

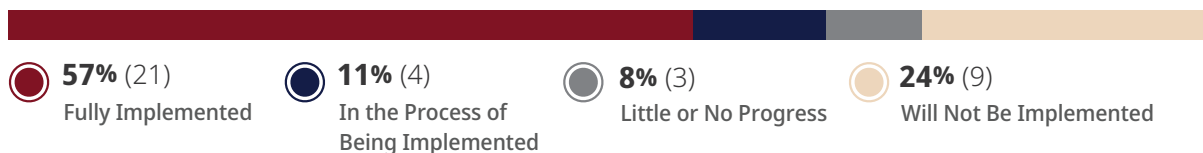
Follow-Up on the 2022 Performance Audit:

Ministry of Natural Resources

Management of Invasive Species

// Overall Conclusion

37 Recommended Actions



The Ministry of Natural Resources (MNR, or Ministry), as of August 26, 2024, has fully implemented 57% of actions we recommended in our **2022 Management of Invasive Species audit**. The Ministry was in the process of implementing an additional 11% of the recommended actions.

The Ministry has fully implemented recommended actions, such as developing and employing a standardized risk-assessment tool for terrestrial (plant) species, assessing the need to work with federal departments and agencies to develop collaborative and timely responses to specific threats, requesting federal funding and resources to support the Ministry and its partners in managing invasive species, exploring approaches to expand eDNA sampling and other emerging tracking technologies, and developing invasive species program funding agreements with a long-term view.

The Ministry has made little progress on 8% of the recommended actions, including assessing and ensuring the sufficiency of enforcement resources, developing a performance measurement framework for the Province's overall invasive species program, and publicly reporting on the status of performance measures as part of an annual report.

The Ministry will not be implementing 24% of the recommended actions, including providing municipalities and conservation authorities with the guidance and direction they need to develop and implement their own invasive species strategic and implementation plans.

The status of actions taken on each of our recommendations is described in this report (see **Appendix** for more details).

// Standing Committee on Public Accounts

On April 24, 2023, the Standing Committee on Public Accounts held a public hearing on our Management of Invasive Species audit. In October 2024, the Committee tabled a report in the Legislature resulting from this hearing. The Committee endorsed our findings and recommendations, and made three additional recommendations.

// Status of Actions Taken on Recommendations

We conducted assurance work between April 2024 and July 2024. We obtained a written representation from the MNR that effective October 24, 2024, it has provided us with a complete update of the status of the recommendations we made in the original audit two years ago. Note that, since our original audit, the Ministry's name was changed from the Ministry of Natural Resources and Forestry (MNRF) to the Ministry of Natural Resources (MNR).

1. Invasive Species Are Not Assessed and Regulated in a Timely Manner

In our original audit, we found that the regulated list of invasive species (Regulation 354/16 made under the *Invasive Species Act, 2015*) had only been updated once in seven years, increasing the risk of invasive species introduction and spread. Risk assessments for the 12 species that were newly regulated in January 2022 (excluding wild pigs, which were assessed and regulated through a separate process) were completed on average four years before they were regulated under the Act.

The Ministry had also left at least 30 harmful terrestrial invasive plants (plants that grow on land) and their pathways unassessed and unregulated. We found at least six of these 30 terrestrial invasive plants (specifically, creeping jenny, goutweed, Norway maple, periwinkle, spearmint and wintercreeper) were available for purchase at local garden centres, nurseries and/or home improvement retailers.

Recommendation 1: Action Items 1, 2 and 3

So that harmful invasive species are more promptly regulated, and to help prevent their introduction and spread, we recommend that the Ministry of Natural Resources and Forestry:

- track the duration and ongoing status of various steps in its risk assessment and listing processes;

- determine and document the reasons for delays in assessments and listings and implement effective actions to avoid these delays;
- establish a timely and consistent schedule for regulatory updates to Ontario Regulation 354/16 and submit regulatory proposals accordingly;

Status:  **Will not be implemented.**

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry does not plan to track the duration and ongoing status of steps to assess and list invasive species for regulation under the *Invasive Species Act*. Rather, the Ministry indicated that it continues to take a risk-based approach to the development of regulatory proposals under the *Invasive Species Act*. The Ministry noted that, because risk assessments are an evidence and science-based process, timelines for completing them are affected by multiple factors, including the availability of species data.

The Ministry asserted that setting timelines for completing assessments would not benefit the risk-assessment process and that the Ministry has taken steps to address timeline issues within the program/Ministry's control. These steps include streamlining consultation by, for example, using a single consultation period rather than two and adopting risk-assessment tools (for example, for aquatic invasive species and for terrestrial invasive species).

During our follow-up, the Ministry told us that, rather than proceed with a regular schedule of updates to Ontario Regulation 354/16 under the *Invasive Species Act*, regulatory proposals will be prepared following the completion of a group of risk assessments for multiple species to streamline internal review, public consultation and approval processes. For example, in December 2023, the Ministry made amendments to Ontario Regulation 354/16 to classify 10 species and four genera as either prohibited or restricted invasive species (see Environmental Registry #019-7360). These regulatory changes took effect on January 1, 2024.

