.0)	\$ 0.3	(\$ 76.7)
Year End FW SPA Balance	\$ 19.2	\$ 18.5	\$ 22.6	\$ 26.4	\$ 3.8	\$ 21.0

In 2016-17 revenue was higher than planned which may be due to changing licence renewal patterns that may cross fiscal years, and higher than expected sales of three-year licences.

Financial Summary *continued*

TABLE 3: FW SPA REVENUES FOR THE LAST 3 FISCAL YEARS (\$ in millions)

Source of Revenue	2014-15	2015-16	2016-17
Ontario Resident Angling and Hunting Licences and Permits	\$ 44.7	\$ 39.7	\$ 48.5
Non-Resident Angling and Hunting Licences and Permits	\$ 19.4	\$ 21.2	\$ 20.5
Commercial Fishing Licences and Royalties	\$ 1.1	\$ 1.2	\$ 1.6
Bait Fish Licences	\$ 0.3	\$ 0.3	\$ 0.3
Furbearer Licences and Royalties	\$ 1.1	\$ 0.9	\$ 0.9
Rabies Vaccine Royalties	\$ 0.0	\$ 0.4	\$ 0.5
Fines and Penalties	\$ 0.6	\$ 0.7	\$ 0.6
Interest	\$ 0.3	\$ 0.2	\$ 0.2
Service Fee Revenue	\$ 0.7	\$ 4.3	\$ 4.5
Other Revenue	\$ 1.3	\$ 1.2	\$ 1.3
TOTAL REVENUE	\$ 69.5	\$ 70.1	\$ 78.9

TABLE 4: 2016-17 DETAILS OF EXPENSES BY SERVICE (\$ in millions)

Item	Expenditures
Planning, Policy and Regulatory	\$ 16.8
Conservation Officers and Enforcement	\$ 13.4
Species and Ecosystem Science	\$ 13.0
Population Health, Rehabilitation and Enhancement	\$ 12.4
Outdoors Cards and Licensing	\$ 9.5
Safety, Education and Promotion	\$ 5.9
TOTAL	\$ 71.0

TABLE 5: 2017-18 PLANNED EXPENDITURES BY SERVICE (\$ in millions)

Item	Planned Expenditures
Planning, Policy and Regulatory	\$ 18.5
Conservation Officers and Enforcement	\$ 13.6
Outdoors Cards and Licensing	\$ 13.2
Species and Ecosystem Science	\$ 13.2
Population Health, Rehabilitation and Enhancement	\$ 12.3
Safety, Education and Promotion	\$ 5.9
TOTAL	\$ 76.7

Services Funded by the Fish and Wildlife Special Purpose Account

The MNRF Fish and Wildlife Special Purpose Account (FW SPA) supports the management of fish and wildlife populations in many ways, including the following highlights:

Planning, Policy and Regulatory Services

Planning, Policy and Regulatory Services includes development and implementation of resource management plans, policies, legislation, programs and standards related to recreational and commercial fisheries management and wildlife management in Ontario.

Regulations and policies outline where, when and how fishing, hunting and trapping activities are conducted in the province. FW SPA expenditures support staff costs to deliver fish and wildlife management activities including the review and allocation of aquaculture and baitfish licences, commercial fishing regulatory compliance, public planning and engagement opportunities such as Fisheries Management Zone (FMZ) Advisory Councils, and public planning and engagement activities. Information technology costs for tools such as Fish ON-Line, the fish stocking database and the Moose harvest allocation system are also included.

2016-17 EXPENDITURES (\$ in millions)

Fish and Wildlife Legislation, Regulation and Policy Development	\$ 6.2
Commercial Fisheries Management (Regulatory)	\$ 3.2
Fisheries Management Plans and Allocations	\$ 1.8
Fish and Wildlife Information and Information Technology	\$ 1.4
Wildlife Habitat and Population Planning and Authorizations	\$ 1.1
Recreational Fisheries Management	\$ 1.1
Fish Habitat Management	\$ 0.7
Baitfish Management	\$ 0.5
Provincial Committee and Zone Council Support	\$ 0.4
Moose Project	\$ 0.3
Aquaculture Management	\$ 0.1
TOTAL	\$ 16.8



of quota set for commercial fishery on Lake Erie



pounds of commercially caught fish inspected on Lake Erie



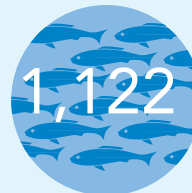
commercial fish licences issued



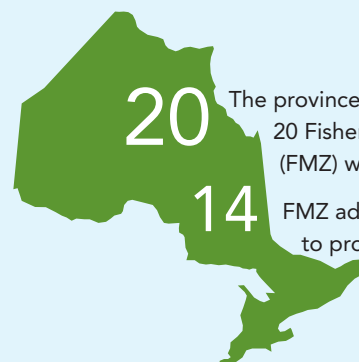
licensed aquaculture operations in Ontario



aquaculture licences issued



baitfish licences issued



The province is divided into 20 Fisheries Management Zones (FMZ) with

14 FMZ advisory councils in place to provide input into fisheries management

Legislation Regulation and Policy Development

- completed consultation on, and passed a regulation to list 16 prohibited, and four restricted invasive species under the *Invasive Species Act, 2015*;
- completed consultation on a risk assessment methodology to support decisions on which invasive species could be regulated under the *Invasive Species Act, 2015* in the future;
- continued strategic partnerships to support education and outreach, research, monitoring/reporting, prevention and control of high risk invasive species, and habitat restoration.

