

## Chapter 31

# Environment – Preventing the Entry and Spread of Aquatic Invasive Species in Saskatchewan

### 1.0 MAIN POINTS

By June 2018, the Ministry of Environment had implemented one of the five recommendations made in our 2016 audit related to the processes to prevent entry or spread of aquatic invasive species (other than aquatic invasive plants) in Saskatchewan. It, along with key partners, developed a long-term aquatic invasive species strategy to prevent the entry and spread of aquatic invasive species in Saskatchewan. In addition, it developed a communications strategy.

The Ministry's development of these strategies is a foundational step towards implementing the remaining four recommendations. The strategies will help Environment to formalize risk-based watercraft inspection strategies and for sampling waterbodies, complete and test a rapid response plan designed to reduce the impact and spread of identified aquatic invasive species (if any), and assess the effectiveness of its aquatic invasive species public education and awareness campaign.

### 2.0 INTRODUCTION

The Ministry of Environment is responsible for preventing the introduction or spread of aquatic invasive species in our province.

Aquatic invasive species are non-native animals (like zebra and quagga mussels) or plants that are usually spread through the water, and from one waterbody to another, by attaching to watercraft, trailers, and related aquatic equipment. They pose a serious threat to lakes and waterways in western Canada and can cause serious damage. They have been discovered in Ontario, Manitoba, Quebec, and 34 states, including Minnesota, Montana, and North Dakota.<sup>1</sup> Prevention is the most cost-effective way to deal with potential threats.

This chapter describes the results of our first follow-up of the Ministry of Environment's actions to implement five recommendations we first made in 2016 about preventing the entry and spread of aquatic invasive species in Saskatchewan.

In our *2016 Report – Volume 1*, Chapter 7, we concluded that the Ministry of Environment had, other than matters reflected in our five recommendations, effective processes to prevent the entry and spread of aquatic invasive species in Saskatchewan.

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance* (CSAE 3001). To evaluate Environment's progress towards meeting our recommendations, we used the relevant criteria from the original audit. Environment agreed with the criteria in the original audit.

<sup>1</sup> [www.saskatchewan.ca/residents/environment-public-health-and-safety/wildlife-issues/invasive-species/aquatic-invasive-species-prevention-program](http://www.saskatchewan.ca/residents/environment-public-health-and-safety/wildlife-issues/invasive-species/aquatic-invasive-species-prevention-program) (21 August 2018).



In this follow-up audit, we interviewed Ministry staff responsible for aquatic invasive species prevention and detection programs. We reviewed various documents including strategies, watercraft inspection processes, waterbody sampling processes, and communications to educate the public about aquatic invasive species.

## 3.0 STATUS OF RECOMMENDATIONS

This section sets out each recommendation including the date on which the Standing Committee on Public Accounts agreed to the recommendation, the status of the recommendations at June 30, 2018, and Environment's actions up to that date.

### 3.1 Long-Term Aquatic Invasive Species Strategy Developed with Key Partners

***We recommended that the Ministry of Environment collaborate with partners to develop a long-term multi-agency aquatic invasive species strategy.*** (2016 Report – Volume 1; Public Accounts Committee agreement September 15, 2016)

**Status** – Implemented

Environment collaborated with its key partners to develop a long-term Aquatic Invasive Species Strategy. At June 2018, this Strategy was substantially complete.

To develop the Strategy, Environment formed the Aquatic Invasive Species Task Force in April 2017. Environment uses the Task Force to co-ordinate and share activities of participating agencies related to aquatic invasive species. This Task Force is made up of officials from both government and non-government organizations with an interest in preventing the introduction and spread of aquatic invasive species.<sup>2</sup> The Task Force met approximately once per month since its creation.

We observed Task Force members gave the Ministry comments on the Aquatic Invasive Species Strategy as it was developed. Environment expects the Task Force partners to approve the Strategy before the end of 2018, and release the Strategy in 2019. Environment and its key partners plan to reassess the Strategy every five years.

The Strategy's objective is to prevent and minimize the spread of harmful invasive species by eliminating or reducing the threats, impacts, and costs to the environment and people of Saskatchewan. The Strategy:

- Outlines each partner's role in preventing aquatic invasive species (e.g., SaskPower is to sample waters to look for aquatic invasive species near electricity generation stations)
- Includes criteria to assess the risk of invasive species entering Saskatchewan (e.g., human behaviour and activity, where species can survive, natural predators, etc.)

