



Alberta Environment and Parks

Systems to Manage and Report on the Oil Sands Monitoring Program Follow-up

November 2018

Summary

Oil sands development has led to concerns about its environmental impacts and the need to better understand and respond to these impacts. The Alberta and Canadian governments responded by establishing the joint environmental monitoring program for the oil sands. Since then, the governments have been collaborating to enhance environmental monitoring, evaluation of and reporting on the impacts of oil sands development.

There have been a number of organizational changes in Alberta since the program's establishment in 2012. Government established the Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) in 2014, then dissolved it in 2016. The Department of Environment and Parks' newly formed Environmental Monitoring and Science Division reassumed Alberta's responsibilities under the program.

The quality of the systems to manage the program and report on its results are key to the program's success, accountability, and transparency. A broad spectrum of stakeholders—government, industry, and the general public—is interested in the program's activities and results. In 2014, we audited the program's project-management systems and its first annual report and found that both needed improvement.

In this follow-up audit, we examined how the department managed projects since the most recent transition and whether the program's 2016–2017 annual report was clear, accurate, and timely. We focused on the annual report because it is the key accountability mechanism that informs stakeholders about program activities, results, and successes—in other words, the value provided for the resources consumed.

We found that the 2016–2017 annual report still has room for improvement. Information in the report related to the program's success, progress toward objectives, and funding is incomplete; project status is unclear; and the report is neither timely nor accessible. We believe the department can correct these deficiencies through improving the process to develop the report, in collaboration with Environment and Climate Change Canada (ECCC). Therefore, we are making a recommendation about annual reporting process improvements.

Based on our audit of project-management processes, we found that the department has made some important improvements by employing better work plans and monitoring activities. We conclude that the department implemented our project-management recommendation.

Context

ECCC and Alberta's Department of Environment and Parks jointly administer and deliver the Oil Sands Monitoring program. This means that both governments jointly establish and manage program priorities, annual work plans, funding allocations, and public reporting. Alberta has coordinated and led the development of the annual report for this program. Both governments plan and implement individual projects, but each project has a designated lead.¹

The program objective is to monitor air, water, land and biodiversity in the oil sands region and to evaluate and report on the impacts of oil sands development. The program aims to enhance understanding of the cumulative effects and environmental changes related to oil sands development and to guide responsible development of the resource.

Between 2012 and 2015, the program's implementation was guided by the *Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring*.² The plan outlined how the two governments will collaborate to improve monitoring, evaluation, and reporting on air, water, land, and biodiversity over the three years. The plan concluded in March 2015, but the joint environmental monitoring continued, guided by an operational agreement. In December 2017, the Canadian and Alberta governments signed a memorandum of understanding that established shared responsibility to perform long-term environmental monitoring in the oil sands region.³

From 2012 to 2014, the Department of Environment and Parks managed Alberta's responsibilities under the program. AEMERA managed the program from 2014 to 2016. The agency was dissolved in 2016, after which the Environmental Monitoring and Science Division of Environment and Parks assumed responsibility for managing the program.

While monitoring has been continuous, evaluation requires multiple years of data to identify trends and environmental changes. Public reporting on program activities and results includes:

- an annual report that informs stakeholders about program success and progress and that describes monitoring activities carried out during a fiscal year
- scientific publications describing findings and data from monitoring projects. Over 300 publications have been publicly released.⁴
- syntheses of individual scientific reports, based on multi-year monitoring of water, air, land and biodiversity, about the cumulative effects of oil-sands development and environmental changes over time. The first synthesis report (on water) is expected to be released in 2018.

A key element of the program's mandate is informing provincial and federal governments about major impacts to human or ecosystem health identified through environmental monitoring. This knowledge helps decision-makers guide responsible oil sands development.

1 Either the Department of Environment and Parks or ECCC lead individual projects.

2 <http://environmentalmonitoring.alberta.ca/wp-content/uploads/2015/08/Joint-Canada-Alberta-Implementation-Plan-for-Oil-Sands-Monitoring.pdf>.

