



July 28, 2020

**Report of the Auditor General  
to the Nova Scotia  
House of Assembly**



**Government-wide:  
Contaminated Sites**

**Independence • Integrity • Impact**

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July 28, 2020

Honourable Kevin Murphy  
Speaker  
House of Assembly  
Province of Nova Scotia

Dear Sir:

I have the honour to submit herewith my Report to the House of Assembly pursuant to Section 6(5) and under Section 18(2) of the Auditor General Act, to be laid before the House in accordance with Section 18(4) of the Auditor General Act.

Respectfully,

A handwritten signature in cursive script that reads "Terry Spicer".

**TERRY SPICER, CPA, CMA**

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# Government-wide: Contaminated Sites

## Overall Conclusions

- The Province does not have a coordinated approach to assess and manage risks for the contaminated sites it is responsible for.
- The Province has a process to ensure it identifies the contaminated sites it is responsible for; however, there are weaknesses in monitoring.
- The Department of Environment did not implement all recommendations from the June 2010 Management of Contaminated Sites audit.

## Why We Did This Audit

- Contaminated sites can have a significant impact on human health and the environment.
- We identified a significant deficiency during our financial audit in 2019.
- The Province recorded a \$372.1 million liability for contaminated sites and was responsible for tracking 127 sites as of March 31, 2019.

## Government's Contaminated Sites

- No department or entity is responsible to develop a provincial approach to ensure appropriate action is taken on known and potentially contaminated sites the Province is responsible for
  - A coordinated approach is needed
- A process exists to identify potentially contaminated sites, however ongoing monitoring is lacking
  - Department of Transportation and Infrastructure Renewal has no formal process to periodically monitor provincial highway bases for potential contamination
  - Department of Transportation and Infrastructure Renewal has issues with records of historic work completed on highway bases. Up-to-date recordkeeping would allow management to better assess risks to human health and the environment
- No government-wide process to prioritize work on contaminated sites. As government has limited resources, prioritization would allow for a documented and consistent approach for management to effectively allocate resources to benefit human health and the environment
- Department of Lands and Forestry has only recently begun site evaluations on historic mine sites. Site evaluations are a requirement of the Contaminated Sites Regulations established in 2013

## Follow-up on 2010 Recommendations

- 4 of 16 recommendations from the 2010 Management of Contaminated Sites audit remain not complete
- Examples of not complete recommendations include:
  - Quality assurance process not in place
  - Information not consistently reflected in the electronic tracking system



## Recommendations at a Glance

### **Recommendation 1.1**

The Executive Council Office should assign responsibility to an oversight body to implement a consistent, coordinated approach for assessing and managing known and potentially contaminated sites the Province is responsible for.

### **Recommendation 1.2**

The Province of Nova Scotia should have a complete inventory of known and potentially contaminated sites the Province is responsible for, including a process to monitor relevant information for decision making.

### **Recommendation 1.3**

The Province of Nova Scotia should implement a risk-based approach to assess and prioritize all known and potentially contaminated sites the Province is responsible for.

### **Recommendation 1.4**

The Department of Environment should ensure that management provides appropriate oversight of the inspectors.

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# 1 Government-wide: Contaminated Sites

## Coordinated Approach

➡ The Province does not have a consistent, coordinated approach to assess and manage contaminated sites the Province is responsible for

- 1.1 Throughout this audit we found that departments deal with contaminated sites the Province is responsible for differently, and there is no provincial strategy or approach. This results in inefficiencies and potential risks that human health and environmental concerns are not addressed. The examples in this report show the need for a coordinated approach to manage contaminated sites the Province is responsible for.

### What is contamination?

The presence of substances in soil, groundwater, sediment, or surface water at levels above an applicable environmental standard. Contamination can result from long-term industrial use such as gas stations, mining, and storage facilities, or from unplanned activity such as leaking oil tanks. Contamination can have negative impacts on human health and the environment.

