

Chapter 11

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

1.0 MAIN POINTS

By March 2023, the Ministry of Environment implemented both of the remaining two recommendations first made in our 2016 audit of its processes to prevent the entry or spread of aquatic invasive species (other than aquatic invasive plants) in Saskatchewan.

The Ministry:

- Established adequate measures to evaluate the effectiveness of its aquatic invasive species public education and awareness.

For example, it evaluated how many survey respondents at boat inspection stations were aware of aquatic invasive species and requirements for transporting watercraft. The Ministry found 96% of respondents were aware of the requirements in 2022 (improved from 93% in 2020).

- Approved and tested the Ministry's rapid response plan that aids in mitigating the spread of aquatic invasive species. This included using its plan to respond to an aquatic invasive species incident in 2021.

Effectively educating the public, and having a tested rapid response plan, will help the Ministry reduce the spread and impact of aquatic invasive species.

2.0 INTRODUCTION

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

Aquatic invasive species are non-native animals (e.g., zebra and quagga mussels) or plants that usually spread through the water, and from one waterbody to another, by attaching to watercrafts, trailers, and related aquatic equipment. They pose a serious threat to lakes and waterways in Canada and can cause serious damage.

Once aquatic invasive species are established, they can cause significant economic impacts (i.e., direct costs to manage the particular invasive species). For example, Alberta estimated a cost of \$75 million annually if invasive mussels infest the province and Ontario estimated \$75 to \$91 million annually. These include costs associated with impacts to power generation, drinking water systems, recreational fishing, and water management structures.¹

¹ Government of Saskatchewan, *Saskatchewan Aquatic Invasive Species Strategy*, p. 2.



2.1 Focus of Follow-Up Audit

This chapter describes our third follow-up audit of management's actions on the recommendations we first made in our 2016 audit about the Ministry's processes to prevent the entry and spread of aquatic invasive species (other than aquatic invasive plants) in Saskatchewan.² As of August 2020, the Ministry implemented three of our five recommendations.³

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

To carry out this follow-up audit, we interviewed Ministry staff responsible for aquatic invasive species prevention and detection programs. We reviewed various documents including public education campaign and awareness measures, and the rapid response plan.

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 recommendation at March 15, 2023, and the Ministry's actions up to that date.

3.1 Evaluation of Education and Awareness Activities Occurring

We recommended the Ministry of Environment measure the effectiveness of its aquatic invasive species public education and awareness campaign regularly. (2016 Report – Volume 1, p. 64, Recommendation 2; Public Accounts Committee agreement September 15, 2016)

Status—Implemented

The Ministry of Environment established adequate measures to evaluate the effectiveness of its aquatic invasive species public education and awareness activities.

The Saskatchewan Aquatic Invasive Species Strategy outlines the Ministry's communications plan targeting the general public (personal and commercial watercraft carriers). The Strategy outlines the Ministry's plans to distribute educational and program materials, educate retailers, and develop common messaging and materials consistent across Canadian and American jurisdictions.

² 2016 Report – Volume 1, Chapter 7, pp. 57–68.

³ 2020 Report – Volume 2, Chapter 29, pp. 229–233.

The Ministry's measures to evaluate the success of and direct its education and awareness activities include:

- **Non-compliance rates**—The Ministry looks at infraction trends (e.g., failure to pull out boat drain plug) to determine any patterns to assist in determining which geographic areas need an education focus. We found the Ministry issued almost 50 offence tickets related to aquatic invasive species between January 1 and December 31, 2022 (23 offence tickets issued between January 1 and December 31, 2021).
- **Social media metrics at the end of the year**—The Ministry evaluates the public engagement on each social media post and decides whether the public requires additional messaging. We found the Ministry posted approximately once a month in 2022 (similar to 2021).
- **Data collected from almost 3,700 watercraft inspection surveys**—The Ministry conducts data analysis of certain locations and associated trends to determine whether specific locations need additional public education efforts. For example, it looked at plug removal and aquatic invasive species awareness by the watercraft owners' home state and/or province.⁴ We found watercraft owners' awareness of aquatic invasive species increased from 93% in 2020 to 96% in 2022.

The Ministry evaluates the effectiveness of its education and awareness measures throughout the year depending on the outreach metric (e.g., annually for social media metrics). We found the Ministry's timing for review of the different measures appropriately aligned with the education and awareness activities outlined in the Strategy.

Having adequate processes for measuring results helps the Ministry evaluate the effectiveness of its education and awareness efforts related to aquatic invasive species.

3.2 Rapid Response Plan Tested

We recommended 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, p. 67, Recommendation 5; Public Accounts Committee agreement September, 15, 2016)

Status—Implemented

The Ministry of Environment approved and tested a rapid response plan to mitigate the spread of aquatic invasive species in the province by March 2023.

The plan includes reporting, response roles and responsibilities, and the process for activating the response management plan (e.g., response steps). We found the Ministry's plan was appropriately designed to mitigate the spread of aquatic invasive species.

⁴ The Ministry's results showed that Saskatchewan residents comprised the largest (73%) amount of watercraft owners who were not aware of the requirements.



The Ministry appropriately used the plan and incident command system to assist in responding to an incident in 2021 where moss ball products sold in Saskatchewan contained zebra mussels (an aquatic invasive species).⁵ The Ministry collected moss balls contaminated with zebra mussels from vendors across the province, and provided disposal/decontamination instructions publicly on its website in 2021. The Ministry documented all aspects of its use of the rapid response plan (i.e., meeting minutes, news releases, response assessment).

An approved and tested rapid response plan aids in responding to the detection of aquatic invasive species in a formal and timely manner (i.e., before species become established).

⁵ www.saskatchewan.ca/government/news-and-media/2021/march/11/alert-zebra-mussels-found-in-aquarium-moss-ball-products-sold-in-saskatchewan (16 February 2023).