Our Office continues to support the implementation of this recommendation. We recognize that the time it takes to complete a species' risk assessment is variable due to multiple factors, including data availability. We believe that even without setting target timelines for completing assessments, tracking the duration and status of steps in the assessment and listing process, plus determining and documenting the reasons for any hold ups, would help the Ministry identify and address delays so that harmful species are more promptly regulated.

As Ministry staff indicated to us during our 2022 audit, a predictable and consistent schedule for updating Ontario's list of regulated species could help ensure that completed high-risk assessments translate into the regulation of invasive species on a regular basis.

The Ministry indicated that it will continue to assess the current risk assessment and regulatory development process to identify opportunities for improvement.

Recommendation 1: Action Item 4

- maintain a list of invasive species pending risk assessment to determine the size of the backlog and implement measures to reduce the backlog.

Status:  Fully implemented.

Details

We found that the Ministry has maintained an internal list of non-regulated invasive species to support the prioritization of species risk assessments, and to inform decisions to proceed with species-specific regulation proposals.

The Ministry does not, however, consider this list as a backlog of species, noting that regulation is one of several approaches to address invasive species. The Ministry noted that it provides funding to the Invasive Species Centre to maintain a database of risk assessments completed by relevant jurisdictions to determine whether new risk assessments are required.

Recommendation 2: Action Item 1

So that harmful terrestrial species and their pathways are promptly regulated, in line with the goals and objectives of Ontario's Invasive Species Strategic Plan (2012), we recommend that the Ministry of Natural Resources and Forestry:

- develop and employ a standardized risk-assessment tool for terrestrial species;

Status:  Fully implemented – but only for terrestrial plant species.

Details

In 2016, the Ministry developed an ecological risk-assessment tool to evaluate the probability of invasion and ecological impacts of aquatic invasive species in Ontario. During our follow-up, we found that the Ministry adapted this tool to assess the ecological risk of terrestrial invasive species—though only for terrestrial plants. This tool is therefore unable to assess the likelihood of the arrival, survival, establishment and spread of other terrestrial species, like invasive insects and mammals.

The Ministry has employed this new risk-assessment tool to evaluate the tree-of-heaven, which is the favoured host of the spotted lanternfly, a federally regulated invasive pest that threatens the grape, fruit tree and forestry industries. The outcome of this risk assessment was used to support the regulation of the tree-of-heaven under the *Invasive Species Act* in January 2024.

Recommendation 2: Action Item 2

- collaborate with stakeholders to identify potential terrestrial plant invasive species for regulation;

Status:  **Fully implemented.**

Details

We found that the Ministry continues to work with the Invasive Species Centre and other partners and stakeholders to identify emerging terrestrial invasive plant species for risk assessment and potential regulatory consideration. As a result of this work, the tree-of-heaven was regulated under the *Invasive Species Act* in January 2024.

In February 2024, with funding support from the Ministry, the Invasive Species Centre held the annual Invasive Species Forum, with sessions highlighting priority and emerging invasive species.

The Ministry indicated that it has also enhanced relationships with stakeholders, such as Landscape Ontario (which represents Ontario's horticultural industry), to increase communications to growers, landscapers and nursery retailers about invasive plant regulations, and to obtain industry perspectives on potential invasive plant species for regulation.

The Ministry also noted that it is engaging directly with the Canadian Food Inspection Agency to discuss provincial versus federal roles with respect to the regulation of terrestrial invasive plants. The Ministry's continued participation in federal-provincial-territorial committees, such as the Invasive Alien Species National Committee and the Ontario Critical Plant Pest Management Committee, also increases its understanding of federal and provincial roles in the identification and regulation of new invasive plant threats.

The Ministry noted that its continued monitoring of work by other binational working groups, such as the Midwest Invasive Plant Network, also provide the Ministry with valuable information on terrestrial invasive plant risks being identified in the United States.

Recommendation 2: Action Item 3

- assess and address the need to regulate pathways for terrestrial invasive species.

Status:  Fully implemented.

Details

Although the Ministry has not assessed the need to regulate pathways for terrestrial invasive species, it indicated that it is addressing this need by collaborating with the federal government.

The Ministry noted that the regulation of the primary pathways for terrestrial invasive species must be addressed at the national level to be effective and address international obligations. The Ministry informed us that it has engaged with the Canadian Food Inspection Agency to discuss roles and responsibilities regarding biosecurity and import pathways, and that it continues to be an active participant in key federal-provincial-territorial committees to address specific terrestrial invasive species threats.

2. Province Lacks Information to Detect and Monitor Potentially Harmful Invasive Species

In our original audit, we found that the Ministry did not track at least 33 invasive species that are present in Ontario and considered high-risk in other nearby jurisdictions. Rather, invasive species monitoring has mainly relied on incidental observations rather than systematic, targeted monitoring, preventing the reliable analyses of trends. In addition, the Ministry did not consolidate and store invasive species data collected by different organizations.

