

Follow-Up on the 2022 Performance Audit:

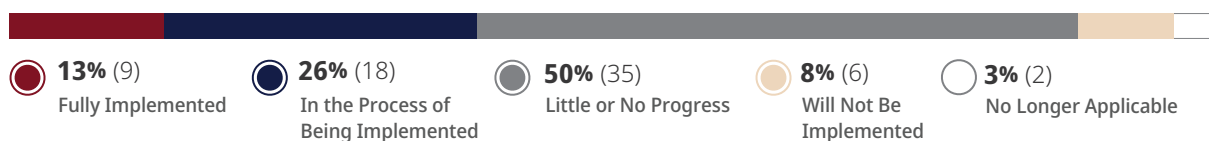
Ministry of Mines

Ministry of Natural Resources

Management of Hazards and Emergencies in the Environment

// Overall Conclusion

70 Recommended Actions



As of November 20, 2024, the Ministry of Mines and Emergency Management Ontario (EMO) and as of November 21, 2024, the Ministry of Natural Resources have collectively fully implemented 13% of the actions we recommended and have made progress in implementing an additional 26% of the recommended actions. However, for 50% of our recommended actions there has been little or no progress. In addition, a further 8% of our recommended actions will not be implemented, but we continue to believe that these recommended actions should be implemented. Finally, 3% of recommended actions were no longer applicable.

The Ministry of Natural Resources, with 55 recommended actions in total, has fully implemented 9% of the recommended actions, made progress in implementing an additional 24% of recommended actions, made little or no progress on 58% of recommended actions, and will not be implementing 9% of our recommended actions. Recommended actions fully implemented by the Ministry related to weather stations and included establishing a formal policy clarifying how often weather stations should be inspected, conducting inspections in accordance with policy, and tracking inspection dates and results of inspections for all weather stations using a database that flags upcoming

inspections. Recommended actions the Ministry will not be implementing relate to mitigating risks of dam hazards, erosion and sinkholes, and include:

- developing and maintaining a registry of all dams, both public and privately owned;
- developing a program to identify all high-risk dams, and conducting timely inspections accordingly;
- working collaboratively with other government ministries, agencies and environmental experts to identify and map properties located in areas susceptible to erosion, and developing a provincial map to assist in developing priorities and strategies;
- identifying and implementing community-based erosion-awareness and education programs, especially for residents in high-risk areas; and
- developing prevention and mitigation measures to prioritize and address at-risk areas for sinkholes, in conjunction with foresters and other experts.

The Ministry of Mines, with 11 recommended actions in total, has fully implemented 9% of recommended actions, made progress in implementing 36% of recommended actions, made little or no progress on 46% of recommended actions and will not be implementing 9% of recommended actions. The Ministry has fully implemented our recommendation to determine the status of all abandoned mines. Examples of recommended actions where progress has been made include following a risk-based approach to selecting both abandoned and operational mines for inspection, and taking steps to ensure mine owners notify the Ministry when owners have fully rehabilitated their abandoned mines. The Ministry will not be implementing our recommended action to review online videos that encourage exploring abandoned mines in Ontario and then to take steps to have them removed from online access.

EMO, with six recommended actions in total, has fully implemented 50% of recommended actions, made progress in implementing 17% of recommended actions, and the remaining 33% of recommended actions were no longer applicable. Examples of fully implemented recommended actions include putting in place contingency arrangements to deal with the future potential that additional capacity will be needed in host communities, and implementing an oversight process that routinely assesses the quality and sufficiency of the emergency management programs in place.

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

// Status of Actions Taken on Recommendations

We conducted assurance work between April 2024 and September 2024. We obtained written representation from the Ministry of Natural Resources (which was previously named the Ministry of Natural Resources and Forestry), the Ministry of Mines and EMO that effective November 20, 2024, they have provided us with a complete update of the status of the recommendations we made in the original audit two years ago.

Under OIC 1739/2022 (OIC 1039/2022, at the time of our audit), the Ministry of Natural Resources is assigned responsibility for managing risks and responding to emergencies resulting from floods, forest fires, dam failures, oil and gas wells, drought/low water, erosion, and soil/bedrock instability. The Ministry of Mines is assigned responsibility for abandoned mine hazards.

1. Floods

Flooding in Ontario is often the result of heavy or prolonged rainfall, rapid snowmelt, ice jams formed in rivers and streams, and lake/stream surges. Our 2022 audit found that the location of some First Nation communities in Ontario exposes them to recurring floods and evacuations. For example, Kashechewan First Nation, located on the northern shores of the Albany River near James Bay, experiences significant flooding almost annually. There have been several commitments by the federal government as far back as 2005 to relocate the Kashechewan First Nation community.

We also found that the then-Ministry of Natural Resources and Forestry did not track or maintain a centralized repository of floodplain (flood-prone areas near rivers and streams) maps that have been completed across the province, which prevented the Ministry from carrying out effective mitigation and preparation measures. Also, since the Ministry stopped providing funding for floodplain mapping since 1993, there has been no floodplain mapping nor any mechanism to fund mapping efforts in areas that fall outside the jurisdiction of a conservation authority or municipality. We also noted that, contrary to its Emergency Response Plan, the Ministry did not complete after-action reports after each significant event and all exercises to identify areas for improvement; the Ministry prepared after-action reports for only three of the seven flood emergencies it responded to from 2017 to 2021.

Further, we found components of some natural hazards technical guides and associated standards were outdated, and in some cases, not publicly available online. Also, the Ministry did not have standing contracts with air carriers to secure pricing and availability of air transportation needed in emergency evacuations.

We also found that the Ministry owns and operates 126 weather stations across Northern Ontario and collects information to model and forecast weather conditions, as well as predict forest fires.

However, the Ministry did not have a policy on how often weather stations should be inspected, was not tracking inspection dates for all their weather stations, and some weather stations were not being inspected on a timely basis.

Recommendation 1: Action Items 1 and 2

To prevent high-risk First Nations communities from repeatedly flooding and needing to be evacuated on a frequent basis, we recommend the provincial government (Treasury Board Secretariat/Emergency Management Ontario):

- work with the federal government to permanently relocate the Kashechewan First Nation community to higher, drier ground as soon as possible;
- evaluate whether other First Nations communities at risk of recurrent flooding and evacuations, such as Fort Albany and Attawapiskat, also need to be relocated or whether any dykes or floodways should be built.

Status: ☐ No longer applicable.

Details

At the time of our follow-up, EMO, within the Treasury Board Secretariat, reiterated its initial response to our recommendation in 2022, which was that it does not have the authority to enforce the relocation of the Kashechewan First Nation. It is for the community to determine whether it wishes to relocate and it is the federal government's responsibility to provide all possible support for the relocation. EMO also stated that any relocation decision of the Kashechewan First Nation requires engagement with Fort Albany First Nation, as both communities are legally recognized as one Band under the *Indian Act*. While the federal and provincial governments have committed to supporting any community-driven decision, consensus has not yet been reached between the two First Nation communities.

EMO also stated that, in relation to the Kashechewan relocation project, the Ministry of Indigenous Affairs and the Ministry of Natural Resources, not Treasury Board/EMO, represent Ontario on consultations with the federal government, Kashechewan First Nation and Fort Albany First Nation.

EMO further stated that structural mitigation infrastructure on reserves, including dykes and floodways, is based on community-identified needs and is the jurisdiction of the federal government.

The Office of the Auditor General agrees with this response and as such we now consider this recommendation to be not applicable.

Recommendation 2: Action Items 1 and 2

So that lessons learned from past flooding events are incorporated into emergency response plans to improve future emergency response efforts, we recommend that the Ministry of Natural Resources and Forestry:

- document after-action reviews related to flooding incidents in a formal and standardized report in a timely manner;
- take timely action to address areas needing improvement and ensure that progress is tracked, followed up and reported on until fully implemented.

Status:  Little or no progress.