3 <http://environmentalmonitoring.alberta.ca/wp-content/uploads/2018/03/OSM-MOU-December-1-2017.pdf>

4 Scientific publications include vetted journal articles and technical reports available at <http://environmentalmonitoring.alberta.ca/resources/science-papers/> and <http://environmentalmonitoring.alberta.ca/technical-reports/>

About this Audit

Our original 2014 audit aimed to determine whether the program's 2012–2013 public report was complete and accurate. We concluded that the reporting and the department's project-management processes needed to improve. We made two recommendations related to these conclusions in our October 2014 report.⁵ The department asserted in 2017 that it had implemented the two recommendations.

In this follow-up audit, we again examined how the department managed projects and whether the 2016–2017 annual report for the program was clear, accurate, and timely. We recognize that the most recent program transition and the Fort McMurray wildfires both occurred during the period covered by our audit and affected program delivery and annual-report production for 2016–2017.

Audit Objectives and Scope

The objective of our audit was to determine whether the Department of Environment and Parks has implemented our outstanding 2014 recommendations⁶ to:

- provide clear, accurate, and timely reporting on the oil sands monitoring program
- implement effective processes for monitoring project status; develop and implement work plans with roles and responsibilities, timelines, and deliverables; and clarify what needs to be done to implement any projects and commitments remaining from the 2012–2015 Canada-Alberta implementation plan for the oil sands

When examining reporting, we focused on the program's 2016–2017 annual report. Other program reporting, such as scientific publications, environmental monitoring data, and data on the Canada-Alberta Oil Sands Environmental Monitoring Information Portal,⁷ were out of scope of this audit.

This audit focused on projects the Department of Environment and Parks managed between July 2016 and December 2017.⁸ Our audit did not cover projects led solely by ECCC; scientific adequacy of the approach to oil sands monitoring, including selection of the environmental monitoring projects; how projects were carried out; and the monitoring results.

What We Examined

Our follow-up audit evaluated whether the OSM program 2016–2017 annual report met results-reporting principles that department's management had agreed were suitable for this audit. We also examined the department's project-management processes, based on a sample of 2016–2017 and 2017–2018 projects. We gathered our evidence by examining the department's processes for project planning and monitoring project status, interviewing staff, and reviewing documents.

⁵ *Report of the Auditor General of Alberta—October 2014*, pages 23–32.

⁶ In 2014, AEMERA managed the OSM program on behalf of Alberta. Our 2014 recommendations were therefore addressed to AEMERA. We rephrased our outstanding recommendations to reflect that the Department of Environment and Parks currently manages Alberta's responsibilities under the OSM.

⁷ <http://osip.alberta.ca/map/>.

⁸ The OSM program is managed jointly by the Department of Environment and Parks on behalf of the Government of Alberta, and Environment and ECCC on behalf of the Government of Canada. Our audit focused on projects managed by the Department of Environment and Parks, solely or jointly with ECCC.

We conducted our field work between July 2017 and April 2018 and substantially completed our audit on May 1, 2018.

Conclusion

Because of the significance of the findings, we conclude that the Department of Environment and Parks has not, as of May 1, 2018, implemented our recommendation to provide clear, accurate, and timely reporting through the annual report on the OSM program. Our audit found that the department did not have a robust process to develop an annual report that would meet the needs of its users. Instead of repeating our previous recommendation, we are making a new recommendation to improve the annual reporting process.

We conclude that the department has implemented our recommendation to:

- implement effective processes for monitoring project status
- develop and implement work plans with roles and responsibilities, timelines, and deliverables
- clarify what needs to be done to implement any projects and commitments remaining from the 2012–2015 Canada-Alberta implementation plan for the oil sands

Why this Conclusion Matters to Albertans

The annual report on the environmental monitoring in the oil sands is the key accountability mechanism that informs stakeholders about the program's success. The report must demonstrate how resources were spent, and provide clear, accurate, and timely information on program activities, results and overall success.

Findings and Recommendations

Report Accurately, Clearly, and Timely

Context

As part of the 2012–2015 *Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring*, the Canada and Alberta governments committed to annual reporting to the public on the status of implementing the plan.⁹ Our 2014 audit found that the first annual report¹⁰ lacked clarity and key information, contained inaccuracies, and was not timely.^{11, 12}

In the 2017 memorandum of understanding for environmental monitoring in the oil sands, the two governments committed to report program results in a timely manner. In the 2016–2017 annual monitoring plan, program management further committed to informing the governments and relevant stakeholders of any potentially significant impacts on human or ecosystem health identified through environmental monitoring.