Recommendation 3: Action Item 1

So that Ontario's invasive species are effectively monitored to inform management actions and policies, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- require staff to adhere to the Ministry's Response Framework for New Invasive Species for all known instances of species that are likely to cause harm to the environment and are new to Ontario or regions of Ontario;

Status:  Fully implemented.

Details

The Ministry informed us that it continues to apply its *Response Framework for New Invasive Species* to assess the risk of new invasive species to Ontario's natural environment, and to identify and implement relevant response actions for effective control of invasive species. In 2022 and 2023, the Ministry used the Framework to guide response actions on species that are new to Ontario (for example, grass carp, hydrilla) as well as species already found in Ontario but are new to parts of the province (for example, European water chestnut, water soldier).

Recommendation 3: Action Item 2

- regularly review and consider risk assessments from other jurisdictions when determining which species sightings need to be tracked;

Status:  Fully implemented.

Details

The Ministry indicated that it continues to review and consider risk assessments from ecologically and geographically relevant jurisdictions, such as Great Lakes-adjacent states and neighbouring provinces, as appropriate.

In our follow-up, the Ministry noted that tools, like the Invasive Species Centre's Risk Assessment Database and the Great Lakes Aquatic Nonindigenous Species Information System, provide valuable data to support these reviews.

Recommendation 3: Action Item 3

- work with relevant invasive species partners, including municipalities and conservation authorities, to obtain and consolidate available invasive species monitoring and surveillance data;

Status:  Fully implemented.

Details

The Ministry indicated that, through its transfer payment agreement with the Ontario Federation of Anglers and Hunters (OFAH), the Invading Species Awareness Program has consolidated invasive species monitoring and surveillance data within the Early Detection and Distribution Mapping System (EDDMapS) that it receives from invasive species partners and the public.

We found that activities in the OFAH's transfer payment agreement include:

- working with the national EDDMapS working group to maintain and update EDDMapS to ensure the tracking of key invasive species threatening and/or impacting Ontario; and
- ensuring that Ontario data from the iNaturalist network (an online social network for recording and sharing biodiversity observations and information) is uploaded to EDDMapS.

The Ministry informed us that it encourages other transfer payment recipients that support tracking and monitoring of invasive species to use the OFAH's reporting tools. According to the Ministry, since April 1, 2023, the OFAH has released or updated 21,739 EDDMapS reports from bulk data directly received from organizations, such as conservation authorities, and iNaturalist bulk data transfers.

Recommendation 3: Action Item 4

- where no suitable data exists, develop and implement risk-based monitoring programs that systematically detect and monitor potentially harmful invasive species within each Ministry district;

Status:  **Will not be implemented.**

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

At the time of our 2022 audit report, the Ministry responded to this recommendation stating that it would explore opportunities to develop and enhance monitoring for invasive species. During our follow-up, however, we found that the Ministry now will not be implementing this recommendation.

The Ministry stated that it remains confident in its continued, ongoing monitoring programs for forest health, Great Lakes and inland fisheries, and wildlife to detect and monitor potentially harmful invasive species at the provincial scale. The Ministry noted that targeted monitoring programs are being implemented for high-risk species in relevant locations, and the Ministry continues to promote the use of community science to detect new occurrences of invasive species through ongoing education awareness efforts and tools (for example, EDDMapS and iNaturalist).

Our Office continues to support the implementation of this recommendation. Community science, while helpful, is generally limited to voluntary reports submitted by concerned organizations and members of the general public. Also, due to the higher population density in southern Ontario, there is an inherent bias in having more people reporting from this area relative to the rest of the province. While it may be impractical for the Ministry to expand from fragmented monitoring

efforts to measuring all invasive species across the entire province (especially given Ontario's large size and limited resources), steps in this direction, based on risk, are needed so that the Ministry has crucial information on the spread and impacts of invasive species to inform the prioritization of management activities.

3. Levels of Ministry Engagement with Program Partners Are Insufficient to Combat Invasive Species

In our original audit, we found that gaps in collaboration between the Ministry and federal partners had led to inadequate invasive species management. For example, staff at the Canadian Food Inspection Agency (CFIA) told us that Ministry leadership was lacking with respect to inventorying and organizing an immediate response to known infestations of the hemlock woolly adelgid, an invasive insect that kills hemlock trees. According to the CFIA, the Ministry had not responded to or undertaken the CFIA's recommendations or calls to action.

Our audit also found that, despite being the dedicated lead on implementing Ontario's Invasive Species Strategic Plan (2012), the Ministry lacked an implementation plan for executing invasive species work, and did not provide comprehensive and organized direction to municipalities, conservation authorities and stakeholder organizations across the province to combat invasive species threats. With few exceptions, the Ministry had not defined roles and responsibilities for managing invasive species and had provided minimal direction to others to guide and co-ordinate invasive species work. As a result, these stakeholders have been left to develop and implement their own strategies, but this has rarely actually happened. We found that 70% of the municipalities that responded to our survey had not developed any invasive species management plans to guide relevant activities.