- 1.2 Under the Contaminated Sites Regulations, the person responsible for the site is required to notify the Department of Environment when they know or ought to know of free product or contamination. The ministerial protocol further defines the notification process and states that a test must be done to determine if the contamination exceeds an environmental standard. We found that the regulations and protocols do not set timelines for testing when contamination is suspected, nor define when a person ought to know a site is contaminated.
- 1.3 Throughout this report, we use the term “potentially contaminated” to describe sites in which contamination is, or should be, suspected but not yet confirmed by a test. There are sites that have a higher risk for contamination due to the nature of the activities performed. Former gold mines and sites with fuel storage are examples of sites with a higher risk of contamination. Without more formal direction, there is a risk that potentially contaminated sites are never tested, and remediation may never happen. It is up to government to better define which sites require testing and the timelines in which it should occur.
- 1.4 The Province can be held responsible for a contaminated site when it caused or contributed to the release of a substance, or for which it is the landowner and the responsible party is unknown or unable to remediate. The Province



can also assume responsibility for sites when another party caused the contamination but is no longer able to manage it. For example, a private owner that went bankrupt or a business that ceased to exist.

- 1.5 The Department of Environment administers the Environment Act and enforces the Contaminated Sites Regulations. However, as the regulator, the Department of Environment is not responsible to identify and manage contaminated sites. Each department has its own process to identify and manage contaminated sites. We found there is no department or entity responsible to create a provincial approach to ensure the Province takes appropriate action on known and potentially contaminated sites it is responsible for.
- 1.6 Several departments are involved in handling contaminated sites and they have overlapping roles, but no entity is responsible to develop a coordinated approach for contaminated sites the Province is responsible for. Unclear roles and responsibilities can lead to inefficiencies and leave risks to human health and the environment unaddressed. See the table below for some responsibilities of the several entities involved.

Entity	Responsibilities Related to Contaminated Sites
Environment	<ul style="list-style-type: none"> <li>Administers the Environment Act</li> <li>Ensures compliance with Contaminated Sites Regulations and protocols</li> </ul>
Lands and Forestry (formerly Natural Resources)	<ul style="list-style-type: none"> <li>Administers the Crown Lands Act</li> <li>Manages Crown lands under the control of the Minister of Lands and Forestry</li> <li>Authorizes use of Crown lands</li> </ul>
Transportation and Infrastructure Renewal: Environmental Services Group	<ul style="list-style-type: none"> <li>Provides professional environmental advice to other divisions and other government entities</li> <li>Remediates sites with no identified owner that have reverted back to the Province, and sites assigned from other departments</li> </ul>
Nova Scotia Lands Inc.	<ul style="list-style-type: none"> <li>When asked, assists government departments with environmental remediation, environmental analysis and assessments, land and facilities operation management, and maintenance and monitoring</li> </ul>
Finance and Treasury Board: Government Accounting Division	<ul style="list-style-type: none"> <li>Assists departments in documenting and updating their processes to comply with the Liability for Contaminated Sites Policy</li> <li>Monitors the application of the Liability for Contaminated Sites Policy</li> <li>Ensures accounting for the liability is in accordance with accounting standards</li> </ul>
Energy and Mines	<ul style="list-style-type: none"> <li>Manages physical safety risks associated with abandoned mine openings</li> <li>Provides historical knowledge of mining in the province</li> </ul>
Other government departments	<ul style="list-style-type: none"> <li>Annually prepare listings and estimate associated liabilities of contaminated and potentially contaminated sites for the Province's financial statements</li> </ul>

- 1.7 We focused our audit work at the departments of Lands and Forestry, and Transportation and Infrastructure Renewal, because those departments hold the majority of provincially-owned lands and administer the majority of provincially-owned contaminated sites.



- 1.8 In each department we found documented processes to identify sites and create a contaminated sites listing. However, there were many sites where not enough work had been done to determine the potential risks to human health and the environment. Tracking of past work done, including assessment, remediation, and monitoring was also lacking. A coordinated approach would allow the Province to manage all contaminated sites in a consistent manner.