<sup>2</sup> The Aquatic Invasive Species Task Force consisted of members from the ministries of Environment, Agriculture, Highways and Infrastructure, and Parks, Culture and Sport. It included members from SaskPower, SaskWater, and Water Security Agency. It also included members from non-government agencies such as Ducks Unlimited, Saskatchewan Association of Rural Municipalities, Saskatchewan Urban Municipalities Association, Saskatchewan Wildlife Federation, and others.

- Outlines actions Environment and its key partners are to complete; actions relate to educating the public, collecting and sharing data with other jurisdictions, inspecting watercraft, sampling Saskatchewan waters to detect invasive species, and developing a rapid response plan when aquatic invasive species are identified in Saskatchewan waters

We found the near-final Strategy adequately comprehensive, and its criteria sufficient to enable Environment staff to assess risks of entry of aquatic species into Saskatchewan. The Ministry plans to use risk assessments to guide the actions and priorities of it and its key partners.

## 3.2 Formal Watercraft Inspection and Waterbody Sampling Strategies Needed

### Watercraft Inspections

***We recommended that the Ministry of Environment formalize a risk-based watercraft inspection strategy related to aquatic invasive species.***

(2016 Report – Volume 1; Public Accounts Committee agreement September 15, 2016)

**Status** – Partially Implemented

As of June 2018, while Environment had increased activities related to inspecting watercrafts, it had not formally developed or followed a documented, risk-based watercraft inspection strategy, as its near-final long-term aquatic invasive species strategy will require.

The following highlights Environment’s watercraft inspection efforts since our 2016 audit. Environment:

- Developed guidance for inspectors to use to assess the risk of the watercraft during the inspection process. This updated guidance helps inspectors make appropriate and consistent decisions.
- More actively inspected watercraft. It used permanent inspection stations located in high-traffic, high-risk areas (i.e., areas with traffic from locations known to have aquatic invasive species): Duck Mountain Provincial Park and Estevan. In 2017, Environment inspected about 1,250 watercraft (2016: 775). It decontaminated 124 watercraft (2016: 25). It identified and decontaminated 3 watercraft (2016: 2) with visible invasive mussels attached.
- Made it mandatory, as of May 2018, for people to remove drainage plugs in their watercraft when transporting craft, and to stop at inspection stations when transporting watercraft on all public roads in Saskatchewan.

The Ministry continues to belong to the WEST911 network; this network monitors and documents the movement of aquatic invasive species across borders.<sup>3</sup>

<sup>3</sup> WEST911 is a network of western U.S. states and provinces that monitor and document the movement of aquatic invasive species across borders. Jurisdictions use this network to notify each other of the movement high-risk watercraft when identified.



A risk assessment would help Environment make informed decisions about where and when to focus its watercraft inspection activities and how many resources are needed. In addition, a risk-based inspection strategy would help Environment determine higher-risk geographical areas, and prioritize its placement of inspection resources. Without a formalized risk-based strategy, Environment does not know if its inspection efforts are sufficient and focused in the right areas to prevent aquatic invasive species from being introduced into Saskatchewan waters.

## Waterbody Sampling

***We recommended that the Ministry of Environment establish a risk-based strategy for sampling Saskatchewan waters for aquatic invasive species.*** (2016 Report – Volume 1; Public Accounts Committee agreement September 15, 2016)

**Status** – Not Implemented

Similar to watercraft inspections, Environment has not formalized its risk-based strategy for sampling Saskatchewan waters. It has not formalized a strategy requiring it or its key partners to carry out sampling based on an assessment of risk as its near-final long-term aquatic invasive species strategy contemplates.

Rather, consistent with findings of the 2016 audit, Environment primarily used two programs for invasive mussels monitoring, and early detection of these species:

- The Saskatchewan Adult Invasive Mussel Monitoring program.<sup>4</sup> The 2017-18 invasive mussel monitoring program did not find invasive mussels based on over 120 water samples tested from about 30 waterbodies throughout the province.
- The Saskatchewan Invasive Mussel Veliger Monitoring program.<sup>5</sup> We found sampling to detect veliger increased from 2015 to 2017. Environment and its key partners sampled about 60 waterbodies in 2017, 34 in 2016, and 13 in 2015. Also, we found the location of the veliger samples completed in 2017 appeared to be consistent with the highest risk watersheds (i.e., highest risk for aquatic invasive mussels surviving in Saskatchewan) determined by the federal Department of Fisheries and Oceans.

In 2017-18, 90 waterbodies were sampled for all types of samples including for the presence of adult invasive mussels and mussel veliger. We noted that for 2018-19 another 90 waterbodies are to be sampled.