The Ministry had also not leveraged existing reporting tools (like the Early Detection and Distribution Mapping System) nor planned for widespread use of emerging monitoring methods (like environmental DNA sampling).

Recommendation 4: Action Item 1

To effectively prevent harmful invasive species from entering and establishing in Ontario, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- assess the need to work with federal departments and agencies to develop collaborative and timely responses to specific invasive species threats;

Status:  Fully implemented.

Details

We found that the Ministry has assessed the need to work with federal departments and agencies to develop collaborative and timely responses to specific invasive species threats. The Ministry indicated that it is an active member of federal-provincial working groups to respond to invasive forest pests, wild pigs, invasive carp, and other invasive alien species. Further, the Ministry reported that it has used the forum of the Aquatic Invasive Species Annex Committee under the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health to increase collaboration on response efforts and funding opportunities, resulting in new membership/participation in 2023 from the federal Department of Fisheries and Oceans on working groups for water soldier and the marbled crayfish.

Recommendation 4: Action Items 2 and 3

- provide a written response when solicited to support federal invasive species efforts;
- document the Ministry's justification for whether and how it plans to provide support for federal invasive species efforts;

Status:  Fully implemented.

Details

The Ministry indicated that, though no formal requests have been received since the completion of our 2022 audit, the Ministry is committed to providing a written response to federal government requests to support invasive species efforts. The Ministry noted that, in response to the May 2023 detection of oak wilt (a tree disease) in Niagara Falls, Ontario, the Ministry collaborated with the federal government and relevant municipalities through existing working groups on surveillance and the removal of infected trees.

Recommendation 4: Action Item 4

- request federal funding and resources to support the Ministry and its partners in the management of invasive species within the province.

Status:  Fully implemented.

Details

We found that, in January 2024, the Ministry requested meetings with relevant federal agencies (the Canadian Food Inspection Agency, the Department of Fisheries and Oceans, Environment

and Climate Change Canada, and Natural Resources Canada), to discuss, amongst other things, opportunities to leverage federal funding and resources to support the Ministry and its partners in the management of invasive species. These discussions were held in February and March 2024. As of July 2024, there was no indication that this request had resulted in federal funding and resources to support the Ministry and its partners.

Recommendation 5: Action Item 1

To have an effective and co-ordinated approach to preventing and managing invasive species in Ontario, we recommend that the Ministry of Natural Resources and Forestry (Ministry):

- specify the roles and responsibilities of program partners and key stakeholders, including the responsibility for developing and updating best management practices;

Status:  **Fully implemented.**

Details

We found that the Ministry's transfer payment agreements with program partners (for example, the Invasive Species Centre, the Green Shovels Collaborative, Ontario Federation of Anglers and Hunters, and the Nature Conservancy of Canada) specify the projects, activities, and deliverables expected to result from funding recipients. The Ministry noted that, through transfer payment agreements and annual meetings, it works collaboratively with these partners to develop co-ordinated workplans and establish agreement on roles and responsibilities to address invasive species in the province. According to the Ministry, part of these discussions include prioritizing updates to best management practices, which are then jointly promoted by the program partners and shared through their networks.

The Ministry, however, has not specified the roles and responsibilities of other key stakeholders, such as municipalities and conservation authorities. In response to a survey we sent as part of our audit in 2022, 79% of 135 municipality respondents and 89% of 27 conservation authority respondents indicated that roles and responsibilities related to Ontario's invasive species response were not clearly defined. While the Ministry recognizes the important role of municipalities, conservation authorities, and other stakeholders in addressing invasive species within their regions, it noted that it does not have authority to define their activities, roles and responsibilities on invasive species beyond requirements set out in the *Invasive Species Act* or other Ministry legislative requirements.

While our Office understands the Ministry's limitations in specifying the roles and responsibilities of municipalities and conservation authorities outside of legislative requirements, we encourage the Ministry to work with these and other stakeholders to clarify what each party should be doing

to ensure an effective and co-ordinated approach to preventing and managing invasive species in Ontario.

Recommendation 5: Action Item 2

- establish and formalize an accountability framework where the Ministry leads, co-ordinates and collaborates with all levels of government and a wide variety of program partners for invasive species prevention and management activities;

Status:  **Will not be implemented.**

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry will not be implementing this recommended action, given that the Government of Canada (Canadian Food Inspection Agency and Department of Fisheries and Oceans) has the primary mandate for preventing the introduction and establishment of invasive species in Canada. The Ministry believes that any further actions to define accountability should be led by the relevant federal agencies.

The Ministry noted that it will continue to apply a risk-based approach in responding to invasive species occurrences and will seek opportunities to collaborate with others as appropriate.

Our Office continues to support the implementation of this recommended action. While the federal government is responsible for preventing the entry of invasive species into Canada and their movement between provinces, Ontario is responsible for minimizing the movement and impacts of invasive species within the province.