Details

We found that, in 2023, the Ministry of Natural Resources and Forestry assembled an internal team to review its after-action review process for all seven of the Ministry's OIC hazards. The Ministry told us that the review will be conducted in stages over a two-year period. The goals and outcomes of the project include providing clarity around roles, responsibilities, and accountability for the after-action review process; setting clear direction and policy for completing standardized and timely after-action reviews following emergency incidents and practice exercises; tracking and reporting on lessons learned to full implementation; and, ensuring follow-through on continuous improvements. As part of the project, the Ministry indicated that a jurisdictional review (i.e., provincial, territorial and federal) of after-action reviews was completed to obtain information on approaches and best practices used in other emergency management jurisdictions. In August 2024, the Ministry prepared a draft policy, which includes roles and responsibilities for the after-action review process, criteria for triggering an after-action review, and a draft implementation plan. However, at the time of our follow-up, the policy and plan were still under review by management for endorsement and approval. The Ministry was also investigating the viability of potential software tools to aid in the after-action review process.

Recommendation 2: Action Item 3

We also recommend that Emergency Management Ontario continue to strive to put in place contingency arrangements to deal with the future potential that additional capacity will be needed in host communities.

Status:  Fully implemented.

Details

Since our audit, EMO entered into formal agreements with three organizations to host up to 3,500 evacuees in the event of an incident in a community. These agreements currently expire on January 31, 2025.

Further, EMO worked with Supply Ontario to establish a vendor-of-record arrangement, effective November 1, 2024 to October 31, 2030. This contract allows the province to prequalify suitable service providers that have the capability to provide services to host evacuees in the event of an incident in a community. The contract did not set a limit on the hosting capacity.

Recommendation 3: Action Item 1

To protect Ontarians and critical infrastructure, and better understand flood risks across the province, we recommend that the Ministry of Natural Resources and Forestry increase floodplain mapping efforts to better support municipalities, conservation authorities, First Nations and unorganized territories.

Status:  In the process of being implemented by March 2028.

Details

In our follow-up, the Ministry of Natural Resources informed us that in August 2022, it applied for funding under the federal Flood Hazard Identification and Mapping Program to create/update local floodplain maps. The Ministry was subsequently approved for 55 floodplain mapping projects in Ontario. The funding began to flow to recipient municipalities and conservation authorities in March 2023.

As of July 18, 2024, 31 of the 55 floodplain mapping projects were showing as “in process” according to the website of the federal funding agency Natural Resources Canada (NRCan). Further, all of the 55 floodplain mapping projects occurred in municipalities and conservation authorities; none of the projects occurred in a First Nation or unorganized territory, as indicated in our recommendation. The Ministry informed us that the federal government has provided funding directly to some First Nation communities for floodplain mapping, through the First Nation Adapt Program.

The Ministry informed us that it will once again apply for funding under the federal Flood Hazard Identification and Mapping Program, which was extended to March 2028, to further enable floodplain mapping activities across the province.

Recommendation 4: Action Items 1, 2 and 3

To confirm that weather stations are in good working order and operating as intended, we recommend that the Ministry of Natural Resources and Forestry:

- establish a formal policy clarifying how often weather stations should be inspected;
- conduct inspections in accordance with policy;
- track inspection dates and results of inspections for all weather stations using a database that flags upcoming inspections.

Status:  **Fully implemented.**

Details

We found that in March 2023, the Ministry released a policy and procedure manual pertaining to weather station operations and maintenance. This document includes guidance and direction on routine site maintenance, including when and how often weather stations in the Northeast and Northwest regions should be inspected, noting that, if feasible, site visits should be conducted at each weather station early in the fire season, which runs from April to October. The policy also requires a repair and maintenance record sheet to be completed for each weather station field visit, as well as a job safety analysis and bear hazard assessment, with an electronic copy of the assessment maintained by the weather technical specialist.

We noted that as of July 18, 2024, about 70% of the 133 operational weather stations had been visited so far in the 2024 fire season for annual maintenance.

Weather technicians track target inspection dates for each weather station, with the dates ranging from April through July, using a “live” document that is maintained by the weather technicians to flag issues with weather stations and help plan and track visits to the weather stations. A file with target dates for planned inspections of weather stations is maintained in the Aviation, Forest Fire and Emergency Services Weather Instrumentation SharePoint site database that was developed and implemented for the 2025 fire season. This database is in use and allows for the tracking of weather station maintenance progress.

Recommendation 5: Action Item 1

In order to be prudent with taxpayers’ funds and to ensure timely access to air carriers at competitive rates in the event of an emergency evacuation, we recommend that the Ministry of Natural Resources and Forestry conduct a competitive tender and enter into fixed price contracts with air carriers.

Status:  **Fully implemented.**

Details

We noted that in April 2024, the Ministry issued an open request for bids for air transportation services to assist with emergency evacuations in 2024 and 2025. The Ministry informed us that it only received a bid from one carrier. This carrier was awarded a fixed price contract effective from June 2024 to October 2025. The Ministry told us that it will assess the benefits of long-term contracts with private carriers or other alternatives, for future hazard seasons.

Recommendation 6: Action Item 1

So that local governments and conservation authorities have technical guides and bulletins that reflect current provincial standards and best practices with respect to flooding, erosion, soil and bedrock instability, and dam failures, we recommend that the Ministry of Natural Resources and Forestry review and update its technical guides and bulletins regularly, as needed, and make all guides publicly available.

Status:  **In the process of being implemented by December 2028.**

Details

We found that the Ministry had finalized and released one new technical bulletin in December 2023 titled, Technical Bulletin – Flooding Hazards: Data Survey and Mapping Specifications. This document is a partial update to the existing Technical Guide – River and Stream Systems: Flooding Hazard Limit (last updated in 2002), and is intended for use by municipalities, conservation authorities, and other parties involved in undertaking flood hazard surveying and mapping in Ontario.

The Ministry told us that it will continue to update its natural hazard guidance on a prioritized basis, based on the risks associated with the hazards. The next technical guides it expects to update by December 2026 are titled:

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| » <i>Great Lakes St. Lawrence River System and Large Inland Lakes</i> (2001); | » <i>River and Stream Systems: Flooding Hazard Limit</i> (2002); and |
| » <i>Technical Guide: Special Policy Areas</i> (2009); | » <i>River and Stream Systems: Erosion Hazard Limit</i> (2002). |

The Ministry anticipates that a review and first update of each of the remaining 12 technical guides (see **Appendix 8** of our 2022 audit report) would take until 2028.

2. Forest Fires

The forest fire season in Ontario typically occurs from April to October. Our 2022 audit found that the then-Ministry of Natural Resources and Forestry did not track and fully document the reasons for delays in dispatch time, nor calculate and track the average time it took to dispatch a crew to extinguish a fire.

We also noted that the Ministry had prepared after-action reports for only two of the 11 declared emergencies for forest fires from 2017–2021. Furthermore, for the after-action reports that were prepared, the recommended improvements were not assigned to specific individuals, and the status and completion of recommendations were not formally tracked.

In addition, we found that there had been little focus on the FireSmart recognition program in Ontario, with few communities receiving provincial funding to help them reduce the risk of wildfires. Funding was also not targeted to districts that were assessed as having an extreme or high risk of fires, and no funding was allocated to unorganized territories.

Further, we found that the Ministry's Personnel Information Management System, which is used to store training records electronically, was not up to date for 20% of the fire crew members we sampled, and the system did not automatically alert the firefighters or their supervisors when a firefighter's training was about to expire.

There were also discrepancies in the evacuation data reported to the Treasury Board Secretariat and a detailed breakdown we later obtained from EMO. In addition, we found that EMO did not maintain statistics on the method of evacuation and related costs.

Recommendation 7: Action Items 1, 2 and 3

So that forest fires are responded to under the maximum target times, we recommend that the Ministry of Natural Resources and Forestry:

- track whether required response times are met based on alert levels;
- where response times are not met, identify and fully document the reasons for delays;
- take corrective actions to improve future response times.

Status:  Little or no progress.

Details

We found that the Ministry has made little progress implementing this recommendation. According to the Ministry, monitoring response times occurs at the local district headquarters. However, the

Ministry did not provide any supporting documentation to demonstrate how it is tracking whether the required response times are being met based on the alert levels, documenting the reasons for delays, or taking corrective actions to improve future response times. The Ministry indicated that it is in the process of forming a task team to address the recommended actions.