In addition, the Saskatchewan Conservation Data Centre administers *iMapinvasives* that is open for the public to report if adult invasive mussels are found in a waterbody.<sup>6</sup>

Lack of a documented strategy increases the risk of monitoring mechanisms not being sustained over time, or insufficient sampling being carried out in a systematic manner.

<sup>4</sup> Saskatchewan Adult Invasive Mussel Monitoring program monitors provincial waters for adult invasive mussels and other aquatic invasive species. Environment, Water Security Agency, SaskPower, SaskWater, various watershed stewardship groups, and the public participate in the program. Information on how to participate can be found at [biodiversity.sk.ca/invasives.htm](http://biodiversity.sk.ca/invasives.htm) (22 August 2018).

<sup>5</sup> Saskatchewan Invasive Mussel Veliger Monitoring program monitors veliger, which is the larva for the mussels. Environment, Water Security Agency, SaskPower, SaskWater, various watershed stewardship groups, and the public participate in the program.

<sup>6</sup> *iMapinvasives* is a geographic information system-based invasive species mapping and data management IT tool. The Saskatchewan Conservation Data Centre is a part of the Ministry of Environment's Fish, Wildlife, and Lands branch.

Using a formalized, documented strategy helps determine what types of monitoring to undertake, how much sampling to do, and where (e.g., which bodies of water are high-risk areas). Insufficient sampling increases the risk that aquatic invasive species entering Saskatchewan will go undetected, and not be addressed before becoming established.

### 3.3 Rapid Response Plan Required

***We recommended that the Ministry of Environment complete and test a formal rapid response plan to mitigate the spread of aquatic invasive species in Saskatchewan waters.*** (2016 Report – Volume 1; Public Accounts Committee agreement September 15, 2016)

**Status** – Not Implemented

As of June 2018, Environment was drafting a response plan to address the immediate threat of aquatic invasive species in the province.

One of the planned actions in Environment’s near-final Aquatic Invasive Species Strategy is to develop and implement a risk-based aquatic invasive species early detection and rapid response plan to control or eradicate aquatic invasive species establishment. The Strategy expects such a plan would outline roles and responsibilities of all agencies involved, and research options for control and eradication of high-risk aquatic invasive species.

A good rapid response plan would aid management in responding to the detection of aquatic invasive species in a formal and timely manner (i.e., before species become established). A good response plan can minimize the impact of, and spread of aquatic invasive species. Once completed, the plan should be tested.

### 3.4 Evaluation of Education and Awareness Activities Needed

***We recommended that the Ministry of Environment measure the effectiveness of its aquatic invasive species public education and awareness campaign regularly.*** (2016 Report – Volume 1; Public Accounts Committee agreement September 15, 2016)

**Status** – Partially Implemented

Since our 2016 audit, Environment developed reasonable measures for assessing the effectiveness of its aquatic invasive species education and awareness campaign, but, as of June 2018, had not used them to assess effectiveness. Rather it was in the process of collecting relevant data to enable assessing the success of its campaigns.

Environment established an aquatic invasive species Communications Strategy for 2017 and 2018. The strategy outlines how to evaluate the success of the Communications Strategy (measures), the intended audience of the strategy, key messages Environment plans to communicate each year, methods of media to communicate those key messages, and the annual budget (e.g., about \$170,000 for 2017-18).



Environment's measures to evaluate the success of its campaign included:

- Comparing aquatic invasive species media calls and media coverage in the current year to past years
- Tracking and analyzing the number of high-risk watercraft identified entering the province, and the number of calls and emails to SaskTip related to aquatic invasive species<sup>7</sup>
- Ultimately, identifying whether Saskatchewan waters remain free of aquatic invasive species

We noted that two branches of Environment (i.e., Fish, Wildlife and Lands branch and Communications branch) annually collaborated to develop the Communications Strategy.

As of June 2018, Environment had not yet used measures set out in its Communications Strategy to evaluate the success of its aquatic invasive species education and awareness campaign.

Environment indicated that it planned to collect at least two years of data before it evaluates the success of the campaign. It started collecting relevant data for its measures in 2017, and expects to use 2017 and 2018 data to evaluate the campaign in 2019.

Having adequate processes for measuring results would help Environment evaluate if its education and awareness efforts related to aquatic invasive species are successful, or whether it targeted resources on worthwhile activities.

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<sup>7</sup> Environment encourages the public to report any suspected sightings of aquatic invasive species to its Turn in Poachers (TIP) Line (1-800-667-7561).