Ontario's Invasive Species Strategic Plan identifies that the Ministry, with support from other ministries, will lead Ontario's invasive species response. The Ministry administers the *Invasive Species Act*, the main piece of legislation regulating the management of invasive species in the province.

As the provincial lead on invasive species, the Ministry should establish and formalize an accountability framework with other levels of government and partners on the eradication, containment, and long-term control of invasive species that are already present in Ontario, as well as the movement of invasive species from one part of Ontario to another.

Recommendation 5: Action Item 3

- work with municipalities and conservation authorities to provide the guidance and direction they need to develop and implement their own invasive species strategic and implementation plans;

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry will not be implementing this recommended action, as it does not direct municipalities or conservation authorities to develop invasive species plans or to undertake management actions for invasive species.

Our Office continues to support the implementation of this recommended action. Given the frontline role that municipalities and conservation authorities play in managing invasive species in their jurisdictions, and given that the Ministry is the lead on Ontario's invasive species response, we believe the Ministry should provide municipalities and conservation authorities the guidance and direction they need to effectively combat invasive species threats. This includes providing the guidance and direction for them to develop and implement their own invasive species strategic and implementation plans.

Recommendation 6: Action Item 1

To avoid missed opportunities to find and eradicate invasive species before they become established, we recommend that the Ministry of Natural Resources and Forestry:

- provide guidance on steps the public can take on the spot to manage invasive species when they report sightings;

Status:  Fully implemented.

Details

We found that steps have been taken to provide additional guidance to the public on what they can do on the spot to manage invasive species when they report sightings.

The Ministry supports the OFAH's Invading Species Awareness Program, which has worked with EDDMapS developers so that auto-reply emails are sent when a report is made for a species listed under the *Invasive Species Act*. For example, when reports of an invasive carp are received through

EDDMapS, reporters are instructed to follow the steps in the online factsheets, which include gutting and keeping any positively identified invasive carp in a cooler (with its head above the ice) for analysis by the federal Department of Fisheries and Oceans.

Recommendation 6: Action Item 2

- explore and implement approaches to expand eDNA sampling and other emerging technologies across the province to systematically track the introduction and spread of invasive species.

Status:  Fully implemented.

Details

We found that the Ministry noted that technologies and resources are not yet at a stage where widespread systematic monitoring for invasive species is technically or financially feasible. However, the Ministry indicated that it would assess and expand eDNA and other technologies for broader invasive species detection and monitoring as technologies allow.

The Ministry reported that eDNA is currently being used in Ontario to support the detection of specific species subject to active management, and the Ministry is performing research to optimize eDNA monitoring for high-risk species. Further, the Ministry indicated that it is developing a plan to scale up eDNA monitoring for oak wilt by improving its ability to interpret the results of eDNA tests.

4. Ministry Funding for Invasive Species Work Is Neither Sufficient Nor Timely

In our original audit, we found that the Ministry did not provide funding to several program partners named in its strategic plan, such as municipalities and conservation authorities. While invasive species-related costs incurred in 2021/22 by Ontario municipalities and conservation authorities were estimated to be over \$50 million, the Ministry dedicated less than \$4 million annually to invasive species programming.

We also found that the Ministry was regularly delayed in approving annual funding for transfer payment recipients, limiting the invasive species planning and work that could be done in the spring and summer, when many management activities are most effective. Due to the lack of multi-year funding agreements and certainty of funding, organizations had difficulty planning long term and retaining staff to conduct invasive species work.

Recommendation 7: Action Items 1, 2 and 3

To improve the sufficiency of financial resources available for actions to prevent and manage invasive species, we recommend that the Ministry of Natural Resources and Forestry, with input from relevant stakeholders and experts, as applicable:

- assess and prioritize the activities that are needed to eradicate, control and prevent the introduction or spread of harmful invasive species;
- estimate the costs and make funding available to organizations and/or individuals to perform prioritized activities;
- guide, support and monitor the implementation of those activities.

Status:  **Fully implemented.**

Details

We found that the Ministry has funded and participated in assessments to better understand the economic impacts, estimated costs of, and spending by municipalities, conservation authorities and provincial ministries on, invasive species, as well as a cost-benefit analysis on the management of phragmites (an invasive plant) in Ontario. These assessments clarified for the Ministry that the greatest costs and priorities for invasive species expenditures are for control and management.

In response to these assessments, the Ministry has committed increased funding to support the Invasive Species Action Fund (ISAF) and the Invasive Phragmites Control Fund, which directly enable municipalities, conservation authorities, Indigenous communities and other organizations to take action on invasive species management. Specifically, in 2023, the Ministry announced an additional investment of \$1 million in the Invasive Species Centre (ISC) and Nature Conservancy Canada toward these funds, representing an increase in spending on invasive species from \$3.7 million in 2021/2022 and 2022/2023 to \$5.0 million in 2023/2024. In June 2024, the Ministry further committed an additional \$16 million of new funding over three years for these management funds, thereby increasing funding for priority community-led invasive species management actions.