Partners included:

- Invasive Species Centre
- Ontario Federation of Anglers and Hunters
- Ontario Invasive Plant Council
- continued to advance wetland conservation and restoration through partnerships with:
 - Ducks Unlimited Canada
 - Eastern Habitat Joint Venture
 - Bird Studies Canada
- continued to implement an innovative social media awareness campaign with the objective of educating the public on how to identify and fight the spread of invasive species;
- continued to advance the work of inter-provincial and international working groups focused on reducing the threat and impacts of invasive species in Canada and specifically within the Great Lakes basin;
- released a draft Wetland Conservation Strategy for Ontario for public consultation;
- continued funding contributions to the Canadian Wildlife Health Cooperative (CWHC) to undertake wildlife disease diagnoses, provide maintenance of data/web-based information services and to provide the public-facing wildlife mortality reporting hotline;
- conducted broad public consultation and released Building a Wildlife Management Strategy for Ontario: A Discussion Paper;
- completed public consultation and engagement on:
 - Small Game and Furbearer Management Framework and Regulatory Amendments;
 - amendments to regulations to enhance and modernize wild turkey hunting in Ontario;

STRATEGIC PARTNERSHIPS AND BUSINESS AGREEMENTS



PARTICIPATED IN AND SUPPORTED COMMITTEES SUCH AS:

- local Fisheries Management Zone Advisory Councils
 - local citizens committees
 - Big Game Management Advisory Committee
 - Ontario Moose-Bear Allocation Advisory Committee
 - Fish and Wildlife Heritage Commission
 - Human-Wildlife Conflict Advisory Group and Steering Committee
 - Canadian Wildlife Directors Committee
 - International Hunter Education Association Canada
 - Bait Review Advisory Group
-
- initiated public consultation on White-tailed Deer management policy;
 - monitored the Black Bear spring hunting season pilot;
 - maintained progress on the Provincial Bait Review including preparation of the draft Strategic Policy for Bait Management in Ontario.

Conservation Officers and Enforcement

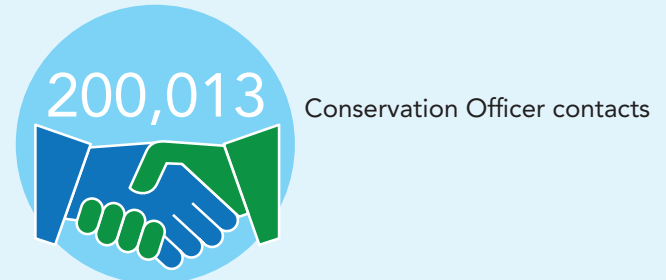
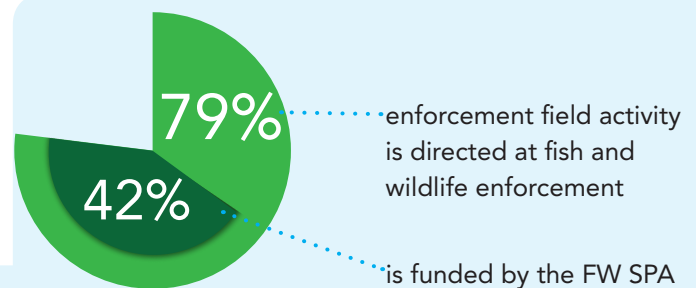


Conservation Officers provide regulatory enforcement for the protection of Ontario's natural resources and public safety. This includes specialized units and services to support field enforcement, including a canine program, undercover and special investigations, and mobile offices in Conservation Officer vehicles. Officers conduct public outreach and education to increase awareness and knowledge and promote compliance with Ontario's *Fish and Wildlife Conservation Act, 1997*.

Expenditures funded through the FW SPA include officers' salaries and benefits, operational costs such as fuel, travel and patrol expenses, uniforms, forensics and intelligence. Information technology costs such as specialized enforcement software, mobile offices and staff safety watch and radio monitoring services are also included.

2016-17 EXPENDITURES (\$ in millions)

Salaries and Benefits	\$ 9.3
Field Operations	\$ 3.6
IT and Communications	\$ 0.4
Safety Watch	\$ 0.1
TOTAL	\$ 13.4

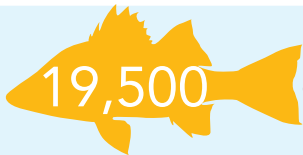


Species and Ecosystem Science

Species and Ecosystem Science includes monitoring and research programs to better understand the state of resources to guide management decisions.

FW SPA expenditures support analysis of hunter and angler surveys, Moose aerial inventory surveys, and broadscale and inland lake monitoring. State of the Resource reports are published to describe the condition, threats, trends and management response associated with specific issues, geographic areas, species, and habitats.

2016-17 EXPENDITURES (\$ in millions)	
Fisheries Management Research and Monitoring	\$ 7.1
Game Wildlife Research	\$ 2.8
Great Lakes Fisheries Population and Habitat Monitoring	\$ 1.6
Commercial Fisheries Management	\$ 0.6
Moose Aerial Inventory	\$ 0.6
Hunter Surveys	\$ 0.3
TOTAL	\$ 13.0



19,500 commercial fish Daily Catch Records validated



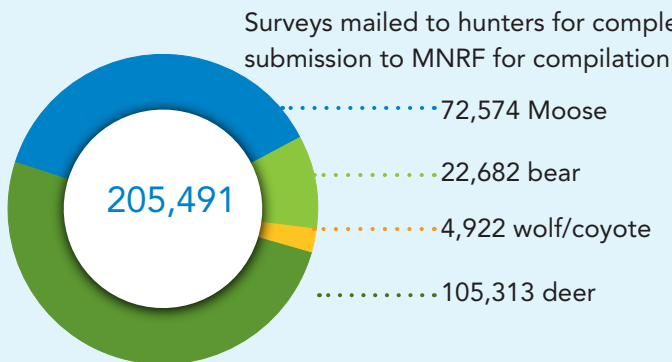
498 water samples were taken for Asian Carp surveillance from 93 locations in the Lake Erie Watershed



641 lakes surveyed over the last five years to better understand the health of our lakes and fisheries resources



170 Ontario lakes surveyed in 2016-17 through angler surveys, water quality testing, netting surveys and invasive species surveillance to gather information and help manage fish populations



15 Moose aerial inventories were completed

Population Health, Rehabilitation and Enhancement

Population Health, Rehabilitation and Enhancement protects the sustainability of native fish and wildlife populations. MNRF sets targets for fish produced for stocking including those for community hatchery programs; however, actual numbers depend on the availability and quality of fertilized eggs collected. FW SPA expenditures support fish stocking, data collection (inventory, monitoring), information management, analysis and assessment of data, and reporting.