9 <http://environmentalmonitoring.alberta.ca/wp-content/uploads/2015/08/Joint-Canada-Alberta-Implementation-Plan-for-Oil-Sands-Monitoring.pdf>.

10 *The Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring: First Annual Report: 2012–2013*. <http://environmentalmonitoring.alberta.ca/wp-content/uploads/2015/08/JOSM-Annual-Report-2012-2013.pdf>.

11 *Report of the Auditor General of Alberta—October 2014*, pages 23–32.

12 The two governments subsequently released the 2013–2014 and 2014–2015 reports on the implementation plan. <http://environmentalmonitoring.alberta.ca/resources/document-library-2/>.

In December 2017, the two governments released the *Oil Sands Monitoring Program: Annual Report for 2016–2017*.¹³ The report described the program's key accomplishments and summarized monitoring activities carried out in 2016 and 2017. The report stated the program's objectives as:

- support sound decision-making by governments and stakeholders
- ensure transparency through accessible, comparable, and quality-assured data
- enhance science-based monitoring for improved characterization of the state of the environment, and collect the information necessary to assess cumulative effects
- improve analysis of existing monitoring data to develop a better understanding of historical baselines and changes
- reflect the trans-boundary nature of the issue, and promote collaboration with the governments of Saskatchewan and the Northwest Territories

Criteria: the standards of performance and control

The Department should report the results of the oil sands monitoring program, clearly, accurately, and timely.

Our follow-up audit findings

Key Finding

The department did not establish a robust process to develop the 2016–2017 annual report. As a result, the report lacked important information about the overall program and its projects.

Process to develop the 2016–2017 annual report deficient

The department led the report development but it did not establish a robust process, which would have ensured that the report met its users' needs. In our view, the process weaknesses contributed to many of the deficiencies we have identified and that we describe in the next sections.

Information on actions to meet program's objectives incomplete

The report lacked information about actions taken to meet the program objectives. Further, performance metrics that would help measure and report on the program's success, against objectives and overall, have not yet been developed.

Out of the five objectives of the program, the report had no information on one¹⁴ and incomplete information on two others.

The report lacked information on how the program supported decision making by governments and whether relevant decision makers were informed of any potentially significant impacts on human or ecosystem health identified through environmental monitoring. For example, we noted that air quality monitoring in the Athabasca oil sands identified poor air quality, including 69 exceedances for hydrogen sulphide in

¹³ <http://environmentalmonitoring.alberta.ca/wp-content/uploads/2015/08/2016-17-OSM-Annual-Report-Posted-Dec-01-2017.pdf>.

¹⁴ The program objective referred to is 'reflect the trans-boundary nature of the issue and promote collaboration with the governments of Saskatchewan and the Northwest Territories'.

August 2016.¹⁵ But information on whether this information was communicated to decision makers—and if not, why not—was missing.

The report provided limited information about the planned synthesis reports on water, air, land, and biodiversity. The synthesis reports will provide information on the state of the environment, the cumulative effects of oil sands development, and environmental changes over time, and are based on the results of synthesizing and interpreting scientific data collected over multiple years. These reports are the primary reporting mechanism through which the program will demonstrate how the improved data analysis leads to better understanding of historical baselines and changes.

Information about funding is incomplete

The report lacked information about the accumulated surplus, potential impact on the achievement of the program objectives from the actual spending being consistently below planned, and how the department plans to allocate the funds to future projects.¹⁶ This information is important to the oil sands industry that funds the program and would help demonstrate accountability for monies spent and for the program's results.

The oil sands industry contributes up to \$50 million annually to fund the program. In 2016–2017, \$10 million remained unspent out of the \$49-million expected cost. On March 31, 2017, the total amount unspent since 2012, when the program began, was \$30 million.

Project status not clear

The report did not state whether each project was completed or why most projects cost significantly less than expected.¹⁷

The report indicated that most of the 58 projects were under budget—more than half the projects were under budget by more than 10 per cent, and more than one-third by over 50 per cent.

Impact of program transitions and wildfires

Management told us that the program transition from AEMERA resulted in changes to financial systems, contract and grant processes, communications, human resources, and the data-management structure. Additionally, the Fort McMurray wildfires delayed startup for a number of projects. These changes created constraints on the program's staff and resources, which contributed to the deficiencies we have identified and that we describe in the next sections.