The Ministry noted that it works with the ISC to set the annual project priorities for ISAF funding, including eligible activities and detailed assessment criteria for evaluating project applications. Relatedly, we found that the ISAF's applicant guidelines specify priority species and themes for submitted projects.

To support the evaluation of the ISAF, including future priority setting and funding allocations, funding recipients are required by ISC to provide final reports that include performance indicators. The Ministry reported that, as a condition of the ISC's transfer payment agreement, it provides

regular summary updates of performance via quarterly reports to the Ministry, allowing the Ministry to help guide, support and monitor the implementation of prioritized activities.

The Ministry asserted that it is confident that these increased investments, focused on the highest risk species to the province's natural environment, are the most efficient means of enabling effective response and management actions.

Recommendation 8: Action Items 1 and 2

So that transfer payment recipients can effectively plan, staff up and implement invasive species work that is needed during critical times of each year, we recommend that the Ministry of Natural Resources and Forestry:

- develop invasive species program funding agreements with a long-term view, where appropriate;
- approve and transfer funds under agreements prior to the beginning of the funding year.

Status:  **Fully implemented.**

Details

We found that the Ministry has established multi-year funding agreements with the Invasive Species Centre and the Nature Conservancy of Canada for fiscal years 2024/2025, 2025/2026, and 2026/2027. The Ministry noted that it is in the final year of existing multi-year agreements with Ducks Unlimited Canada and the Ontario Federation of Anglers and Hunters, and that decisions on the renewal of these agreements will be made as part of the 2025/2026 budget planning.

5. Invasive Species Strategy is Outdated and Does Not Enable Sufficient Implementation of Needed Activities

In our original audit, we found that there was no implementation plan associated with the Ontario Invasive Species Strategy, which itself required updating to incorporate the administration of the *Invasive Species Act* and modern detection tools. Our audit also found that, while the Ministry funds a number of public outreach and education activities, Ontario's invasive species public education and awareness programs have not reached most people across the province.

Recommendation 9: Action Item 1

To effectively, efficiently and accountably achieve successful outcomes for invasive species prevention and management, we recommend that the Ministry of Natural Resources and Forestry:

- develop a detailed implementation plan that lists specific action items, responsible parties, required human and financial resources, outcome measures and implementation timelines for each goal and objective identified in the Ontario Invasive Species Strategic Plan (Strategic Plan);

Status:  In the process of being implemented.

Details

We found that the Ministry considers this a future action. As such, the Ministry indicated to us that a decision on the development of a detailed implementation plan will be guided by the renewal of the Ontario Invasive Species Strategic Plan (Strategic Plan), which the Ministry anticipates will be posted to the Environmental Registry for public comment in 2024/2025.

Recommendation 9: Action Item 2

- regularly update the Strategic Plan, through public consultation, to keep it current and relevant;

Status:  In the process of being implemented by fall 2024.

Details

We found that the Ministry had initiated consultation with the public on updating the Strategic Plan. In November 2023, the Ministry posted a review of progress on implementing the Strategic Plan on the Environmental Registry (#019-7582) for public consultation. The Ministry indicated that the feedback received on this review of progress will inform the development of a draft renewed Strategic Plan, which is anticipated to be posted for public consultation in fall 2024.

Recommendation 9: Action Item 3

- publicly report on the progress toward the implementation of the Strategic Plan on an annual basis.

Status:  In the process of being implemented.

Details

We found that the Ministry had initiated reporting to the public on progress toward the implementation of the Strategic Plan. In November 2023, the Ministry posted a review of progress on implementing the Strategic Plan on the Environmental Registry (#019-7582) for public consultation.

The Ministry has not yet committed to annual public reporting on progress, noting that decisions on future progress reporting will be guided by a renewed Strategic Plan.

Recommendation 10: Action Item 1

To improve public awareness of invasive species, and to have effective education and outreach activities that achieve intended outcomes, we recommend that the Ministry of Natural Resources and Forestry work with partners, including the Ontario Federation of Anglers and Hunters and the Invasive Species Centre, to develop and implement a strategy for public education and outreach, and for tracking the effectiveness of efforts to raise public awareness on how to report invasive species sightings.

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry will not be drafting a strategy for public education and outreach, or for tracking the effectiveness of efforts to raise public awareness on how to report invasive species sightings. The Ministry noted that developing and implementing effective public education and outreach campaigns for invasive species is an ongoing, adaptive and iterative process that depends on the audience and type of information being relayed. Considering it inappropriate to develop a singular and static “strategy” for all public education and outreach needs, the Ministry noted that it works with its partners to continually adapt its approach based on emerging issues, innovative communication tools, and new information.

The Ministry indicated that it continues to work with its partners, including the Invasive Species Centre, the Federation of Ontario Cottagers’ Associations, and the OFAH, to improve the implementation of individual outreach strategies for target audiences that are involved in key invasive species pathways.