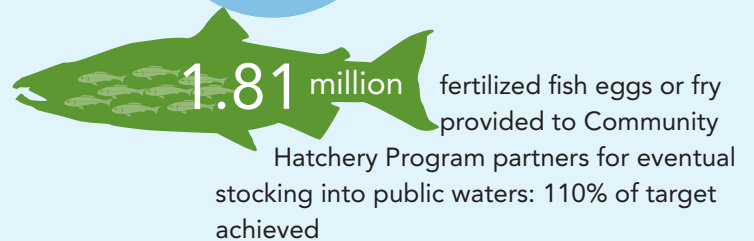
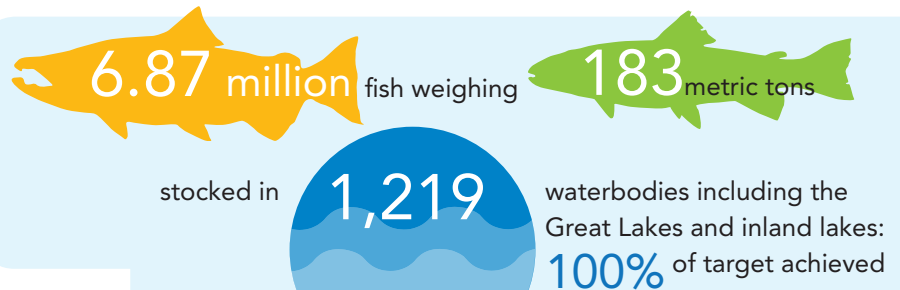
Expenditures also include invasive species monitoring, wild fur management including issuance of trapping licences, setting quotas, monitoring harvest, and fish and wildlife disease monitoring.

FW SPA expenditures contribute to the operation of the Canadian Wildlife Health Cooperative, a cooperative of provincial/territorial, federal and private agencies that provides access to specialized wildlife health expertise and services such as disease diagnoses, veterinary lab capacity, and research and academic collaboration that benefits the public, government/non-government agencies and the private sector.

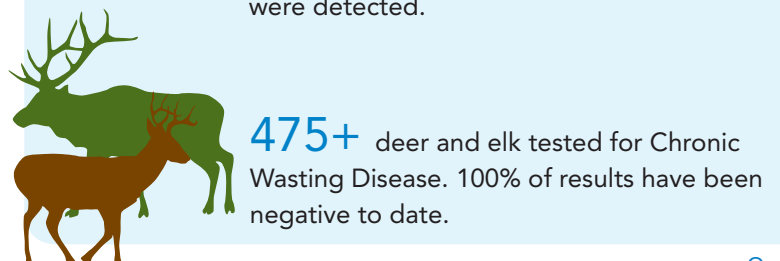
The FW SPA provides funding to support operating costs for the province's nine fish culture stations, which produce and stock fish into public waters to rehabilitate degraded fish stocks and to create, maintain and enhance angling opportunities.

2016-17 EXPENDITURES (\$ in millions)

Fish Culture	\$ 7.1
Fish and Wildlife Ecosystem Maintenance and Reporting	\$ 2.8
Invasive Species Management and Control	\$ 0.9
Wild Furbearer Management	\$ 0.7
Fish and Wildlife Disease Monitoring	\$ 0.5
Rabies Management	\$ 0.4
TOTAL	\$ 12.4



38 sites in Thunder Bay, **32 sites** in Sault Ste. Marie and **35 sites** in Black Bay were sampled as part of a binational aquatic invasive species survey. No new occurrences of aquatic invasive species were detected.



Outdoors Cards and Licensing

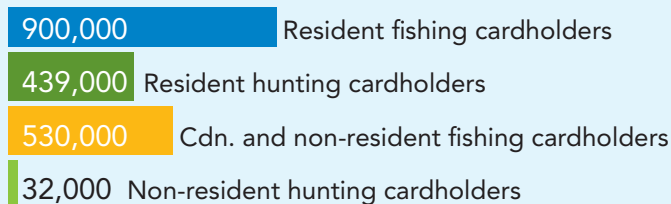
Outdoors Cards and Licensing includes the issuance of sport fishing and hunting licences, the administration of big game draws and public support through the Outdoors Card and Natural Resources Information Centres.

FW SPA expenditures are related to licensing and draws and contact centre support. This includes staff costs, production of Outdoors Cards, licences, seals and tags, postage, the Licensing Automation System, and commission paid to private licence issuers to sell Outdoors Cards and licences.

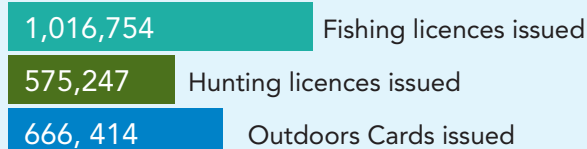
2016-17 EXPENDITURES (\$ in millions)

Licensing Automation System	\$ 4.6
Licensing and Client Services	\$ 1.5
Private Issuer Costs	\$ 1.4
Contact Centres	\$ 1.1
Outdoors Card Production	\$ 0.9
TOTAL	\$ 9.5

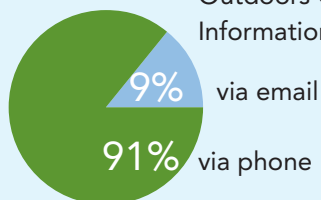
TOTAL CARDHOLDERS



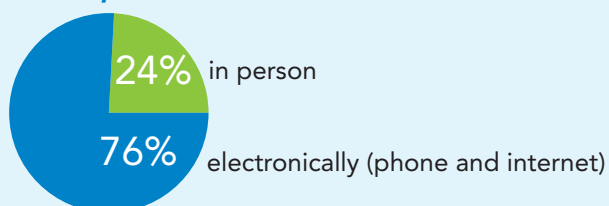
LICENCES and OUTDOORS CARDS ISSUED IN 2016-17