#### What is remediation?

Cleaning up or managing the contamination to reduce the risks to human health and the environment to an acceptable level.

- 1.9 We also found that assessing and remediating sites is not currently being prioritized at a government-wide level. Remediation work is complex and can be costly. Prioritizing work on contaminated sites would ensure the limited resources available are used in the most effective way. We found some departments have begun to prioritize some sites; however, there is no government-wide plan to assess risks and prioritize work for an effective use of resources.
- 1.10 A documented, coordinated approach to assess and manage contaminated sites the Province is responsible for would ensure:
- roles and responsibilities are clearly defined,
  - sites are identified and prioritized based on risk,
  - resources are appropriately allocated,
  - sites are monitored and maintained,
  - potential impacts to human health and the environment are appropriately addressed; and
  - environmental liabilities are consistently estimated.

#### **Recommendation 1.1**

The Executive Council Office should assign responsibility to an oversight body to implement a consistent, coordinated approach for assessing and managing known and potentially contaminated sites the Province is responsible for.

\*Recommendations 1.2 and 1.3 should be assigned to the oversight body identified in Recommendation 1.1.

*Executive Council Office Response: Government recognizes the importance of effective management of contaminated sites. We agree with the recommendation.*

*Currently, the Contaminated Sites Regulations legislate the processes to manage contaminated sites. Departments notify Nova Scotia Environment of impacts exceeding regulatory criteria and are accountable for managing contaminated properties in accordance with the Contaminated Sites Regulations. Departments also report environmental liabilities attributable to contaminated sites to Finance and Treasury Board as part of the year-end process in accordance with Public Sector Accounting Board standards. This work will continue.*

*Government will review its current oversight structure in place such as a Deputy Minister Committee that would better provide a consistent, coordinated approach for known and potentially contaminated sites. In addition, to further advance a coordinated approach, government will create an interdepartmental advisory group to report to the oversight structure and share preferred practices, access to expertise, and facilitate a consistent approach to the management of contaminated sites.*

### Identification and Monitoring



The Province does not have an adequate management information system to monitor contaminated sites

- 1.11 Departments with provincially-owned land follow a documented process to identify known or potentially contaminated sites. However, we found departments did not track all potentially contaminated sites, and historical information was not readily available. The Department of Environment maintains an inventory of known contaminated sites for the purpose of enforcing the Environment Act and Contaminated Sites Regulations; however, this inventory does not include all potential sites and is not intended to be a management information system for other departments.
- 1.12 Lands and Forestry identified 69 abandoned mine sites; assessment work is ongoing at two of the sites and notification has been provided to the Department of Environment under the Contaminated Sites Regulations. The Department is currently conducting risk assessments on the mine sites. We reviewed other contaminated sites Lands and Forestry is aware of and responsible for and found remediation work had been completed, responsibility had been transferred to another owner, or Transportation and Infrastructure Renewal had taken over remediation work.
- 1.13 Transportation and Infrastructure Renewal is responsible to manage 82 provincial highway bases across the province. Bases typically house provincial trucks, snowplows, highway salt, tools, and materials to service vehicles and equipment used in daily operations by staff. Storing salt and servicing vehicles and equipment have the potential to cause contamination above environmental standards.