The Ministry has also established relationships with new partners, including Pets Canada, Landscape Ontario, and Boating Ontario, to reach target audiences within the aquarium and nursery/horticulture and landscaping sectors, and to develop appropriate education and

awareness strategies for those potential pathways of invasive species spread. In addition, the OFAH has reportedly initiated target audience surveys, for example, among trail users, boaters, and anglers, to learn more about motivations for preventing the spread of invasive species, track effectiveness of public education and outreach activities, and inform adaptive approaches to future outreach programming.

Our Office continues to support the implementation of this recommendation. While the Ministry funds a number of public outreach and education activities, a survey we had conducted as part of our original audit found that 74% of 1,001 surveyed Ontarians had never heard of the Invasive Species Centre and only 3% of respondents correctly identified that the Centre educates the public and shares information about invasive species, which represents a substantial portion of the Centre's work. In addition, 70% of survey respondents had never heard of the Ontario Federation of Anglers and Hunters' Invading Species Awareness Program. While individual education and outreach campaigns can provide flexibility to target specific audiences, invasive species, and issues, an overarching strategy as part of or under the Ontario Invasive Species Strategic Plan can help ensure co-ordination and overall progress in improving general public awareness.

6. Enforcement Resources and Activities Are Limited

In our original audit, we found that Ministry staffing was insufficient to administer the *Invasive Species Act*. The Ministry had repeatedly recognized the need for additional human resources to administer the Act, and requested resources from Treasury Board/Management Board of Cabinet (TB/MBC). TB/MBC denied the Ministry's requests in 2014/15 and again in 2017/18, and directed the Ministry to reallocate resources to invasive species work—which the Ministry did not do.

We found that, despite being responsible for administering the *Invasive Species Act*, conservation officers were doing very little compliance and enforcement work. As of March 31, 2022, conservation officers had laid zero charges, issued zero warrants, and issued only 11 warnings under the Act. We found there was no standard across the province for how officers should track their enforcement work to show that prioritized activities were being performed. Further, conservation officers were not well trained to identify invasive species, requiring expert assistance that was not available within the Ministry. Without internal support for identification, it could take weeks to find an expert to accompany officers on inspections. We also noted some deficiencies in inspectors' powers that limited their effectiveness in preventing the introduction and spread of aquatic invasive species. For example, unlike other provinces, Ontario had not made watercraft inspections for invasive species mandatory.

Recommendation 11: Action Item 1

So that the *Invasive Species Act, 2015* is effectively enforced to detect invasive species and reduce their spread, we recommend that the Ministry of Natural Resources and Forestry:

- assess and ensure the sufficiency of enforcement resources, including training requirements, the availability of specialist support and the number of field conservation officers;

Status:  Little or no progress.

Details

We found that the Ministry has not yet conducted an assessment of the sufficiency of its enforcement resources, including training, availability of specialist support, and the number of field conservation officers, to detect invasive species and reduce their spread. Rather, the Ministry noted that invasive species compliance continues to be part of regular field inspections, and the Ministry remains committed to following up on any tips received.

The Ministry noted that, despite the lack of assessment, conservation officers have been provided additional training, information sessions and new tools to support the detection and identification of invasive species. The training time dedicated to invasive species was increased, and invasive species aspects were also incorporated into fisheries training sessions. The Ministry reported that it is beginning to see the results of this work. In 2023-24, conservation officers reportedly detected 803 violations associated with invasive species. This is almost double the number detected in the previous year with 178 of these being violations under the *Invasive Species Act*.

The Ministry asserts that its efforts to improve training and tools ensure that existing enforcement resources are sufficient and that conservation officers are equipped with the information they need to effectively ensure compliance. Yet, as found in our original audit, the Ministry had repeatedly (in 2014/15 and again in 2017/18) requested funding from the Treasury Board/Management Board of Cabinet (TB/MBC) to address inadequate staffing levels for invasive species work. Although TB/MBC denied these requests and directed the Ministry to divert the necessary funding from other programs to address this shortage, the Ministry did not follow this instruction and did not fill these positions.

Recommendation 11: Action Item 2

- develop and implement a risk-based approach to inspections, focusing on high-risk species, pathways and activities;

Status:  Fully implemented.

Details

We found that, in February 2023, the Ministry issued a policy directive, Risk-based Strategic and Operational Planning, to update the Enforcement Branch's risk-based planning approach and to create an integrated and outcomes-based process for setting priorities and planning work.

At the same time, the Ministry issued the Risk-Based Priority Setting Manual to provide instructions to staff on using the branch's Risk-based Priority Setting Tool, which evaluates risks associated with achieving planned outcomes or results. Following the identification and approval of branch priorities, each branch is to create a multi-year action plan for each priority, followed by respective work planning.

The Ministry reported that it uses this risk-based approach to priority setting, including to identify enforcement operational plans based on geography (for example, co-ordinating food fish market and baitfish inspection blitzes in Ontario's southern region).

Recommendation 11: Action Item 3

- assign, track and review hours assigned to conservation officers for invasive species work to make sure relevant work is performed;

Status:  Fully implemented.