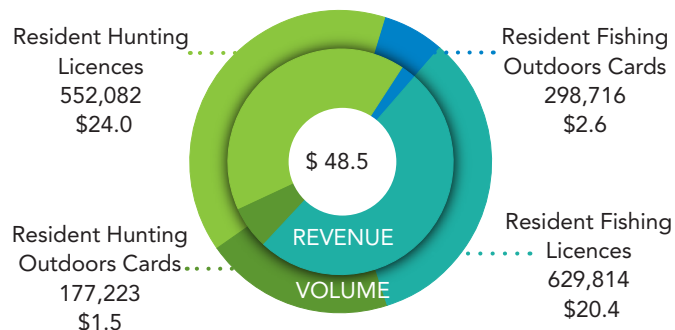
160,000 inquiries received through the Outdoors Card and Natural Resources Information Centres



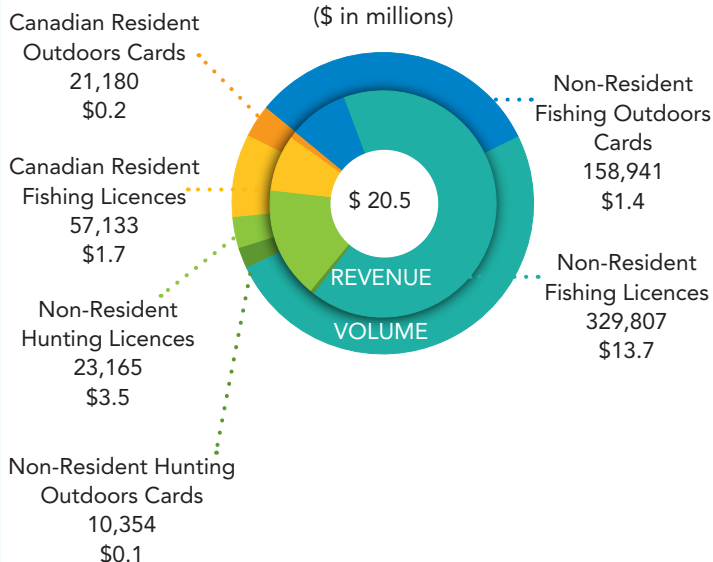
251,529 Big game draw applications processed



2016-17 ONTARIO RESIDENT ANGLING AND HUNTING LICENCE SALES – VOLUME/REVENUE (\$ in millions)



2016-17 NON-RESIDENT ANGLING AND HUNTING LICENCE SALES – VOLUME/REVENUE (\$ in millions)



Safety, Education and Promotion

Safety, Education and Promotion increases public awareness of fish and wildlife resources, and the social, economic, health and lifestyle benefits of them, including fishing and hunting activities that build a strong recreational fishing and hunting heritage. These initiatives also increase awareness of the threat of invasive species and encourage positive actions by the public to prevent, detect, respond, manage and adapt to invasive species.

FW SPA expenditures include the Kids' Fish Art Contest, the Hunter Education Program, the Learn to Fish Program, public outreach and education at community events. Responding to fish die-off events, conducting site visits to inspect wildlife damage to agricultural crops and to make recommendations to prevent further wildlife damage, and promoting compliance with the *Fish and Wildlife Conservation Act, 1997* are also included.

2016-17 EXPENDITURES (\$ in millions)

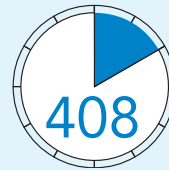
Wildlife Education and Communication	\$ 2.2
Prevention and Management of Human/Wildlife Conflict	\$ 1.0
Marketing and Operating Costs	\$ 0.9
Public Outreach	\$ 0.8
Hunter Education	\$ 0.6
Fisheries Local Incident Management	\$ 0.4
TOTAL	\$ 5.9

21,000

Number of students that completed Hunter Education in 2016

7,700+

Adults and children that participated in [Learn to Fish](#)



[Learn to Fish](#) 2 hour sessions delivered across Southern and Central Ontario

333,500

Fish ON-Line website hits

18,000

Number of lakes Fish ON-Line provides information on



390

Entries in Kids' Fish Art Contest

Initiatives in the Spotlight

Each year the MNRF manages fish and wildlife populations and their habitats for long-term sustainability and recreational opportunities for angling, hunting and trapping. The following achievements

section provides detailed examples of a few initiatives undertaken by the ministry in 2016-17, that were supported by the FW SPA.

Fishing in Your Backyard: An Urban Recreational Fisheries Strategy for the Lake Ontario Northwest Waterfront

Fishing in Your Backyard is a strategy to improve urban fishing in Lake Ontario from Port Hope to Hamilton. Its goals are to improve public angling access and to protect and restore fish habitat to encourage anglers in the Greater Toronto Area (GTA) to fish the Lake Ontario waterfront. It will also help raise public awareness about urban angling, promote the building of access points in Toronto and improve the Walleye fishery.

There are two intended audiences for *Fishing in Your Backyard*. The first is anglers who may not realize all the urban opportunities offered in the GTA. The second is municipalities, that can use the strategy as a resource to improve and enhance public access along Lake Ontario waterfront.

Numerous partners joined with MNRF and the Toronto and Region Conservation Authority to develop *Fishing in Your Backyard* which was officially launched in 2016. Several Conservation Authorities including Halton, Credit Valley, Central Lake Ontario and the Ganaraska area all took part. Other partners included Fisheries and Oceans Canada, the Toronto Urban Fishing Ambassadors and the Ontario Federation of Anglers and Hunters.



Quick facts:

- The GTA is expected to grow to 8.9 million people by 2036.
- If only 5% of the GTA population fishes that would mean almost 500,000 active anglers by 2036.
- The Lake Ontario waterfront offers angling opportunities at piers, city parks and tributaries. Many are within reach of public transit.
- A variety of species can be caught along the Lake Ontario waterfront. These include Northern Pike, Walleye, Large and Smallmouth Bass, Brown Bullhead, Common Carp, Longnose Gar, pan fish, trout and salmon.
- Since 2012, the MNRF has stocked approximately 300,000 Walleye fry into Hamilton Harbour. These stocking efforts have shown results quickly, and a popular fishery has developed in this urban area.

For more information visit: trca.ca/wp-content/uploads/2017/09/URFS_June-20-2016.pdf

Learn to fish

Learn to Fish inspires non-anglers to try out this rewarding recreational activity and enjoy the experience for themselves.