- 1.14 Transportation and Infrastructure Renewal has recorded 26 bases as having potential or known contamination. However, there is no formal process to periodically review the 56 remaining bases for potential contamination. This is concerning as we found at least one of those sites had been given a high-risk rating for contamination by an external consultant in 2010. There was no documentation to indicate that any cleanup had been completed on the site since that time. Once a site is identified as being potentially contaminated, the Department needs to record and document relevant historical and cleanup effort information. Many of the Department's sites are active and have ongoing operations; it is important to regularly monitor to ensure risks are identified in a timely manner.
- 1.15 A site listed as potentially contaminated does not necessarily mean it has contaminants exceeding environmental standards. However, information on these sites should be kept because a change in land use or ongoing operations may result in contamination in the future. Proper recordkeeping would allow management to have up-to-date information which can be used to better assess risk to human health and the environment.
- 1.16 We examined the records for six Transportation and Infrastructure Renewal bases to ensure sites were appropriately monitored and managed; three sites were on the Department's contaminated sites list and three were not being actively monitored. The three bases on the list were either in the process of being remediated or being assessed in accordance with the Contaminated Sites Regulations.
- 1.17 The three bases that were not on Transportation and Infrastructure Renewal's contaminated sites list had no records to indicate they had been remediated or monitored in the last 20 years. This is concerning because the last documented consultant reports, all prepared before the year 2000, identified some level of contamination at each of the three bases.
- 1.18 We found that historical environmental records of some bases were not centrally stored; instead, files were kept with staff. This practice increases potential for information loss when the employee leaves. Also, there was no index to the filing system to determine which sites had up-to-date and complete information, or in what format the files could be found. This made finding information and determining what work had been done on a specific site difficult. In one situation, Transportation and Infrastructure Renewal hired a consultant to review the history of one site because the record of work done had become too fragmented to easily determine what had happened over the last 10 years. This could be prevented if the Department establishes and follows a documentation standard to ensure information is recorded. Management indicated they have been working to establish a central digital filing system for current reports on active remediation sites.



- 1.19 A complete inventory of sites, including the most recent status of the site and information on any assessment and remediation work completed to date, would ensure management has appropriate information to make resourcing decisions, and to assess potential risk arising from future activities on the site.

**Recommendation 1.2**

The Province of Nova Scotia should have a complete inventory of known and potentially contaminated sites the Province is responsible for, including a process to monitor relevant information for decision making.

*Province of Nova Scotia Response: We agree with the recommendation.*

*There are existing legislated processes that result in government maintaining an inventory of contaminated sites. Departments report on contaminated sites and associated environmental liabilities on an annual basis. Information on sites is updated and incorporated as it becomes available as it may impact the regulatory status and/or the environmental liability associated with the site.*

*Nova Scotia Environment maintains an inventory of contaminated sites that are reported under the regulations, including those sites for which government is responsible in accordance with the Contaminated Sites Regulations. Finance and Treasury Board maintains a list of contaminated sites liabilities from the information received from departments during the year-end audit process. Finance and Treasury Board and Nova Scotia Environment reconcile the information to ensure completeness of the government's environmental liabilities. This work will continue.*

*Government will use the interdepartmental advisory group to report known and potentially contaminated sites to the oversight structure for awareness and inventory reporting.*

**Prioritization**



The Province does not have a process to prioritize site evaluations and remediation

- 1.20 Once a site is identified as potentially contaminated, there is no process to prioritize work needed on the site. Provincial resources, both funding and staff time, are limited. Therefore, prioritizing their use is essential.
- 1.21 At Lands and Forestry, and Transportation and Infrastructure Renewal, we found that work was ongoing to remediate sites. However, sites were dealt with on an individual basis and there was no government-wide plan to assess risks and prioritize work for an effective use of resources.



- 1.22 We found that Transportation and Infrastructure Renewal created a process in 2010 to evaluate and create a priority list to address environmental impacts of bases. A consultant reviewed historical environmental site assessments for each base and gave each site a risk ranking based on a simplified version of nationally-accepted contaminated sites criteria. Transportation and Infrastructure Renewal did not continue using this prioritization process. We found that contaminated sites work has been ongoing at some bases; however, work was not prioritized, and not all sites identified as having risks were addressed.
- 1.23 At Lands and Forestry, we found that work is ongoing to evaluate the 69 historic mine sites to assess potential risks and prioritize site evaluations. This work is intended to address an issue identified in our audit of the Province's March 31, 2019 financial statements. Lands and Forestry recognized the need for more information on historic mine sites to appropriately assess risks and prioritize work. In 2019, two of the mines, Montague and Goldenville, were assessed and the Province recorded a \$48 million liability for the two contaminated sites.