Details

We found that, as described above, the Ministry uses a risk-based approach to priority setting to identify enforcement priorities, develop action plans, and set annual work plans and assignments. The Ministry indicated that officers' hours are tracked and reviewed through the annual work plan, including time dedicated to invasive species work, to ensure relevant work is performed.

In 2022/2023, through invasive species work, the Ministry reported that conservation officers detected a total of 456 violations associated with aquatic invasive species in Ontario.

Recommendation 11: Action Item 4

- explore and implement cost-effective ways to ensure compliance with Ontario's watercraft laws, particularly in high-risk areas;

Status:  In the process of being implemented by April 2025.

Details

We found that the Ministry reported dedicating funding in 2023/2024 to implement education actions to increase awareness and compliance with Ontario's watercraft laws, including producing 375 boat launch signs for posting at Crown Land boat launches across Ontario in 2024/2025.

The Ministry also indicated that new collaborations with Boating Ontario (which represents local marinas, boat dealers, brokers, boat and engine service centres and suppliers to the marine industry) and the Federation of Ontario Cottagers' Associations will engage directly with boaters through webinars, in-person outreach (for example, at boat shows, boat ramps), and these organizations' communications to their memberships.

Recommendation 11: Action Item 5

- update licence requirements for baitfish retailers and harvesters to include disclosure of where bait is stored;

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry will not be implementing this recommendation. The Ministry noted that requiring baitfish retailers and harvesters to disclose bait storage locations was considered as part of the provincial bait review (2013–2020) but was not recommended as an ongoing requirement, except for storage locations in the Lake Simcoe watershed.

The Ministry explained that, because the bait framework is designed to limit species movement between zones, the location of stored bait within the same zone would have limited reduction of risk for either invasive species or disease at the zone level. Still, we note that requiring licensed parties to disclose where their offsite bait is stored could allow inspectors to visit these locations and take appropriate actions if they detect any invasive species not previously found and removed during harvesting/transport to the location.

Recommendation 11: Action Item 6

- require baitfish retailers to adhere to the steps outlined in their Hazard Analysis and Critical Control Point Plans to prevent the spread of invasive species.

Status:  **Will not be implemented.**

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation.

Details

We found that the Ministry will not be requiring baitfish retailers to adhere to the steps outlined in their Hazard Analysis and Critical Control Point Plans to prevent the spread of invasive species. The Ministry asserted that the value of these plans is that they make harvesters aware of the ecological and legal risks of moving invasive species, and that they are a tool to help achieve compliance without the need for extensive licence conditions. The Ministry noted that existing legislation and licence conditions are already enforceable mechanisms to address the spread of invasive species.

The Office of the Auditor General of Ontario continues to support the implementation of this recommendation. While the Hazard Analysis and Critical Control Point Plans submitted by baitfish harvesters may be helpful in making them aware of the risks of moving invasive species, the effectiveness of these plans at preventing the spread of invasive species could be enhanced by requiring harvesters to actually adhere to the commitments outlined with the plans.

7. Ministry Lacks Performance Measurement and Reporting for Invasive Species Work

In our original audit, we found that the Ministry had not developed a performance measurement framework, or established targets and collected information, to assess the effectiveness and efficiency of activities to prevent and manage the spread of invasive species.

Recommendation 12: Action Item 1

To measure the effectiveness of its invasive species program at preventing and controlling the spread of invasive species and its impacts, we recommend that the Ministry of Natural Resources and Forestry:

- develop a performance measurement framework for the Province's overall invasive

species program, including meaningful, measurable, and outcome-oriented performance indicators with targets and timelines;

Status: Little or no progress.

Details

We found that the Ministry reported little progress on this action item as it considers this a future action. The Ministry noted that the development of a performance measurement framework for the Province's overall invasive species program will be considered as part of the renewal of the Ontario Invasive Species Strategic Plan in 2024/2025 (see **Recommendation 9**).

Recommendation 12: Action Item 2

- document invasive species management and outcomes, and publicly report on the status of the performance measures as part of an annual report.






Status: Little or no progress.

Details

We found that the Ministry reported little progress on this action item as it considers this a future action. The Ministry noted that the documentation of invasive species management and outcomes, and the public reporting on the status of performance measures, will be considered as part of the renewal of the Ontario Invasive Species Strategic Plan in 2024/2025 (see **Recommendation 9**).

// Appendix

Recommendation Status Overview

	# of Action Items	Fully Implemented 	In the Process of Being Implemented 	Little or No Progress 	Will Not Be Implemented 	No Longer Applicable 
Recommendation 1	4	1			3	
Recommendation 2	3	3				
Recommendation 3	4	3			1	
Recommendation 4	4	4				
Recommendation 5	3	1			2	
Recommendation 6	2	2				
Recommendation 7	3	3				
Recommendation 8	2	2				
Recommendation 9	3		3			
Recommendation 10	1				1	
Recommendation 11	6	2	1	1	2	
Recommendation 12	2			2		
Total	37	21	4	3	9	0
%	100	57	11	8	24	0