Report not accurate

The report contained inaccurate information. For example, actual costs reported for many of the projects significantly differed from the information in the department's financial system. The department stated that these discrepancies were due to coding errors that occurred when financial procedures changed during the program transition. The department is working to resolve the discrepancies.

¹⁵ Hydrogen sulphide (H₂S) is considered both an odour nuisance and a health hazard. According to the 2012 Alberta Health Services information sheet and the Government of Alberta 2010 Workplace Health and Safety Bulletin, H₂S is extremely toxic, and the potential health effects of H₂S exposure range from mild symptoms of nausea and headache (1 ppm concentration in air), to breathing difficulty and vomiting (100–250 ppm), loss of consciousness (500–750 ppm), and death (1000 ppm).

¹⁶ Nearly 70 per cent of the 2016–2017 surplus comes from projects delivered by the department and, previously, AEMERA. The department prepared a five-year spending plan for the accumulated surplus.

¹⁷ The last two annual reports did report project status: *Second Annual Report 2013–2014* Part 1, and *Third Annual Report 2014–2015* Part 1. <http://environmentalmonitoring.alberta.ca/resources/document-library-2/>.

Report not timely, accessible or understandable

The 2016–2017 annual report was publicly released in December 2017, nine months after the fiscal year end. The department's timelines for the report had an initial release date at the end of September, which was moved to mid-November 2017. The department and ECCC did not meet this date and released the report two weeks later. We acknowledge that the department released the 2017–2018 annual report in October 2018.

The report is difficult to find through the department's website or through general online search. This is due to the program's website not yet being established after AEMERA's dissolution.

There were numerous references in the report that an average reader may not understand. For example, the report refers to *dendograms* and *dispersion modeling*. Non-technical explanations or a glossary are often used in reports to help readers.

RECOMMENDATION:**Improve annual reporting process**

We recommend that the Department of Environment and Parks, working with Environment and Climate Change Canada, improve processes to ensure the annual report on the oil sands monitoring program is complete, accurate, clear, and timely.

Consequences of not taking action

Without complete, timely, and accurate public reporting, stakeholders will not know the status and results of environmental monitoring in the oil sands and cannot hold the government accountable for meeting its commitment to ensure environmentally responsible development of the oil sands.

Improve Planning and Monitoring**Context**

The 2016–2017 monitoring plan included 58 projects in eight areas:

- atmospheric monitoring
- watershed monitoring
- physical-disturbance monitoring
- biotic-response monitoring
- indigenous monitoring program
- wetland-ecosystem monitoring
- standards, quality assurance, quality control, and data management
- program administration

The projects were implemented by the department, the ECCC, and by third-party monitoring organizations.¹⁸ Among other activities, environmental monitoring projects tracked air and water quality, analyzed contaminant levels in lakes, and assessed whether oil sands activities disturbed the physical landscapes of wetland and terrestrial ecosystems.

¹⁸ Third-party monitoring organizations include the Alberta Biodiversity Monitoring Institute, the Lakeland Industry and Community Association, and the Wood Buffalo Environmental Association.

Our 2014 audit focused on the projects the department was responsible for delivering in 2012–2013. The audit found deficiencies in the department’s project-management processes, such as missing work plans or plans without key information like clearly defined deliverables and timelines. We also found insufficient evidence that the department monitored progress.

Criteria: the standards of performance and control

The department should have sufficient and appropriate evidence to support its reported results. This evidence should include:

- work plans for implementing its responsibilities, including:
 - identification of roles and responsibilities
 - clear and concrete deliverables, timelines, and required resources
 - consideration of stakeholder input
 - consideration of traditional ecological knowledge
 - process to monitor progress and adjust plans to new information
- work plans for coordinating with other departments, agencies, and the federal government to prevent ineffective, inefficient, and duplicate monitoring of the oil sands

Our follow-up audit findings

Key Finding

The department has implemented our recommendation through the use of better work plans and monitoring.

Improvements made

Beginning in 2015–2016, the department adopted standardized work plans that required detailed information, such as project deliverables, timelines, budget, relevant traditional ecological knowledge, and stakeholder input. The work plans described who was responsible for each deliverable and how activities of the department, the ECCC, and monitoring organizations would be coordinated. The department implemented quarterly monitoring of projects’ statuses.

The department identified what needed to be done to meet outstanding project commitments under the 2012–2015 *Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring* and provided evidence that it took those actions.