Excerpt from October 2019 Financial Report	
Financial Reporting of Abandoned Mine Sites Significant Control Weaknesses	Department of Lands and Forestry Response
<p>The Department of Lands and Forestry has not completed sufficient site investigations on all abandoned mine sites identified with potential areas of contamination.</p> <p>Impact: The Department cannot effectively assess the Province's financial exposure relating to potential future remediation and monitoring costs associated with abandoned mine sites. Without appropriate analysis, there is a risk that potential contamination is not identified or managed, resulting in unaddressed human health or ecological concerns.</p>	<p>The Department is currently working with Nova Scotia Lands and the Department of Energy and Mines to develop a process to address former mine sites, including risk ranking and identifying priorities for site evaluation. The Department of Energy and Mines has assigned a Mining Engineer to Nova Scotia Lands to assist with these efforts. Four abandoned mine sites (2 gold and 2 coal) are currently identified as priorities for further testing and evaluation. The Department continues to work with Nova Scotia Lands and Energy and Mines on developing an overall strategy and will continue to ensure that as the presence and extent of contamination on specific sites are clarified through assessments, the associated financial exposure will be appropriately reported.</p>

- 1.24 We reviewed draft documentation and found that Lands and Forestry had defined criteria to assess the mine sites based on the impacts to human health and the environment. Management indicated they had considered national guidance when creating the criteria to assess the sites.
- 1.25 This work is important, and it is good that planning is underway. However, the Contaminated Sites Regulations were established in 2013, and there were procedural guidelines prior to that. Lands and Forestry (formerly Department of Natural Resources) should have taken steps prior to the fall of 2019 to determine if mine sites were in compliance with the Contaminated Sites Regulations. A systematic, coordinated approach to contaminated sites

would have led to the Province assessing the risks of abandoned mine sites in a timely manner.

- 1.26 In 2016, the Department of Environment sent a letter to the Department of Natural Resources (now Lands and Forestry) outlining the requirements of the Contaminated Sites Regulations in regard to the abandoned mine sites. Lands and Forestry management was unable to explain why no work had been done to assess mine sites until the fall of 2019.
- 1.27 Without a system in place to prioritize and rank site evaluations, there is a risk the Province inefficiently uses its financial and human resources. Limits to financial resources makes it imperative that the Province allocate remediation funding where it will provide the most benefit to the public in terms of protecting human health and the environment.

### **Recommendation 1.3**

The Province of Nova Scotia should implement a risk-based approach to assess and prioritize all known and potentially contaminated sites the Province is responsible for.

*Province of Nova Scotia Response: We agree with the recommendation. Departments manage contaminated sites for which they are responsible in accordance with the Contaminated Sites Regulations. Properties are managed on a risk-based approach. Departments comply with regulatory requirements and implement practices that minimize impacts to properties for which the Province is responsible. This work will continue.*

*Government will use the interdepartmental advisory group to advise the oversight structure on known and potentially contaminated sites to ensure the effective management within the regulatory framework using a risk-based approach.*

### **Remediation**

 The Province did not complete work within timelines

- 1.28 We examined the records for five of Transportation and Infrastructure Renewal's contaminated sites which are being remediated. For all five projects, we found the Department had filed multiple extensions beyond the 2-year timeline for remediation as required in the Contaminated Sites Regulations. While these extensions are allowed under the Contaminated Sites Regulations, we did note work had started on one site in 2006.
- 1.29 Remediating contaminated sites can be a complex and time-consuming process. However, regulations clearly stipulate expected timelines. The Province should flag contaminated sites that remain open for years and take appropriate steps to efficiently use its financial and human resources



to mitigate human health and environmental risks. Failure to remediate in a timely manner could have a long-term negative financial impact for the Province.

- 1.30 A consistent, coordinated approach to managing contaminated sites the Province is responsible for would allow the Province to better track and monitor resources used to remediate and monitor contaminated sites.