Recommendation 8: Action Item 1

To improve future response to forest fires, we recommend that the Ministry of Natural Resources and Forestry:

- develop criteria to identify which forest fires are considered “significant” for the purpose of performing an after-action review;

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

Details

We found that in January 2023, the Ministry formed an internal team to review its after-action review process for all seven of the Ministry’s OIC hazards (including forest fires). The Ministry indicated that the review will occur in stages over a two-year period. As part of this project, the Ministry is planning to define general criteria that will trigger a formal after-action review, rather than develop a definition for a “significant” forest fire event. At the time of our follow-up, the Ministry had prepared a draft policy, which includes criteria for triggering an after-action review, and a draft implementation plan; both were under review by management for endorsement and approval. The Ministry is planning to update its Ministry Emergency Response Plan by April 2025 to reflect these new policies.

Recommendation 8: Action Items 2, 3 and 4

- conduct after-action reviews for “significant” forest fires and formally document the findings in a standardized and timely manner;
- conduct practice exercises with fire crews and emergency management staff on an annual basis, and complete an after-action review after each exercise;
- take timely action to address areas needing improvement from past forest fires and practice exercises, and ensure that progress is tracked, followed up and reported on until fully implemented.

Status:  **Little or no progress.**

Details

In our follow-up, we found that the Ministry has made little progress in implementing the last three recommended actions. As noted in **Recommendation 2: Action Item 1**, the Ministry is performing an internal review of its after-action review process; this review is expected to occur in stages over a two-year period, and be completed in April 2025.

We also found that the Ministry has drafted a policy that will require the fire program to complete an annual exercise and subsequently complete an after-action review. This was under review by management at the time of our follow-up. The Ministry plans to update its Ministry Emergency Response Plan by April 2025 to reflect this policy after it is approved.

As part of its internal review, the Ministry is also investigating potential software tools to aid in the after-action review process, but has not determined whether the tools available on the market are a viable solution to accommodate this process.

Recommendation 9: Action Item 1

To align its fire prevention activities with best practices, we recommend that the Ministry of Natural Resources and Forestry:

- broaden the scope, awareness and adoption of FireSmart initiatives at the local community level;

Status:  **Fully implemented.**

Details

We found that the Ministry has increased investment in FireSmart Canada's Community Preparedness Day Grant Program so that more Ontario communities are successful recipients of the grant. In 2024, 39 Ontario communities received \$18,500 in total in grants, which was significantly higher than the \$3,750 in total received by 19 communities in 2023 and the \$3,000 in total received by six communities in 2022. The Ministry indicated that it is planning an increased investment of \$31,250 in total in 2025.

The Ministry has also increased its offering of the Ontario FireSmart Communities course to increase awareness; this course provides training and information on completing Wildfire Protection Plans, the FireSmart program, and completing local wildland fire hazard assessments.

In addition, the Ministry has worked with other provincial and territorial programs across Canada as part of the Canadian Council of Forest Ministers to develop a national strategy for wildfire prevention and mitigation efforts across Canada. This strategy was published in June 2024. The

strategy has identified action items to increase awareness and understanding of wildland fire prevention and mitigation, including seeking opportunities to promote community awareness, identifying gaps in community knowledge related to prevention and mitigation, and participating in training to improve knowledge. The Ministry told us that it is in early stages of planning for the implementation of this strategy.

Recommendation 9: Action Items 2 and 3

- engage communities, especially unorganized territories, in FireSmart programs such as the FireSmart Neighbourhood Recognition;
- prioritize and target funding to communities and unorganized territories in districts that are assessed as having an extreme or high risk of fires.

Status:  **Little or no progress.**

Details

At the time of our follow-up, no additional communities in Ontario have been granted FireSmart neighbourhood recognition status since our audit in 2022; the last community to receive similar recognition was Elliot Lake in 2016.

In December 2023, the Ministry initiated a pilot project with funding available to help municipalities implement their Wildland Fire Protection Plans. However, this pilot project offers funding to only two to four recipients per year. Unorganized territories and First Nation communities are not eligible for this funding.

Recommendation 10: Action Item 1

So that the Ministry of Natural Resources and Forestry's prevention and mitigation strategy for forest fires reflects and meets emerging needs, we recommend that the Ministry update its Wildland Fire Management Strategy and FireSmart Strategy and Implementation Plan with input from experts, community stakeholders, and best practices employed by other provinces.

Status:  **In the process of being implemented by April 2027.**

Details

At the time of our follow-up, the Ministry was undergoing a broad Natural Hazard Emergency Management modernization project that includes the Wildland Fire program and its prevention and mitigation activities, including the Ministry's FireSmart programs. In July 2024, the Ministry

released a discussion paper, and conducted 45 days of consultation with the public, emergency management partners, Indigenous representatives, municipalities, industry and other wildland fire agencies. The Ministry expects to implement the modernization project by April 2027.

In addition, the Ministry told us that Ontario was a key lead in the development of a National Prevention and Mitigation Strategy under the Canadian Council of Forest Ministers. This national strategy and ongoing review work are developing goals and commitments for future prevention and mitigation work.

Recommendation 11: Action Items 1 and 2

So that firefighters are compliant with required training, we recommend that the Ministry of Natural Resources and Forestry:

- track all required training courses taken by wildland firefighters within the Personnel Information Management System;
- have the IT system alert firefighters and their supervisors when a firefighter's training is approaching expiry.

Status:  **Little or no progress.**

Details

We found that the Ministry has made little progress in tracking course completion by wildland firefighters within the Personnel Information Management System.

The Ministry is performing an internal review of its Personnel Information Management System in order to meet its business needs for effective and efficient personnel management, training records and certifications, and assignment-related employment data and reporting for aviation, fire and emergency response staff for the next 10–15 years. This project is currently in the early stages. The Ministry has completed a jurisdictional scan of other wildfire programs in Canada and has completed user research. This modernization project is expected to be completed and implemented by spring 2026.

However, as part of its user research, the Ministry identified that training records are all captured on paper first, and then manually entered into the Personnel Information Management System. This redundant process leads to delays in updating records and creates reliance on an “honour system,” which can cause confusion and potential liability risks if fire crews lack the required training. The Ministry has also confirmed that the current IT system does not actively notify supervisors when a firefighter's training is approaching expiry.

Recommendation 12: Action Item 1

To improve the decision-making process for future evacuations during emergency situations, we recommend that Emergency Management Ontario:

- collect additional data on evacuees, including the method of evacuation and related costs;

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

Details

According to EMO, it currently faces challenges in collecting data on evacuees and the related evacuation costs, as it does not have the authority to gather this information from other ministries and host municipalities. As a result, EMO is aiming to modernize Ontario's emergency management legislative framework, the *Emergency Management and Civil Protection Act*.

In July 2024, EMO released a discussion paper to engage partners, stakeholders and members of the public on the proposed modernization. EMO informed us that the feedback and input received during engagement sessions and from public submissions on the discussion paper will help inform how the government can modernize the emergency management legislative framework. One of the focus areas of this work has been looking at opportunities to enhance provincial coordination and information-sharing through EMO as the one window. Once the legislative framework is updated, EMO expects to collect and analyze evacuation data by December 2025.

Recommendation 12: Action Item 2

- review data in submissions to senior management and the Treasury Board Secretariat to ensure that factually accurate and complete information is submitted.

Status:  Fully implemented.

Details

EMO noted that one of the goals identified in the Provincial Emergency Management Strategy and Action Plan released in February 2023 includes enhancing data, knowledge, and analytic capacity to support proactive planning and monitoring of potential emergencies province-wide. In May 2023, EMO launched a platform called The Information Terminal for Emergency Management that contains various dashboards that allow EMO and Ministry Emergency Management Coordinators to obtain, share and analyze data in order to support evidence-based decision-making. We were informed that all EMO program areas have dedicated leads to ensure data quality.