What is Learn to Fish?

Learn to Fish teaches kids, teens and adults how to fish, from rigging a rod to fish species identification. In a two-hour program it provides valuable instruction and hands-on fishing experience permanently at six provincial park locations. In 2017 Learn to Fish will include Heart Lake Conservation Area in partnership with the Toronto and Region Conservation Authority.

How does Learn to Fish help to educate people about Ontario's natural resources?

Since its start in 2013, more than 21,000 participants have enjoyed the Learn to Fish program. Along with touring the province to deliver the program, the mobile unit attends events, festivals and tradeshows to reach a wider audience. In 2016, the Learn to Fish team had more than 94,000 one-on-one conversations about recreational fishing.

Using the MNRF's Fish and Wildlife twitter account @FishWildlifeON, branded promotional materials and other media efforts, this program is becoming more recognizable and widespread.

Participants love the program!

In 2016, 99% of participants were satisfied with the program. People enjoyed learning how to use the equipment, mastering their casting technique, and the emphasis on fishing safety. 91% of participants have stated that they are likely to continue fishing over the next five years.

- "Great program! My boys caught their first fish during this session."
- "We loved it. We didn't even know about this program until we arrived at the park, but now we only go where there's a Learn to Fish program."
- "Our leader was amazing, very knowledgeable about all things fish. He was so helpful with the kids too. Thank you!"



Young angler with Learn to Fish instructor

People are really getting hooked on fishing. By inspiring future anglers to pick up a rod we work to promote licence sales that strengthen the FW SPA. Recruiting new anglers means licence dollars can go further in the management of our resources.

For more information find us at ontario.ca/learntofish and follow us on twitter @FishWildlifeON.



Making fishing lures at the Toronto Sportsmen's Show

Kids' Fish Art Contest

In 2016-17, hundreds of Ontario students took part in the fourteenth annual Kids' Fish Art Contest. This contest teaches children about fisheries resources and introduces them to fishing as a pastime. It is sponsored by the MNRF and corporate partners.

Students in grades four to twelve entered original artwork of either Lake Sturgeon (a species at risk in Ontario) or Brook Trout (a species native to Ontario) in their habitat. Students were also asked to submit a one-page article about the fish chosen, its habitat and how to protect it for future generations. Almost 400 entries were received.

First place went to Grace Qian, in the grade 7-9 category. Grace and her family won a day of fishing with pro fisherman Italo Labignan. They also attended a three-day fishing excursion courtesy of Chaudiere Lodge. Grace's winning artwork was also featured on the Young Angler's Licence. These licences were distributed to 100,000 youth across Ontario.

Other top prizes included fishing gear from Lucky Strike Bait Works and classroom art supplies from STAEDTLER Mars. These prizes went to Grace and the other winners, Katherine Ye (grade 4-6 winner) and Una Li (grade 10-12 winner).

For more information visit: ontario.ca/fishartcontest



Grace Qian with her winning artwork



Young angler's licence

Lake Simcoe Monitoring Shows Natural Reproduction of Some Species is Improving

In 2016-17, as part of an aquatic community monitoring program, ministry staff collected data from Lake Simcoe. Crews completed:

- surveys of winter and open-water anglers;
- studies of fish diets and growth;
- monitoring of nearshore and offshore fish communities, fish biodiversity, and invasive species.

This data feeds into reports on the health of the Lake Simcoe fish community and its fisheries and supports fisheries management decisions. It also helps the ministry evaluate how well stocking programs are working. For example, collecting data through offshore deep water netting and from angler-caught fish shows trends in natural and stocked Lake Trout and Lake Whitefish, including how well they are reproducing naturally. The 2016 data shows that Cisco, Lake Trout, and Lake Whitefish continue to naturally reproduce.

Lake Simcoe has the largest recreational fishery of all inland lakes in Ontario, with over one million angler hours per year. Its popular coldwater fishery is supported by a Lake Trout and Lake Whitefish stocking program. This lake is also known for Yellow Perch and Smallmouth Bass fishing.

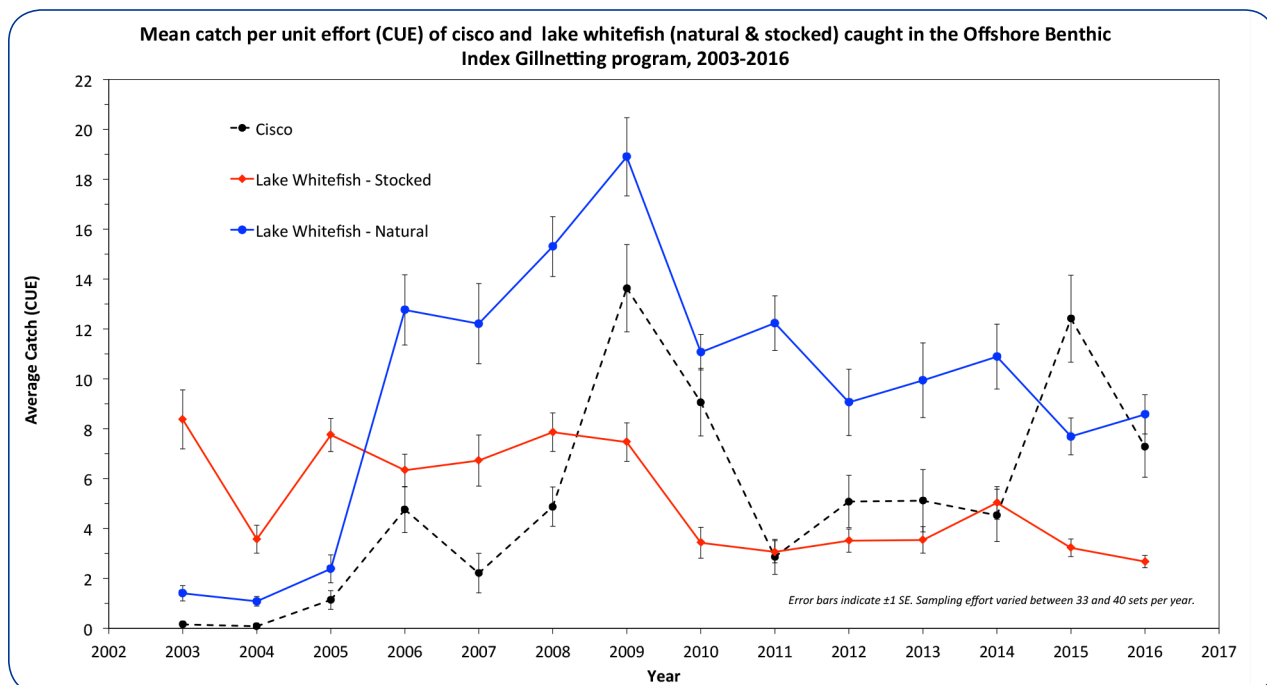
To ensure the fishery and aquatic community stay healthy, the Ontario government has been monitoring the health of Lake Simcoe, its fish communities, and its recreational