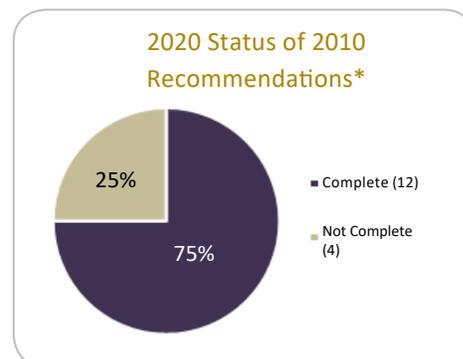
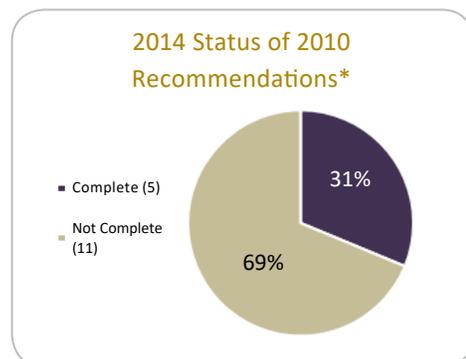
### Follow-up on 2010 Recommendations at Department of Environment

➡ 4 of 16 recommendations from 2010 remain not complete

- 1.31 Our last audit of the contaminated sites program at the Department of Environment was in June 2010. At that time, we identified several weaknesses and areas for improvement and made seventeen recommendations to the Department. That audit considered all contaminated sites in the province, not just those under provincial responsibility. When we last followed up on the recommendations in May 2014, we assessed one recommendation as no longer required and removed it from future follow-up assignments; 11 (69%) of 16 recommendations were assessed as not complete. In this audit we looked back to determine if the Department had completed the 11 recommendations, all of which they had originally agreed to implement.

- 1.32 When we began this audit, we expected to see all 16 recommendations completed. The Department of Environment has not completed 4 (25%) of the 16 recommendations we made almost ten years ago. This exposes it to risks, including:

- incurring costs to clean up contaminated sites in cases when persons responsible lack financial resources
- staff not following performance standards or policies and procedures
- management not having accurate information due to inconsistent information in the electronic tracking system



\*In 2014 we assessed one recommendation as no longer required and removed it from future follow-up assignments



- 1.33 Details regarding the status of the recommendations can be found in Appendix II.
- 1.34 The Department has made progress towards completing the four recommendations that are not yet completed; however, additional work is still needed. It is important to note that in the ten years since we made our initial recommendations, the Department of Environment has undergone significant change. As such, not all recommendations apply solely to the contaminated sites program and should be addressed by the Department as a whole.



No management review of complaint or contaminated site files

- 1.35 The Department of Environment informed us that management is not required to review complaint files. This was confirmed in our testing when we found no evidence of management review of complaint files. We also identified additional issues with the files. Many files we tested had inconsistencies between the paper and electronic records, and several complaint files were left open for long periods of time ranging from 120 to more than 2,000 days.
- 1.36 Management told us the complaint process is critical to the Department's ability to administer the Contaminated Sites Regulations. Therefore, having accurate and timely information is important to ensure that management can effectively manage the inspection and enforcement activities. Management review would ensure decisions, such as closing a file, are supported and that appropriate enforcement action was taken to identify a contaminated site.
- 1.37 The Department of Environment piloted a quality assurance program for the 2018-19 fiscal year. The program included review of both complaint and contaminated site files. However, at the time of our audit, the results of this pilot program were not complete nor had staff been informed of any findings or lessons learned. Management indicated that the Department intends to report results later in 2020. A fully implemented quality assurance program would ensure staff are complying with their operational and administrative responsibilities for the contaminated sites program.

**Recommendation 1.4**

The Department of Environment should ensure that management provides appropriate oversight of the inspectors.