3. Abandoned Mines

In our 2022 audit, we found that of the 3,942 abandoned mine sites with hazards in Ontario, only 3% had been partially rehabilitated, 59% had not been rehabilitated, and the status of the remaining 38% of mines was unknown. Further, mine site closure plans were in place for only 41 of the 2,335 mine sites that had not yet been rehabilitated.

We also found that the Ministry of Mines did not have a standardized process for selecting abandoned mines for inspection, and mines were instead inspected based on complaints, prior knowledge of hazards onsite, or whether an inspector was inspecting another abandoned mine site in the same area.

In addition, we found that the Ministry of Mines did not have a public awareness program to educate Ontarians on the dangers of abandoned mines, to minimize the health and safety impacts, as required by the *Mining Act*. It also had not taken any steps to counter potentially dangerous information available online that promoted exploring abandoned mines in Ontario.

Recommendation 13: Action Item 1

To protect public health, safety and the environment from abandoned mine hazards that have not been rehabilitated, we recommend that the Ministry of Mines:

- determine the status of all abandoned mines;

Status:  Fully implemented.

Details

Since our audit, the Ministry of Mines updated its Abandoned Mines Information System (AMIS) database with a new field to record the rehabilitation status for all its abandoned mines. The Ministry informed us it confirmed the status of all abandoned mines with mine owners. As of September 30, 2024, there were 4,395 abandoned mine sites with hazards that fall under the Ministry's jurisdictions. Of these, almost 2% were reported as fully rehabilitated, 5% were partially rehabilitated, and 93% were not rehabilitated. There were no abandoned mines sites with an unknown status.

Recommendation 13: Action Item 2

- prioritize and rehabilitate abandoned mines with hazards;

Status:  In the process of being implemented. This is an ongoing process.

Details

The Ministry told us that it has a 10-year rolling workplan to guide and direct the rehabilitation of certain abandoned mines, based on priorities. The Ministry provided us with its 10-year workplan for the period 2019–2029. This workplan indicated that at least nine contaminated Class A and Class B mine sites, and a further 13 other public safety mine sites, have been prioritized for rehabilitation by 2029. Since the time of our audit in 2022, three sites have been rehabilitated (Rond Lake Mine, Gopher Mine and Kirk Mine).

Recommendation 13: Action Item 3

- take steps to ensure mine owners notify the Ministry when owners have fully rehabilitated their abandoned mines.

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

Details

In our follow-up, we found that the Ministry of Mines has prepared a draft one-page Mine Hazards Information Sheet, referencing the appropriate sections of the *Mining Act* that require owners of abandoned mines to rehabilitate and notify the Ministry of any mine hazards on their property. The Ministry informed us that once this draft document has been approved and finalized, it intends to start distributing it to mine site owners in December 2024 to remind them of their responsibility with respect to rehabilitation under the *Mining Act*.

Recommendation 14: Action Item 1

To enable inspectors to carry out their duties and responsibilities efficiently and effectively, we recommend the Ministry of Mines:

- follow a risk-based approach to selecting both abandoned and operational mines for inspection;

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

Details

In our follow-up, we found that the Ministry has drafted a revised risk-based model (the Revised AMIS Risk Prioritization model) to provide a consistent approach to evaluating the risks posed by abandoned mines, and assist with prioritizing inspections and abandoned mines rehabilitation work planning. The draft model's risk matrix assesses the risk to public safety and the risk to the

environment based on relevant criteria. According to the Ministry, this revised model was presented to the Mine Rehabilitation Section in April 2024 and to the Mineral Development Branch in June 2024 for feedback. Once feedback has been collected and considered, the Ministry expects that it will be able to present the risk prioritization approach for management review and approval, and then for implementation by December 2024.

Recommendation 14: Action Item 2

- properly document the result of the selection process;

Status:  **Little or no progress.**

Details

In our follow-up, we found that the Ministry of Mines has made little progress in implementing this recommended action. Implementation of this recommended action is dependent on the completion of **Recommendation 14: Action Item 1**. The Ministry noted that it recently adopted a Digital Compliance Platform to improve the process for tracking, documenting and reporting on inspections through a centralized platform with data querying and automation capabilities.

Recommendation 14: Action Item 3

- conduct planned inspections on a timely basis.

Status:  **Little or no progress.**

Details

In our follow-up, we found that the Ministry of Mines has made little progress implementing this recommended action. The Ministry completed 145 inspections between January 1, 2023, and July 5, 2024. However, the Ministry was not able to provide us with the number of planned inspections for the same time period, and the expected inspection dates for the remaining abandoned mines in AMIS. The Ministry noted that the timeline for the remaining mine site inspections is subject to a review of staff resources and prioritization under the Revised AMIS Risk Prioritization model, mentioned in **Recommendation 14: Action Item 1** (pending approval of the new model).

Recommendation 15: Action Item 1

To protect and better educate the public on the dangers of abandoned mines, we recommend the Ministry of Mines:

- review and update the Stay Out! Stay Alive! program for current relevance and ways to publicly communicate the dangers of abandoned mines;

Status:  **In the process of being implemented by December 2024.**

Details

Since our audit in 2022, as part of its Stay Out! Stay Alive! program, the Ministry of Mines has prepared and posted on its website a one-page bulletin (fact sheet) outlining the risks and dangers of abandoned mines. We also noted that the Ministry established an internal working group in 2023 to review its public awareness program and identify ways to increase public awareness on the dangers of exploring abandoned mines, as well as to review online videos that encourage exploring abandoned mines and take steps to have them labelled as dangerous and/or to have them removed. In addition, the Ministry met with representatives from the State of Nevada in June 2023 to discuss best practices and approaches to public education and outreach used in its jurisdiction.

Based on its review and research, the Ministry prepared a communication plan that outlines a strategy to promote the Stay Out! Stay Alive! message and aims to increase public awareness on the dangers of abandoned mine sites. The communication plan, which was approved in February 2024, outlines the deliverables the working group is undertaking to complete by December 2024. These deliverables include an updated brochure to share with the public, first responders, and other ministries and agencies; creating a landing page on www.Ontario.ca to share information on the dangers posed by abandoned mines; creating content on the relevant dangers to be posted on the EMO webpage; developing staff training materials to educate them on the dangers posed by abandoned mines; and developing an ad to be featured on social media or YouTube on the dangers posed by abandoned mines.

Recommendation 15: Action Item 2

- review online videos that encourage exploring abandoned mines in Ontario and take steps to have them removed from online access;

Status:  **Will not be implemented.**

Details

We found that the Ministry conducted a scan of videos posted on YouTube of people entering abandoned mines in Ontario, and found at least 23 such videos posted online. The Ministry told us that it has no legal authority to remove harmful online content, and is considering alternative options, such as becoming part of the “YouTube Priority Flaggers” program—a program that allows government agencies and non-governmental organizations to flag and report harmful or dangerous content that violates YouTube guidelines. If feasible, this would allow the Ministry to report online videos, livestreams and other YouTube products that encourage exploration of abandoned mines in Ontario. The Ministry is also investigating the possibility of implementing YouTube ads that would “pop-up” before videos play. Parameters can be set up to have ads run before certain content will play. YouTube allows for trusted organizations to add ads when certain key words are typed in by video users. The Ministry intends to complete these actions by December 31, 2024.

Recommendation 15: Action Item 3

- measure and report on the effectiveness of the Stay Out! Stay Alive! program.

Status:  **Little or no progress.**

Details

We noted that the Ministry has developed a draft set of potential indicators (metrics) to measure the effectiveness of the Stay Out! Stay Alive! program. These proposed metrics include tracking the number of brochures issued, tracking views of online videos posted by the Ministry to counteract existing harmful videos posted online, and tracking the number of booths set up annually at Stay Out! Stay Alive! tradeshows. At the time of our follow-up, we found that these metrics were still under development. We also noted that all of the proposed metrics were still pending approval and/or not yet implemented. The Ministry told us that once the public-facing materials, as described in **Action Item 1** of this recommendation are completed, the metrics will be approved, finalized and monitored. However, none of these metrics measure the effectiveness of the Stay Out! Stay Alive! program to determine whether they have been successful in deterring entry to or incidents related to abandoned mines.