MNRF Science and Research Branch staff set a fyke net to assess the biodiversity of fish in Lake Simcoe.

fishery since the early 1950s. In recent years, MNRF's Science and Research Branch has played a key role in fisheries management on Lake Simcoe by developing and carrying out annual aquatic community monitoring. These monitoring activities will continue to help the ministry ensure the protection plan is resulting in a healthier lake and fishery into the future.

The graph below shows the relative abundance of Cisco and Lake Whitefish (natural and stocked) caught during the offshore gill netting survey. After 2006, catches of natural (not stocked) Lake Whitefish have been higher than before 2006, suggesting that whitefish are better able to reproduce naturally. In 2016, 75 per cent of the total Lake Whitefish catch were natural fish. Cisco relative abundance has also increased, suggesting improved natural reproduction of this coldwater species as well.



Biologists Track Grand River Walleye

The Grand River is a large Ontario river which empties into Lake Erie's eastern basin at Port Maitland. Each spring, a group of Walleye travel up the river, from the lake, to spawn. Spawning groups of Walleye don't generally mix with other spawning groups and are referred to as "stocks".

Fisheries managers are interested in how these fish contribute to commercial and sport fisheries. The Grand River stock has been receiving special attention from biologists at MNRF's Lake Erie Management Unit (LEMU) for a few reasons:

- it is the only known Ontario Walleye stock from the lake's eastern basin;
- it is genetically unique and therefore important for biodiversity;
- it is believed to have the potential to expand its numbers if given some assistance.

For these reasons the LEMU has been studying the stock's role in Lake Erie, its condition, and whether this condition can be improved. The best time to study a stock is when it is grouped together for spawning, so LEMU staff carry out field work on the Grand River near the town of Dunnville in March and April each year.

In order to gather data, fish must be captured, handled and safely released. This is done using a 20-ft boat with an electric generator which puts an electrical current into the water in order to stun fish. Stunned fish can then be handled and released unharmed. In addition to measuring and describing the sex, age, and condition of each fish, individual Walleye are marked with a unique number.

In the past, the LEMU has marked Walleye by attaching a tag to the outside of the fish. Examples include a metal band on a lip or a plastic disc on a fin. The purpose of this marking was to gather data when the fish was caught by anglers. This required a certain amount of patience: data can trickle in over many years as biologists wait for an angler to catch, recognize, and report a tagged fish. With only a start and end location for a tagged fish, detailed Grand River Walleye movements and feeding ranges in Lake Erie, when they mixed with other stocks, remained a mystery.



Photo F. Barbetti.

Spring Electrofishing for Walleye in the Grand River

Recently, MNRF has begun surgically inserting special tags inside Grand River Walleye. These "acoustic" tags send out signals over large distances which can be detected by underwater receivers. A huge effort by a several fishery agencies and researchers has resulted in a network of hundreds of receivers throughout Lake Erie. Fish tagged as part of one study can be detected by any partner receiver in the network. Coordination of all Lake Erie receivers, by the Great Lakes Acoustic



Releasing an acoustic-tagged Walleye in the Grand River

Biologists Track Grand River Walleye *continued*

Telemetry Observation System (GLATOS), allows MNRF to work with partners such as New York, Pennsylvania, Ohio, US Geological Survey, US Fish and Wildlife Service, and Michigan State University. By working with partners through GLATOS, MNRF is able to magnify the investment of FW SPA dollars through contributions from US federal and state agencies.

This technology is very good at tracking fish across a lake as large as Erie. Compared to the previous studies, this approach delivers almost immediate results. It does not rely on chance catch and reporting by anglers. In the Grand River, MNRF biologists have placed ten receivers, within the first 42 kilometres upstream from the river mouth. Together with hundreds of partner receivers in the lake, this equipment listens continually for the 200 Walleye that have received acoustic tags since 2015.



Implanting a Grand River Walleye with an acoustic telemetry tag

To date, these fish have been detected over 2 million times. Using this information, biologists are able to better understand Grand River Walleye behaviour, from spawning through summer mixing with other stocks, to preparing to spawn the following year. With a battery life of six years, Grand River Walleye information will continue to become available through 2023.

Armed with this data, MNRF is now better able to assist this stock by dealing with issues that affect spawning. This includes physical barriers to habitat like dams, but it could also involve protecting the stock from fishing during key times. In the end, knowledge gained about the Grand River stock will help with the management and success of the larger population of all Lake Erie Walleye stocks.

FW SPA and Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health financial investments support this aquatic research. This research helps to inform fisheries management decisions on the Great Lakes.



Electrofish-stunned Walleye in live-well

Atlantic Salmon Restoration Work on the Ganaraska River, Port Hope

Restoring wild populations of Atlantic Salmon in Lake Ontario is one of the largest freshwater conservation projects in North America. The MNRF, OFAH and more than 30 partners and sponsors are taking part. To learn more about the program visit BringBackTheSalmon.ca

In 2016, the MNRF's Lake Ontario Management Unit installed a fish counter at the Corbett Dam fishway on the Ganaraska River, Port Hope. Migratory Lake Ontario trout and salmon move from the lake to the river to spawn and can be counted as they move upstream and downstream. The fish counter, known as the "Riverwatcher", uses infrared light to automatically count fish as they pass through the fishway. At the same time it produces a silhouette image and a short video clip of each fish. These images and videos are uploaded to the web for online viewing and can be further analysed to determine species.