*Department of Environment Response: With the implementation of our Quality Assurance program in June of 2020 we have now completed this recommendation.*

*The Department of Environment is confident we have appropriate oversight of our Inspectors and an effective program for the management of contaminated sites in Nova Scotia.*



*Following the 2010 audit we introduced contaminated site regulations and protocols and re-designed our quality assurance process. Our quality assurance process ensures staff are complying with the operational and administrative responsibilities for the contaminated sites program. Additionally, we completed a thorough evaluation of the implementation of our contaminated site program which informed how we support our Inspectors in doing their work.*

*In 2019 we incorporated our contaminated site process within our electronic business applications system to ensure file management in accordance with our regulatory framework and to schedule monthly internal audits based on risk. Reporting from this system is another mechanism we use to ensure appropriate oversight.*

 12 recommendations to improve management of the contaminated sites program are complete

1.38 In the six years since our Office last assessed the Department of Environment's progress on completing the recommendations from 2010, the Department has completed seven recommendations, some of which include:

- communicating the objectives of the contaminated sites program to government and the public
- maintaining an inventory of known contaminated sites that includes the stage and status of cleanup
- ensuring that sites that are known to be contaminated are appropriately reported and assessed
- completing an internal evaluation of the contaminated sites program which included recommendations for improvement



## Appendix I

### Reasonable Assurance Engagement Description and Conclusions

In spring 2020, we completed an independent assurance report on the identification and management of contaminated sites by the Province of Nova Scotia. The purpose of this performance audit was to determine whether the Province of Nova Scotia is appropriately identifying and managing contaminated sites for which it is responsible. At the request of Executive Council Office, we coordinated our work through the Department of Lands and Forestry while looking at the provincial approach overall. We performed our detailed work at the departments of Lands and Forestry, and Transportation and Infrastructure Renewal and followed up on the recommendations from our 2010 Management of Contaminated Sites audit at the Department of Environment.

It is our role to independently express a conclusion about whether the Province of Nova Scotia complies in all significant respects with the applicable criteria. Management at the Department of Environment acknowledged their responsibility for the contaminated sites program and the departments of Lands and Forestry, and Transportation and Infrastructure Renewal acknowledged their responsibility for their department's contaminated sites.

This audit was performed to a reasonable level of assurance in accordance with the Canadian Standard for Assurance Engagements (CSAE) 3001—Direct Engagements set out by the Chartered Professional Accountants of Canada; and Sections 18 and 21 of the Auditor General Act.

We apply the Canadian Standard on Quality Control 1 and, accordingly, maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we complied with the independence and other ethical requirements of the Code of Professional Conduct of Chartered Professional Accountants of Nova Scotia, as well as those outlined in Nova Scotia's Code of Conduct for public servants.

The objectives and criteria used in the audit are as follows:

**Objectives:**

To determine whether the Province of Nova Scotia is assessing and managing the risks for contaminated sites it is responsible for.

To determine whether the Province of Nova Scotia has effective processes and systems in place to ensure that contaminated sites it is responsible for are identified.

**Criteria:**

1. The Province of Nova Scotia should have clearly defined roles and responsibilities for the identification and management of contaminated sites it is responsible for.
2. The Province of Nova Scotia should have a process to identify and record all known and suspected contaminated sites it is responsible for.
3. The Province of Nova Scotia should have a process to prioritize all suspected contaminated sites it is responsible for.
4. The Province of Nova Scotia should have a process to prioritize all known contaminated sites it is responsible for.
5. The Province of Nova Scotia should have appropriate action plans to address all suspected contaminated sites it is responsible for.
6. The Province of Nova Scotia should have appropriate action plans to address all known contaminated sites it is responsible for.

**Objective:**

To determine whether the Department of Environment has implemented all recommendations from the June 2010 Management of Contaminated Sites audit.

**Criteria:**

1. The Department of Environment should implement all recommendations from the June 2010 Management of Contaminated Sites audit.

Generally accepted criteria consistent with the objectives of the audit did not exist. Audit criteria were developed specifically for this engagement. Criteria were accepted as appropriate by senior management at the Department of Environment and the Department of Lands and Forestry.