4. Dam Hazards

Our 2022 audit found that almost half the dams owned by the then-Ministry of Natural Resources and Forestry would be reaching the end of their serviceable life within 20 years, and would need to be replaced, rehabilitated or decommissioned. However, the Ministry had assessed the replacement value of only 31% of those dams, valuing the cost of replacement to be \$321 million, meaning actual replacement costs may be three times that amount.

We also found that several dams were missing key information that measures the estimated cost to rehabilitate them, the likelihood of dam failure, and the impact of a dam failure—specifically, 65% of dams were not assigned a Facility Condition Index, 45% did not have a Total Failure Index, and 32% had an unknown Hazard Potential Classification Score. The Ministry was also not tracking whether dams were rehabilitated or replaced, or whether they were divested or decommissioned.

In addition, we found that the Ministry was not regulating or inspecting dams that were privately owned, even though it has broad regulatory authority and enforcement powers to do so under the Lakes and Rivers Improvement Act. The Ministry had limited its regulatory role to only providing approvals for the construction of new dams and making changes to existing dams.

We also noted that the Ministry has not updated most technical bulletins for dams since their development in 2011.

Recommendation 16: Action Item 1

In order to prevent and address the risk of dam failure proactively, we recommend that the Ministry of Natural Resources and Forestry:

- complete the assessment of dams that will reach the end of their serviceable life within 20 years to determine the amount that will be needed to rehabilitate, reconstruct or decommission these dams;

Status:  **In the process of being implemented by December 2029.**

Details

At the time of our follow-up, the Ministry informed us that it was planning to inspect 20% of its dams annually over a five-year period in order to prioritize the rehabilitation, reconstruction or decommissioning of dams. In 2023, the Ministry had inspected 56 or 19% of its 297 dams, and was planning to inspect an additional 234 or 79% of dams between 2024 and 2029.

Recommendation 16: Action Item 2

- prioritize and rehabilitate, reconstruct or decommission dams approaching the end of their serviceable life.

Status:  **Little or no progress.**

Details

We found that the Ministry's capital plan for the period 2023/24 to 2033/34 identified 78 dams totalling \$179 million for capital work, be it design, construction or both. The Ministry told us that dams were prioritized for capital work based on their likelihood of failure (identified by a high Total Failure Index rating) and the consequences of their failure (identified by a high Hazard Potential Classification rating developed in 1999). However, at the time of our follow-up, we noted that:

- the Total Failure Index rating had not been calculated for 42% of dams; and
- the Hazard Potential Classification rating was unknown for 24% of dams.

We also noted that projects with both a higher risk of failure and larger consequences of failure have not been scheduled for capital work, while other lower-rated dams have been scheduled for capital work.

The Ministry also told us that it has been moving toward using a more up-to-date model for calculating the Hazard Potential Classification (HPC) rating for each dam (2011 model instead of the 1999 model). However, when we analyzed the data, we found that 76% of dams did not have an HPC rating calculated using the 2011 model. The Ministry told us that it anticipates completing the HPC 2011 reclassification in one to two years, but did not have a formal plan in place.

Recommendation 17: Action Item 1

In order to better plan for, prioritize and manage the capital spent on rehabilitation, reconstruction and/or other capital projects for all of its dams, we recommend that the Ministry of Natural Resources and Forestry, on a regular basis:

- evaluate the condition of each dam, or as per industry best practices;

Status:  **In the process of being implemented by December 2029.**

Details

As noted in **Recommendation 16: Action Item 1**, the Ministry informed us that it was planning to inspect 20% of its dams annually over a five-year period ending December 2027, in order to prioritize the rehabilitation, reconstruction or decommissioning of dams. In 2023, the Ministry had inspected 56 or 19% of its 297 dams, and was planning to inspect an additional 234 or 79% of dams between 2024 and 2029.

Recommendation 17: Action Item 2

- determine and update the Facility Condition Index, Total Failure Index and Hazard Potential Classification score for each dam;

Status:  Little or no progress.

Details

At the time of our follow-up, we found that the Facility Condition Index used to determine the condition of a dam was unknown for 55% of dams (compared to 65% at the time of our audit). The Total Failure Index used to measure the likelihood of a dam failure was unknown for 42% of dams (compared to 45% at the time of our audit). The Ministry had not updated or recalculated the Hazard Potential Classification score used to measure the impact of a dam failure since 2011, as mentioned in **Recommendation 16: Action Item 2**. The Ministry told us that it anticipates completing the HPC 2011 reclassification in one to two years.

The Ministry also told us that it was in the process of drafting a Request for Proposal to have hydrology and hydraulics services performed on all unassessed dams in order to determine their Total Failure Index parameter. The Ministry told us that, once this missing data is compiled, it would recalculate its Dam Long-Term Infrastructure Plan and update the Dam Inventory Master list.

Recommendation 17: Action Item 3

- update the Long-Term Infrastructure Plan based on the new information;

Status:  Little or no progress.

Details

The Ministry told us that updating its Long-Term Infrastructure Plan is an annual, ongoing exercise. However, as we noted previously, a large percentage of dams are missing information related to the Total Failure Index parameter and the HPC rating.

Recommendation 17: Action Item 4

- track the status of each dam, that is, whether the dam has been rehabilitated, replaced, divested or decommissioned.

Status:  Little or no progress.

Details

At the time of our follow-up, we noted that the Ministry was only recording whether dams had been divested or decommissioned, and not when they were last rehabilitated and/or replaced.

Recommendation 18: Action Items 1 and 2

To reduce the risk of unexpected dam failure and to better warn the public about potential dam failures, and prevent dam-related emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- develop and maintain a registry of all dams, both public and privately owned;
- develop a program to identify all high-risk dams and conduct timely inspections accordingly.

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 follow-up, the Ministry informed us that it would not be implementing this recommendation. Similar to its response in our 2022 audit report, the Ministry reiterated its position that dam owners are responsible for the safe operation and maintenance of their structures and for ensuring they remain in compliance with the *Lakes and Rivers Improvement Act* (Act), and any approvals issued thereunder. As we noted in our 2022 report, a legal opinion we obtained at the time of our audit informed us that the Ministry has broad regulatory authority and enforcement powers under the Act that allow it to inspect privately owned dams, and to audit dam owners and review their records. The Ministry also has powers to issue binding orders to ensure that dam owners are complying with all applicable laws, approvals, plans and agreements, not only during the design and construction phases, but also on an ongoing basis after a dam has been built.

Recommendation 19: Action Item 1

So that the Ministry's guidance for dam owners reflects best practices, we recommend that the Ministry of Natural Resources and Forestry regularly review the Technical Bulletins that support the construction, operation, safety and removal of dams, and if required, update them to reflect new changes in industry standards and best practices.

Status:  Little or no progress.

Details

At the time of our follow-up, the Ministry had not updated any of the Technical Bulletins that support the construction, operation, safety and removal of dams. We confirmed that these existing technical bulletins were developed between 2011 and 2016. The Ministry informed us that the technical bulletins, related to the *Lakes and Rivers Improvement Act*, will be reviewed on an as-needed basis and will be updated, if warranted, as new information becomes available including technical advancements and/or changes to industry standards and best practices.

5. Petroleum Industry Activities

Our 2022 audit found that the then-Ministry of Natural Resources and Forestry had not assessed the risk of all 27,000 oil and gas wells in the province, and was therefore unable to determine whether it was focusing its proactive inspection efforts on the highest risk wells. We found that only 19% of all oil and gas wells in the province had been inspected by the Ministry since 2005.

We also found that high-risk and leaking wells had not been plugged, and several were plugged prior to 1970 when materials used to plug them could lose integrity over time. As a result, almost 36% of wells could pose a danger. The Ministry was unable to provide information on the number of high-risk wells that still needed to be plugged.

Recommendation 20: Action Items 1, 2 and 3

To prevent oil and gas well emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- establish a policy on how often high-risk oil and gas wells should be inspected;
- review inspection capacity to ensure high-risk wells are inspected on a timely basis, according to plan;
- conduct more inspections.