The primary purpose of the fish counter is to assess the number of returning adult Atlantic Salmon in support of the Lake Ontario Atlantic Salmon Restoration program. A secondary purpose is to update the fish counting technology currently in use at the Corbett Dam and continue to assess the spring Rainbow Trout spawning run on the Ganaraska River. Additionally, the Riverwatcher fish counting system will allow biologists to monitor fish passage through the fishway on the Ganaraska River throughout the spring, summer and fall seasons.

FW SPA and Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health financial investments support this aquatic research. This research helps to inform fisheries management decisions on the Great Lakes.

Ganaraska River volunteer (top to bottom) and MNRF biologist clean the fish counter during the spawning migration (photo credits: Pete Fisher). Silhouette image and video clip of a Lake Ontario Chinook Salmon as it passes through the Riverwatcher fish counter to continue its spawning migration on the Ganaraska River, Port Hope.

Website available at: riverwatcherdaily.is/migration#



Photo: Pete Fisher



Photo: Pete Fisher



Aerial Inventory Shows Ontario's Moose Population Remains Healthy

Moose are important to Ontario's biodiversity, and since 1975, the ministry's Moose aerial inventories have been helping to ensure that Ontario's Moose are managed in a sustainable way. These surveys, which are partially funded by the FW SPA, continue to show that Ontario populations are healthy overall, with about 92,000 of animals spread out across the landscape. However, in some areas populations are declining, with climate change, habitat changes, hunting, predators, and parasites such as brainworm being likely factors.

Aerial inventories provide experts with data to estimate the number, age, and sex of Moose in the Wildlife Management Units (WMUs) surveyed that year; to estimate trends in Ontario's Moose population; and to support wildlife management activities. Surveys are flown in mid-winter, usually by helicopter, when Moose are in early winter habitat and easier to see. Crews try to conduct surveys 12 to 72 hours after it snows and when snow is more than 30 centimetres deep so Moose tracks and Moose stand out from the landscape. Using consistent assessment methods makes it easier to see trends over time (experts know differences in numbers are due to changes in Moose numbers rather than changes in methods) and compare results from different survey areas.



Moose close-up during Moose aerial inventory survey

The 2016-17 inventory was completed in February 2017. Survey conditions were good in much of Southern Ontario. Crews surveyed Moose populations in six WMUs between Bobcaygeon and the Ottawa River (57, 58, 60, 61, 62, 63A), which is about twice as many as usually surveyed in this part of the province.

In Northern Ontario, crews surveyed nine WMUs (5, 7A, 7B, 14, 23, 28, 35, 41, 42), including several popular with resident hunters. However, two weeks of unusually warm weather made for poor surveying in part of Northwestern Ontario. In late January 2017, crews reported that Moose were already moving into late winter habitat (dense conifer forest). When Moose make this change early, it can reduce confidence in Moose population estimates because the animals are harder to see. The quality of the aerial survey data is critical to making sound Moose management decisions. As a result, not all planned surveys in Northwestern Ontario were carried out.



Moose counted during Moose aerial inventory

Small Game, Furbearers and Wild Turkey Policy Changes

Hunted and trapped wildlife such as hare and lynx, called small game and furbearers, are an important part of Ontario's biodiversity. These animals have long held cultural meaning for Indigenous peoples and are important to the people of Ontario today. In 2017, the MNRF completed a new policy for this group of wildlife. The goal of this policy is to maintain their populations and provide a variety of benefits for the people of Ontario. Small game and furbearer regulations were also updated at that time. These new regulations reduced the number of different seasons and limits, simplifying rules for hunters and trappers.

In 2017, MNRF also marked the 30th year of modern wild turkey hunting in Ontario with several changes to turkey hunting rules. These changes included removing the wild turkey hunter education course and adding key parts of the turkey course into the general hunter education course. Other changes included opening new Wildlife Management Units to spring and fall turkey hunting, adding an extended fall bows-only season and fixing the spring hunting season opening date at April 25 each year. These changes provide additional turkey hunting opportunities in Ontario.



Photo: JD Taylor

Wild turkeys



Photo: David McGeachy

Ruffed Grouse

No Signs of Chronic Wasting Disease in Ontario

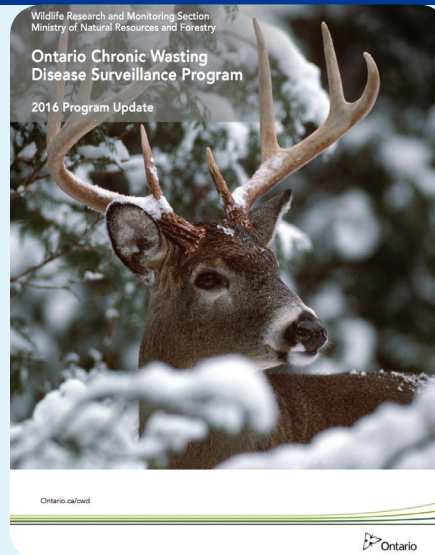
Chronic Wasting Disease (CWD) has been found in 24 U.S. states as well as two western Canadian provinces (Alberta and Saskatchewan). It has been found in all five states that border Ontario (Minnesota, Michigan, Ohio, Pennsylvania, and New York).

The MNRF launched the Chronic Wasting Disease Surveillance Program in 2002 due to increasing concern about diseases in Ontario's White-tailed Deer and restored Elk populations. CWD affects cervids (deer, Elk, Moose, and caribou) and is fatal and untreatable. Late-stage symptoms include poor body condition, jerky movements, stumbling, and odd behaviour, such as animals not being shy of people.

Each year, ministry researchers put new data into a computer model to predict which areas of the province are most at risk for the disease, which helps determine the best survey locations for that year. Factors in the model include estimated cervid farm density, estimated wild deer density, closeness to CWD outbreaks in bordering states, years since the last survey, presence of Elk, deer wintering areas, and soil type.

