

## Chapter 43

# Water Security Agency – Co-ordinating Flood Mitigation

### 1.0 MAIN POINTS

In 2014, we audited the effectiveness of the Water Security Agency's processes to co-ordinate flood mitigation. We made two recommendations. By early April 2019, the Agency improved its flood mitigation processes and implemented the two recommendations.

We found that the Agency determined 98 communities had ongoing flood risks. It further assessed these risks and evaluated where additional flood mitigation activities would be beneficial for the 98 communities. As of early April 2019, the Agency evaluated 86 of the 98 communities. Management indicated it planned to complete its assessment of the remaining 12 communities during 2019.

Co-ordinating flood mitigation activities in communities that are continually at risk of flooding can prevent or reduce flood damage, which can reduce impacts on the health and safety of residents and reduce the cost to government for disaster assistance.

### 2.0 INTRODUCTION

#### 2.1 Background

Flooding is one of the most common causes of disasters in Saskatchewan. Reducing or preventing flood damage can reduce impacts on the health and safety of residents and reduce the cost to government for disaster assistance. Flood mitigation involves the co-ordination and co-operation of numerous supporting provincial ministries and agencies, in addition to landowners and municipalities.

Floods in Saskatchewan occur along water sources, including three of its major river systems: the South Saskatchewan River, the Souris River, and the Qu'Appelle River. Many of Saskatchewan's municipalities, including the cities of Saskatoon and Prince Albert, are located adjacent to these major river systems and hence are in flood-risk areas.<sup>1</sup>

#### 2.2 Focus of Follow-Up Audit

Our *2014 Report - Volume 2*, Chapter 40 included two recommendations resulting from our audit of the Agency's processes to co-ordinate flood mitigation. This chapter describes our second follow-up audit of the Agency's actions on those two recommendations.

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook – Assurance* (CSAE 3001). To evaluate the

<sup>1</sup> Overland flooding is when the volume of water in a river, stream, or lake exceeds its capacity.



Agency's progress toward meeting our recommendations, we used the relevant criteria from the original audit. The Agency's management agreed with the criteria in the original audit.

To carry out this engagement, we discussed with management the actions taken to implement our recommendations. We examined related documents such as risk assessment reports and information from the Agency's new programs to support communities to take actions to reduce the risk of flooding.

## 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 April 9, 2019, and the Agency's actions up to that date.

### 3.1 Ongoing Flood Risk Areas Identified

***We recommended that the Water Security Agency work with others (e.g., municipalities and the Ministry of Government Relations) to determine and document municipalities with ongoing flood risks.***

*(2014 Report – Volume 2, p. 325, Recommendation 1; Public Accounts Committee agreement January 14, 2016)*

**Status** – Implemented

The Agency maintained a record of municipalities with an ongoing risk of damage from floods.

The Agency finalized its first record of municipalities with an ongoing risk of damage from floods in July 2017. This record contained 75 communities.

The Agency completed a preliminary assessment of the risk of flooding for these 75 communities in July 2017. It used information available for all communities to determine which communities were the most vulnerable to flooding. It developed three signs of potential risk (indicators) to assess communities, and assigned a risk score to each, see **Figure 1**.

**Figure 1 – Community Flood Vulnerability Assessment Phase 1 – Vulnerability Indicators**

Indicator / Weight Contributing to Overall Risk Score	Example of Information Used
Hydrological Indicator / 50%	Agency and Federal Government water flow data from systems used to measure water flow throughout Saskatchewan
Social Indicator / 20%	Population data, population growth data
Economic Indicator / 30%	Data from the Ministry of Government Relations' Provincial Disaster Assistance Program

Source: Water Security Agency *Community Flood Vulnerability Assessment* (July 2017).

In 2018, the Agency appropriately updated its record of communities with an ongoing risk of damage from floods. It added 23 communities to the record, totalling 98 communities. It identified these additional at-risk communities from various sources such as communities that participated in past flood programs, communities that applied in 2018 to participate in new flood programs, and additional discussion within the Agency.<sup>2</sup>

We found the updated record included communities adjacent to Saskatchewan's three main rivers that have experienced recent flooding.

Keeping a current record of at-flooding-risk communities aids the Agency in planning and prioritizing future flood-mitigation initiatives.

## 3.2 Agency Evaluated Flood Mitigation Initiatives

***We recommended that the Water Security Agency work with others (e.g., municipalities and the Ministry of Government Relations) to evaluate gaps in flood mitigation initiatives in municipalities with ongoing flood risks.*** (2014 Report – Volume 2, p. 326, Recommendation 2; Public Accounts Committee agreement January 14, 2016)

**Status** – Implemented

The Agency evaluated gaps in flood mitigation initiatives for 98 communities with an ongoing risk of damage from floods. As of early April 2019, it evaluated 86 of the 98 communities. Management plans to complete its assessment of the remaining 12 communities during 2019.

In 2018, the Agency started assessing, in detail, each of the 98 communities. This work included assessing:

- Community past flooding history (e.g., the areas affected and the impact of past flooding)
- Community participation in the Agency's previous programs related to flooding
- Assessing flood mitigation work already completed by the community (e.g., construction of berms or other structures to control water), in some cases, through on-site inspections of berms and structures
- Recommending additional flood mitigation initiatives (e.g., additional detailed mapping or surveying, construction or alteration of berms, etc.)

As of early April 2019, it had completed 86 assessments.

For each of the 11 completed assessment reports we tested, the Agency completed assessments consistent with its expected process. We found each of the assessment reports contained sufficient information about ongoing flood risks, and additional measures communities should take to continue to reduce the risk of damage from floods.

<sup>2</sup> Past flood programs included the Canada/Saskatchewan Flood Damage Reduction Program that operated from 1976-1997, which assisted communities with long-term flood risk mitigation planning.



Evaluating what flood mitigation initiatives communities have completed and what work remains provides a basis for planning and prioritizing future flood mitigation initiatives and funding. Mitigating flood risks protects developed areas at risk of flooding, and helps keep the public safe.

### **Flood Damage Reduction Funding Program Encourages Flood Risk Assessments**

The Agency created a new program in 2018 to provide funding to encourage municipalities to seek detailed flood risk assessments and mapping. Detailed information about flood risks enables communities to make better decisions on needs for additional flood mitigation activities. See **Figure 2** for information about the new program.

During 2018, 16 communities applied to participate in the Flood Damage Reduction Program. The Agency assisted these communities by evaluating flood risks and actions to take to help reduce the risk of damage from floods.

#### **Figure 2— Information about the Agency’s Flood Damage Reduction Program and Flood Mapping Initiative**

The Flood Damage Reduction Program provides cost share funding to assist communities implementing proactive flood damage prevention or reduction measures for urban municipalities (cities, towns and villages) and rural municipalities (hamlets) that face a risk of suffering recurrent flood damage in the future.

The Program will consider proposals from municipalities to undertake activities in four streams:

- Stream No. 1 – risk assessment (where either the program provides the consulting services or the municipality acts as the proponent to acquire hydrologic and/or hydraulic investigations);
- Stream No. 2 – floodplain mapping (where the municipality acts as the proponent to acquire the products);
- Stream No. 3 – mitigation planning (where the municipality acts as the proponent to acquire construction designs or undertake developing an emergency flood response plan); and,
- Stream No. 4 – structural projects (where the municipality acts as the proponent to achieve construction of permanent flood protection works).

Source: [www.wsask.ca/Water-Programs/Flood-Prevention/Flood-Damage-Reduction-Program/](http://www.wsask.ca/Water-Programs/Flood-Prevention/Flood-Damage-Reduction-Program/) (9 April 2019).