Status:  Little or no progress.

Details

At the time of our follow-up, the Ministry told us that it had six inspectors. However, it had not established a policy on how often high-risk oil and gas wells should be inspected. Also, the Ministry did not have a list of all oil and gas wells, including the risk rating for each well and the last date inspected. As a result, we could not verify the number of inspections being conducted annually and whether the Ministry had adequate capacity to ensure high-risk wells were being inspected on a

timely basis. The Ministry informed us that it was currently focused on identifying undocumented wells and will be reviewing its inspection framework for high-risk wells over the next three years.

Recommendation 21: Action Item 1

To minimize the risk to public safety and the environment from leaking oil and gas wells, we recommend that the Ministry of Natural Resources and Forestry:

- proactively identify high-risk wells, including previously plugged wells;

Status:  **Little or no progress.**

Details

At the time of our follow-up, the Ministry told us that it was taking a risk-based approach to prioritizing wells that are candidates for the Abandoned Works Program to ensure eligible high-risk wells are plugged first. These wells are identified and brought to the Ministry's attention by landowners who apply to the Abandoned Works Program to get the wells on their property plugged. The Ministry also told us that it recently completed a desktop exercise using the Ministry's Ontario Petroleum Data System, to identify wells that require further validation by the Ministry to verify if they pose public and environmental concerns. The Ministry told us that these assessments were in process.

The Ministry further said it was validating results with respect to 93 potentially high-risk wells identified during the desktop exercise by visiting 11 of the wells located in "urban settlement areas" to conduct an assessment. The Ministry verified that there was no visible infrastructure at the surface nor any public environmental safety concern.

Recommendation 21: Action Item 2

- establish an up-to-date registry of high-risk wells;

Status:  **Little or no progress.**

Details

The Ministry told us that it held two open tenders to seek a vendor to complete a Thermal, Magnetic and Gas Detection Survey. The goal of the survey was to locate and map hidden and buried legacy wells, as well as map, record and quantify gas migrations from active and legacy oil and gas wells and domestic and drinking water wells, that pose a risk to human health and the environment in Ontario. However, both tenders were cancelled because of low-quality bids.

In response, the Ministry initiated a study to explore the most appropriate and cost-effective approaches to identify high-emitting natural gas wells.

Recommendation 21: Action Items 3 and 4

- immediately plug leaking wells;
- plug other wells in a timely manner in order of their risk rating, or take other mitigative measures.

Status:  **In the process of being implemented by March 2026.**

Details

The Ministry told us that as part of the Abandoned Works Program, 37 wells have been plugged since 2022. The Ministry plans to plug an additional 20 wells in 2024/25, and is evaluating an additional 30 wells as potential candidates for plugging in 2025/26.

Recommendation 22: Action Items 1 and 2

To address oil well risks both provincially and by district, we recommend that the Ministry of Natural Resources and Forestry:

- arrange for inspectors from its Petroleum Operations Section to meet annually with district office staff to assess the risk of oil wells in each district, collaboratively assign risk ratings and maintain documentation that supports each rating;
- educate district staff on the signs of abandoned wells and potential leaks, and have them contribute to enhancing an up-to-date inventory of oil wells;

Status:  **In the process of being implemented by March 2025.**

Details

At the time of our follow-up, the Ministry informed us that an inventory of wells on Crown Land was shared in May 2023 with the staff of the Ministry's Aylmer-Guelph District. Subsequently, an information and awareness session for Aylmer-Guelph District staff was held in June 2024 that was focused on petroleum wells emergency management. This meeting included an educational tour of petroleum wells/operations, an overview of safety requirements/hazards, and a review of existing emergency management plans. The Ministry told us that future educational sessions to facilitate increased awareness across the remaining eight districts would be conducted by spring 2025.

Recommendation 22: Action Item 3

- based on the assessed risk, establish timely mitigation strategies that can be carried out provincially and at the district level, such as targeted public safety messaging and local response plans.

Status:  **In the process of being implemented by December 2025.**

Details

At the time of our follow-up, we noted that the Ministry had established two working groups to support the development of a comprehensive action plan to help address the risks from legacy oil and gas wells and subsurface gas-migration hazards. The two working groups were:

- an Assistant Deputy Ministers Steering Committee to guide the project; and
- the Technical Working Group to co-ordinate and report on work undertaken by three focused multi-ministry technical working groups:
 - Geoscience/Engineering – addressing gas-migration risks and available tools;
 - Planning Emergency Management – reviewing municipal requests for additional guidance and direction; and
 - Emergency Management – developing toolkit/playbook for municipalities.

The Ministry told us that mitigation strategies would include:

- making the Ministry of the Environment, Conservation and Parks' Spills Action Centre the one window for receiving petroleum well notification of incidents;
- gaining an understanding of the resources and equipment available within the industry and within provincial ministries, to support or respond to petroleum incidents and emergencies;
- clarifying roles and responsibilities for provincial ministries, emergency responders and other stakeholders when it comes to preventing, mitigating, preparing, responding and recovering from a petroleum well emergency; and
- providing funding to prioritized municipalities to assist them in preparing for petroleum emergencies (funding of \$7.5 million over three years was announced in January 2024 to address risks associated with old and inactive oil and gas wells).

In addition, the Ministry of Natural Resources told us that it was undertaking a review of selected aspects of the petroleum program to identify potential program and policy changes that could reduce current and future risks from legacy wells.

According to the Ministry, most initiatives are to be completed by winter 2025.

6. Drought

In our 2022 audit, we found that parts of the Ministry's 2010 Ontario Low Water Response Strategy were outdated or no longer relevant, leaving local authorities (municipalities, conservation authorities and First Nations) without a clear strategy for managing water supply and demand, and for response efforts in the event of a drought/low-water event. We also found that some of the district risk assessments for drought/low water did not reflect recent low-water activity in the district watersheds.

Recommendation 23: Action Item 1

In order to strengthen the province's preparedness in case of drought or low-water conditions, we recommend that the Ministry of Natural Resources and Forestry review and update the current Ontario Low Water Response strategy to reflect current objectives and best practices.

Status:  Little or no progress.

Details

At the time of our follow-up, we found that the Ministry was in the early stages of beginning its review of the Ontario Low Water Response strategy to ensure it is relevant and reflects current objectives and best practices. The Ministry was scoping the review and developing a multi-stage work plan. The Ministry advised us that it will communicate the revised plan to municipalities, conservation authorities and First Nation communities once the updates are complete.

Recommendation 24: Action Items 1 and 2

So that measures are developed to prepare for and mitigate drought/low-water emergencies, we recommend that the Ministry of Natural Resources and Forestry:

- work with District Offices to review district risk assessments on an annual basis, taking into consideration drought and low-water conditions experienced in recent years;
- leverage risk assessments to set priorities and implement best practice mitigation strategies.

Status:  Little or no progress.

Details

At the time of our follow-up, the Ministry indicated that it would be considering our recommended actions during the review of the Hazard Identification Risk Assessment (HIRA) process as outlined in Recommendation 27.

7. Erosion and Soil/Bedrock Instability

Our 2022 audit found that the then-Ministry of Natural Resources and Forestry had not taken steps to reduce the risks to residents and properties by identifying areas exposed to erosion risk, particularly around Lake Erie where there was significant coastal erosion and wave action. We also noted there were no provincial hazard maps for shoreline erosion.

In addition, despite the occurrence of sinkholes in Ontario in recent years, the Ministry indicated to us that it did not consider its responsibility for “soil and bedrock instability” to include sinkholes, and therefore had no plans to undertake land subsidence and sinkhole risk assessments, revisit its existing risk assessments or to identify mitigation measures.

Recommendation 25: Action Item 1

To mitigate the risk to properties located in areas susceptible to erosion, we recommend that the Ministry of Natural Resources and Forestry:

- work collaboratively with other government ministries, agencies and environmental experts to identify and map properties located in areas susceptible to erosion, and develop a provincial map to assist in developing priorities and strategies;

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommended action, as under Order-in-Council 1739/2022 the Ministry of Natural Resources is assigned responsibility for managing risks and responding to emergencies resulting from erosion, and soil/bedrock instability.