Surveys are done during the White-tailed Deer firearm hunts, with MNRF crews visiting hunt camps in the survey area and asking for samples from deer heads. Hunters (including those who hunt during bow season) can also drop off deer heads at depots in the survey area. Throughout the year, program staff also test samples from deer that members of the public or MNRF staff have reported as showing CWD-like symptoms.

During the 2016 survey, 475 samples were taken from harvested deer heads from Manitoulin Island, St. Joseph Island, and the north shore of Lake Huron, with CWD not detected in any samples. This sample size was above the target of 460, and likely large enough to detect CWD if present in 1 per cent or more of the population in the survey zone. In 2017, CWD surveillance will occur in eastern Ontario (WMUs 64A, 64B, 65, 66A, 66B, 67, 69A-2, 69A-3, and 69B).



2016 CWD Program Update

Since 2003, all areas of Ontario with significant deer populations have been surveyed at least once, and many of the highest risk areas have been surveyed two or three times. To date, samples from 11,197 wild cervids (11,185 White-tailed Deer and 12 Elk) have been tested and 100 per cent of results have been negative.

For more information about CWD and the CWD surveillance program, visit the ministry's chronic wasting disease webpage at ontario.ca/CWD.



CWD surveillance program crew members



Wildlife technician collecting CWD sample

Battling Invasive Species in Ontario: Protecting Your Favourite Hunting and Fishing Spot



What are invasive species? Why are they a problem?

Invasive species are plants, animals, and even diseases that move outside their native range and have negative impacts. They harm native species. They decrease recreational opportunities. And they hurt the economy by impacting natural resource-based industries. Once they are established, they are nearly impossible to eradicate. That's why preventing their introduction is the best way to deal with them.

How are invasive species introduced and spread?

Invasive species can be spread by recreational activities. Anglers and boaters may move invasive species that hitch a ride on their boat, or in a bait bucket. Gardeners may introduce invasive plants if they are released from a garden. That can be a big problem. Some aquatic invasive plants species grow so thick, boats can't get through them!

To address these problems the MNRF has partnered with the Ontario Federation of Anglers and Hunters (OFAH) and the Ontario Invasive Plant Council (OIPC). With support from the FW SPA, these partners tell the public how to avoid spreading invasive species from common recreational activities.

Boating and Angling

The OFAH reaches out to educate boaters and to encourage them to **Clean, Drain, and Dry** their boats when moving between waterbodies. This approach removes invasive species and prevents them making their way to the next lake.

For anglers fishing with live bait, it is important to empty the bait bucket on land at least 30 meters from any waterbody. Or, you can discard leftover bait in the garbage. Not only is it the law, it helps protect Ontario's fisheries. The OFAH delivers the Invading Species Awareness Program to promote these preventive actions.

Gardening

The OIPC encourages gardeners to take the *Grow Me Instead* approach. This strategy prevents invasive plants from escaping a garden and taking over a fishing or hunting spot. The *Grow Me Instead* campaign includes a booklet that shows a number of invasive plants commonly sold for gardening. Then, it offers non-invasive alternatives that would grow in similar conditions. By choosing non-invasive plants for the garden, we protect both Ontario's biodiversity and our recreational activities for the future.

For more information on the OIPC, or to download a copy of the *Grow Me Instead* Guide, visit their website at ontarioinvasiveplants.com. To learn more about the Invading Species Awareness Program and other ways you can help, visit invadingspecies.com.



The OIPC works with Ontario nurseries to identify non-invasive plant choices for gardening. Look for the green flower and check mark symbol from Ontario's *Grow Me Instead* Guide when selecting plants for your garden.



OFAH Invading Species Awareness Program staff demonstrate how to **Clean, Drain, and Dry** a boat to prevent the movement of aquatic invasive species.

Fish and Wildlife Additional Internet Resources

The 2016-17 FW SPA Annual Report provides information regarding how fishing and hunting licence fees are used. The following references highlight some of the additional fish and wildlife information that is available on the internet:

REPORTS AND ACT

- Historical Fish and Wildlife Special Purpose Account annual reports [ontario.ca](#) search “how fishing and hunting fees are used”
- Sustainability Strategy for the FW SPA [ebr.on.ca](#) search “Sustainability Strategy for the Fish and Wildlife Special Purpose Account”
- *Fish and Wildlife Conservation Act* [ontario.ca/laws](#) search “Fish and Wildlife Conservation Act”

FISHERIES MANAGEMENT INFORMATION

[ontario.ca/fishing](#)

- Fishing Regulations Summary
- Outdoors Cards and licences
- Zone maps
- Fish ON-Line
- Eating Ontario Fish

[ontario.ca/page/ontarios-fish-stocking-program](#)

- How to find a stocked lake
- Stocking Strategy
- Visit a fish culture station

Other fisheries management resources

- Learn to Fish – [ontario.ca/learntofish](#)
- 2016 Annual Report of the Lake Ontario Management Unit [glfc.org/lakecom/loc/mgmt_unit/index.html](#)
- Ontario’s Great Lakes Strategy [ontario.ca/document/ontarios-great-lakes-strategy](#)
- Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health [ontario.ca/page/canada-ontario-great-lakes-agreement](#)

[ontario.ca](#) search “fisheries in Ontario”

- Provincial fish strategy
- Recreational fishing including Fisheries Management Zones (FMZ)
- Commercial Bait
- Commercial Fishing
- Aquaculture

WILDLIFE MANAGEMENT INFORMATION

[ontario.ca](#) search “Wildlife”

- Biodiversity
- Laws for wildlife protection
- Moose
- Black Bear
- White-tailed Deer
- Elk
- Small game
- Wolf/Coyote
- Other species

[ontario.ca/hunting](#)

- Outdoors Cards and licences
- Hunting Regulations Summary
- Harvest results
- Hunter Education
- Wildlife Management Unit Maps

INVASIVE SPECIES

[ontario.ca/invasivespecies](#)

[invadingspecies.com](#)

[invasivespeciescentre.ca](#)

[ontarioinvasiveplants.ca](#)