Our audit approach consisted of interviewing management and staff of the departments of Environment, Lands and Forestry, Transportation and Infrastructure Renewal, as well as Nova Scotia Lands Inc. We reviewed relevant legislation, regulations, and protocols for contaminated sites. We examined relevant processes, plans, reports, and other supporting documentation. Our audit period covered January 1, 2018 through to April 30, 2020. We examined documentation outside of that period as necessary. While the end of our audit period included the initial stages of the COVID-19 pandemic, it did not impact the subject matter of this audit.

We obtained sufficient and appropriate audit evidence on which to base our conclusions on July 9, 2020, in Halifax, Nova Scotia.

Based on the reasonable assurance procedures performed and evidence obtained we have formed the following conclusions:

- The Province does not have a coordinated approach to assess and manage risks for the contaminated sites it is responsible for.



- The Province has a process to ensure it identifies the contaminated sites it is responsible for; however, there are weaknesses in monitoring.
- The Department of Environment did not implement all recommendations from the June 2010 Management of Contaminated Sites audit.



## Appendix II

## Status of 2010 Recommendations

Recommendation	2014 Status	2020 Status
3.1 The Department of Environment should ensure sites which are known to be or likely to be contaminated are appropriately assessed and any unacceptable risks to human health and the environment are addressed by the responsible party.	Not Complete	Complete
3.2 The Department of Environment should report to Cabinet those contaminated sites where unacceptable risks have not been adequately addressed to ensure Cabinet has appropriate information for policy decisions.	Not Complete	Not Complete
3.3 The Department of Environment should implement timeframes to follow up receipt of site professional reports and ensure timeframes are being followed.	Not Complete	Complete
3.4 The Department of Environment should ensure that site professional reports and other information are reviewed in a timely manner based on timeframes established.	Not Complete	Complete
3.5 The Department of Environment should develop a formal prioritization process to identify higher-risk contaminated sites. Inspector monitoring activities should ensure priority is given to higher-risk sites.	Not Complete	Complete
3.6 The Department of Environment should conduct periodic site visits on certain sites, taking into consideration the level of risk involved, to verify key information reported by site professionals.	Not Complete	Complete
3.7 The Department of Environment should complete background checks to ensure site professionals have the education and work experience required under Departmental guidelines.	No Longer Required*	No Longer Required*
3.8 The Department of Environment should develop standardized cleanup submission requirements as well as standard report formats.	Complete	Complete
3.9 The Department of Environment should ensure consultation with the Compliance and Inspection Coordinator and notification to the coordinator and district manager occurs prior to enforcement action being taken.	Complete	Complete
3.10 The Department of Environment should ensure closed complaint and notification files are reviewed by management as required. Evidence of review, including the date, should be documented in the file.	Complete	Complete
3.11 The Department of Environment should implement time standards for the inspection of a complaint or notification by inspectors and for district manager review of closed files.	Not Complete	Not Complete
3.12 All information related to a complaint and notification file should be accurately reflected in the activity tracking system.	Not Complete	Not Complete
3.13 The Department of Environment should implement the quality assurance program for contaminated site files.	Not Complete	Not Complete
3.14 Management should closely supervise all new inspectors to ensure they are receiving appropriate training and sites assigned to them are properly monitored.	Complete	Complete



<b>Recommendation</b>	<b>2014 Status</b>	<b>2020 Status</b>
3.15 Training on the use of the Development Accountability Model should be completed as soon as possible.	Complete	Complete
3.16 The Department of Environment should clearly define and communicate the objectives of the contaminated site program as well as establish outcome measures including reporting on program performance.	Not Complete	Complete
3.17 An inventory of known contaminated sites should be established and maintained for management purposes. This should include information on the stage of cleanup and risks involved for each site.	Not Complete	Complete

*\*In 2014 we assessed one recommendation as no longer required and removed it from future follow-up assignments*

• • • **Office of the Auditor General** • • •

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