Details

In our follow-up, the Ministry informed us that it does not intend to implement this recommended action. The Ministry considers that its role is limited to providing technical guidance to municipalities and conservation authorities in identifying areas prone to erosion hazards. It further believes that conservation authorities are responsible for identifying and mapping areas susceptible to erosion as part of administering their permits for development, interference with wetlands, and alterations to shorelines and watercourses, as well as making hazard mapping available to the public. In addition, the Ministry believes that conservation authorities are responsible for identifying areas prohibited for development due to natural hazard risks, including erosion.

Recommendation 25: Action Item 2

- identify and implement community-based erosion-awareness and education programs, especially for residents in high-risk areas.

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommended action, as under Order-in-Council 1739/2022 the Ministry of Natural Resources is assigned responsibility for managing risks and responding to emergencies resulting from erosion, and soil/bedrock instability.

Details

During our follow-up, the Ministry informed us that it does not collect information about areas at potential high risk for erosion, or direct local-level communication programs. The Ministry asserts that this is the role and responsibility of municipalities and conservation authorities.

Recommendation 26: Action Item 1

To reduce the risks associated with sinkholes and other land-subsidence incidents, we recommend that the Ministry of Natural Resources and Forestry, in conjunction with Treasury Board Secretariat/Emergency Management Ontario:

- clarify the Ministry's responsibilities under the Order-in-Council (1039/2022) as it relates to sinkholes;

Status:  Little or no progress.

Details

In June 2022, the previous Ministry of Northern Development, Mines, Natural Resources and Forestry was split into three ministries—the Ministry of Northern Development, the Ministry of Natural Resources and Forestry, and the Ministry of Mines. A new OIC (1739/2022) was issued in December 2022 (after our audit report was released) to reflect the types of emergencies each new ministry is now responsible for. However, similar to the previous OIC (1039/2022), the new OIC (1739/2022) does not define or clarify the types of emergencies that would fall under “soil and bedrock stability” hazards. The Ministry of Natural Resources and Forestry, now called the Ministry of Natural Resources, noted that while the OIC does not distinguish between naturally occurring and non-naturally occurring soil and bedrock stability hazards, it considers naturally occurring sinkholes to be a component of its OIC.

The Ministry of Natural Resources met with EMO in October 2023 to define each of their respective responsibilities for soil and bedrock instability under OIC 1739/2022. According to the Ministry,

both parties verbally agreed that the Ministry is responsible for responding to naturally occurring sinkholes. However, the Ministry maintains that it is not responsible for responding to non-naturally occurring sinkhole emergencies, such as sinkholes as a result of infrastructure collapse in developed areas. The Ministry asserts that infrastructure is not within its mandate or expertise, and municipalities are responsible for responding to these kinds of sinkholes. However, the OIC has not been revised to indicate which Ministry would then be responsible for non-naturally occurring sinkholes.

Recommendation 26: Action Item 2

- collect the data needed to properly assess the risk for soil and bedrock instability, including sinkholes and other land-subsidence incidents, across all districts;

Status:  Little or no progress.

Details

The Ministry told us that it intends to implement this recommended action as part of the HIRA review that will be undertaken, as described in **Recommendation 27**. The current risk assessment for soil and bedrock instability has not been updated since 2018. The Ministry told us that once the HIRA guidelines are finalized and approved, it expects to conduct an assessment and update all relevant documents and materials accordingly.

Recommendation 26: Action Item 3

- develop prevention and mitigation measures to prioritize and address at-risk areas for sinkholes, in conjunction with foresters and other experts.

Status:  Will not be implemented.

The Office of the Auditor General of Ontario continues to support the implementation of this recommended action, as under Order-in-Council 1739/2022 the Ministry of Natural Resources is assigned responsibility for managing risks and responding to emergencies resulting from erosion, and soil/bedrock instability which includes sinkholes.

Details

The Ministry informed us that it would not be implementing this recommended action because it sees its role as only to provide technical guidance to municipalities and conservation authorities in identifying areas prone to soil erosion and bedrock instability. The Ministry believes that it is up to each municipality and conservation authority to determine what steps are required to mitigate identified risks within their jurisdiction, including through land use planning.

8. Hazard Identification and Risk Assessments

Our 2022 audit found that the hazard identification and risk assessment processes of the then-Ministry of Natural Resources and Forestry were outdated, incomplete and not co-ordinated across the province. Specifically, we found that 16 of the 25 districts had not updated their district risk assessments for the Ministry's assigned hazards since 2018. Further, hazard experts, municipalities, First Nations and local stakeholders were not included in the risk assessment process. In addition, districts in Northern Ontario used a different rating system than southern Ontario, thus preventing provincial comparability. We also noted inconsistencies between the Ministry's provincial risk assessment ratings for districts and districts' own self-assessed ratings.

Recommendation 27: Action Item 1

So that risk assessments for assigned hazards are updated periodically and are consistently completed at all levels using a co-ordinated approach, we recommend the Ministry of Natural Resources and Forestry:

- update district risk assessments at least every three years in consultation with hazard experts, First Nations communities, conservation authorities and local stakeholders. These assessments should consider impacts of climate change and population growth, and include documenting progress on mitigation strategies, developing new mitigation strategies, and revising ratings as appropriate;

Status:  Little or no progress.

Details

We found that the Ministry had made little progress on updating district risk assessments on a regular basis (at least every three years). The Ministry told us that it is planning to undertake a thorough review of the HIRA processes (last reviewed in 2012). The review will aim to develop an effective and consistent hazard identification and risk assessment process to ensure the Ministry's OIC hazards are properly assessed for potential risks and impacts, in order to better position the Ministry to prevent, prepare, mitigate and respond to emergencies. The Ministry prepared a draft project charter in December 2022, outlining the various phases and target completion dates for the project, but it has not yet been finalized or approved. Our review of the project charter identified that none of the phases were completed or well underway. The Ministry informed us that EMO is also currently in the process of determining the need for a provincial HIRA review, which may have implications on the Ministry's approach and templates developed through its own HIRA review. As a result, the Ministry was advised by EMO to consider delaying any enhancements to its own HIRA program until EMO had released its guidelines.

Recommendation 27: Action Item 2

- provide training to district staff, local stakeholders and First Nations communities on how to complete a standardized risk assessment according to the Ontario Hazard Identification and Risk Assessment process and how to develop specific, measurable mitigation strategies;

Status:  Little or no progress.

Details

The Ministry of Natural Resources told us that, once provincial and Ministry HIRA processes have been reviewed and updated, the Ministry will consider appropriate training, tools, guidance, and other support products for staff, stakeholders and Indigenous communities, as required.

Recommendation 27: Action Item 3

- revise current practices so that provincial risk assessments are compiled from district risk assessments in a bottom-up approach with local input.

Status:  Little or no progress.

Details

At the time of our follow-up, the Ministry had not taken any action on this recommended action, but indicated that district risk assessments will be compiled with local input and rolled up to the Ministry-level risk assessment.

9. Unorganized Territories

In our 2022 audit, we noted that the legislative requirements under the *Emergency Management and Civil Protection Act* did not apply to unorganized territories (a geographic area not governed by a municipality), and thus, the Province may be called upon for emergency response support in these areas. Further, we found there was an overall lack of clarity among both the then-Ministry of Natural Resources and Forestry and EMO in regards to their respective legal roles and responsibilities for emergency response in unorganized areas, including arranging for evacuations and securing host communities and related supports.

Recommendation 28: Action Items 1 and 2

In order to provide an effective and co-ordinated response to emergencies and evacuations in unorganized territories, we recommend that the Ministry of Natural Resources and Forestry, in conjunction with Emergency Management Ontario:

- clarify and formalize legal roles and responsibilities for emergency response and evacuations in unorganized territories;
- determine whether existing regulation, policies and plans (for example, the Ministry's Emergency Response Plan) contain gaps that should be addressed for improved clarity and understanding of respective roles and responsibilities for emergency response and evacuations in unorganized territories.

Status:  **In the process of being implemented by December 2025.**

Details

During our follow-up, we were informed that the Ministry of Natural Resources and EMO have held meetings to discuss their respective roles and responsibilities related to evacuations in unorganized territories. According to the Ministry, the two parties are working on formulating an emergency response plan for unorganized territories, identifying any critical gaps that require attention. The Ministry advised us that EMO has developed a draft Emergency Response Plan for unorganized territories and intends to schedule follow-up discussions with the Ministry to review, discuss and collaborate on the Plan, and have it finalized by December 2025. As part of this planning, EMO developed profiles of nine unorganized territories in Northern Ontario (Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Parry Sound, Sudbury, Thunder Bay and Timiskaming) for use by local and provincial emergency management partners. These profiles are expected to help ensure that unique considerations and vulnerabilities in those areas are well understood in advance of incidents.

We also noted that the Ministry drafted a Community Evacuation Support Plan (CESP), which defines roles and responsibilities within the Ministry of Natural Resources for emergency response and evacuations in unorganized territories. The Ministry noted that, while the CESP is an internal Ministry document intended to outline response roles and responsibilities in support of an unorganized territory, it is not a public document intended for distribution to unorganized territories, and the Ministry does not consider it to be legally binding. The CESP is a document for the Ministry to use when evacuations and returns of evacuees are required by a community, First Nation or unorganized territory.

10. Performance Indicators

Our 2022 audit found that the then-Ministry of Natural Resources and Forestry had only four key performance indicators to assess and evaluate its Emergency Management program. While there was one indicator to measure success for each of floods, forest fires, and petroleum operations, there were no indicators to evaluate the other hazards that the Ministry had the responsibility for (namely, drought/low water, erosion and soil and bedrock instability, and dam failures). In addition, we found that the Ministry lacked measures and targets to evaluate progress on key program initiatives, such as promoting the FireSmart program or implementing Ontario's Flooding Strategy. Also, the Ministry did not measure the quality of its Emergency Management program.

We also found that EMO did not assess whether the Ministry's emergency management plans contain all critical components, or if the practice tests focused on high-risk areas and included all relevant parties.

We also noted the Ministry of Mines had not developed performance measures to evaluate and report on its efforts in managing abandoned mine hazards.

Recommendation 29: Action Items 1 and 2

So that management and other stakeholders are informed on the progress of the emergency management program, and whether program objectives are being achieved, we recommend that the Ministry of Natural Resources and Forestry and the Ministry of Mines:

- establish appropriate key performance indicators and targets for all hazards for which it is responsible, as well as its key programs and initiatives;
- compile indicator results annually to assess whether the targets have been met and, in the case where a target was not met, implement actions for improvement.

Status: Ministry of Natural Resources:  Little or no progress.

Ministry of Mines:  Little or no progress.

Details

We found that the Ministry of Natural Resources had made little progress in implementing this recommendation. That is, it still did not have indicators to measure success for the following hazards: drought/low water, erosion, soil and bedrock instability, and dam failures. It also had not established measures and targets to evaluate progress toward the following initiatives: promoting its FireSmart program, providing active emergency management training, and implementing Ontario's Flooding Strategy.

The Ministry told us that it intends to review this recommendation as part of its broader Natural Hazard Emergency Management Modernization Program, which was started in 2023 and is expected to be completed by December 2025. One of the actions of this project includes implementing a revised strategic model for natural resource hazards management, which considers the current and future state outcomes and indicators of success. The Ministry also told us that it is working toward establishing a performance measurement framework through the Ministry's strategic plan for 2020–2025, which includes demonstrating the Ministry's performance on its strategic goal of public safety. Further, the Ministry informed us that it had discussions with the Emergency Management program area on enhancing key performance indicators related to emergency management and hazards. The Ministry expects that improved and revised key performance indicators will take up to three years, until December 2027, to complete (this includes time spent for the Cabinet Office Submission process). The Ministry noted that it continues to review and report on the key performance indicators that are already established.

We found that the Ministry of Mines, with regard to abandoned mine hazards, still had not developed performance measures to evaluate and report on its efforts in managing this type of hazard. The Ministry indicated that it has established an internal working group to address this recommendation and will be seeking further advice from Internal Audit and external parties for developing appropriate key performance indicators.

Recommendation 30: Action Item 1

So that the emergency management programs in place at Ontario's ministries include all delegated responsibilities and are sufficiently preparing ministries to respond to emergencies, we recommend that Emergency Management Ontario implement an oversight process that routinely assesses the quality and sufficiency of the emergency management programs in place.

Status:  **Fully implemented.**

Details

We found that, since our 2022 audit, EMO has enhanced its annual review, evaluation, and assessment of ministries through several initiatives. Through its project entitled, "Improving the Quality of Emergency Management Programs in Ontario" (started in 2022), EMO has improved its oversight process from being focused solely on compliance with legislative requirements (such as the *Emergency Management and Civil Protection Act*, the Standards (Ontario Regulation 380/04) under this Act, and OIC 1739/2022, toward also ensuring the quality and sufficiency of these programs. For example, EMO upgraded its review process to ensure that Deputy Ministers receive

an annual summary of the assessment results and status of their respective Ministry's Emergency Management program for the year. Other key improvements and changes made to EMO's oversight process include:

- The assessment template used by EMO to assess each Ministry's Emergency Management program submission has been revised to include updated measures such as a scored assessment grade (percentage) replacing the prior pass/fail system, a year-over-year comparison allowing ministries to identify trends and gaps, and feedback/evaluation from EMO's subject-matter experts to identify program strengths and weaknesses and inform improvements. All requirements and standards must be met by December 31 of each year.
- EMO now requires Deputy Ministers to approve their annual Emergency Management program report and supporting documentation.
- Also, EMO has started to distribute the annual ministry assessment reports for a ministry's Emergency Management program to the appropriate Deputy Minister (in previous years, assessment reports were distributed to the Assistant Deputy Minister responsible for the Emergency Management program).






EMO provided us with copies of the relevant completed documentation for both the Ministry of Natural Resources and the Ministry of Mines. The 2023 program assessment report for the Ministry of Natural Resources indicated a 100% score in completing the 15 legislative requirements (compared to an average of 99% across all 29 ministries in the OPS), and 100% in completing the 15 recommended practices (compared to an average of 75% across all 29 ministries in the OPS), such as having an incident management system, providing additional training/exercises, collaborating with another ministry and/or partner on an annual exercise, and supporting mental health and wellness in emergency management.

Similarly, the 2023 program assessment report for the Ministry of Mines indicated a 100% score in completing the 15 legislative requirements, and 93% in completing EMO's 15 recommended practices.

The Ministry's Emergency Management Program Guidance document was updated in 2023. Key updates include new or improved guidance on after-action reports for simulated exercises and emergency incident response, including criteria for when they should be done, and guidance on incorporating lessons learned from past emergencies into Ministry Emergency Management programs and plans, to improve future emergency responses.

// 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	2					2
Recommendation 2	3	1		2		
Recommendation 3	1		1			
Recommendation 4	3	3				
Recommendation 5	1	1				
Recommendation 6	1		1			
Recommendation 7	3			3		
Recommendation 8	4		1	3		
Recommendation 9	3	1		2		
Recommendation 10	1		1			
Recommendation 11	2			2		
Recommendation 12	2	1	1			
Recommendation 13	3	1	2			
Recommendation 14	3		1	2		
Recommendation 15	3		1	1	1	
Recommendation 16	2		1	1		
Recommendation 17	4		1	3		
Recommendation 18	2				2	
Recommendation 19	1			1		
Recommendation 20	3			3		
Recommendation 21	4		2	2		
Recommendation 22	3		3			
Recommendation 23	1			1		

Recommendation 24	2			2		
Recommendation 25	2				2	
Recommendation 26	3			2	1	
Recommendation 27	3			3		
Recommendation 28	2		2			
Recommendation 29	2			2		
Recommendation 30	1	1				
Total	70	9	18	35	6	2
%	100	13	26	50	8	3