

LAKE MANITOBA LAKE ST. MARTIN

OUTLET CHANNELS PROJECT

Water Levels & Flows

Project Need and Rationale

Because of our geographic location and topography, many areas of Manitoba are susceptible to flooding. Water flows into the province from the south, east and west before heading north and emptying into Hudson Bay (see Figure 1). Manitoba's landscape was largely shaped by glacial processes and as a result, large portions of the province are relatively flat and subject to flooding during high run-off events. While much of Manitoba is vulnerable, Manitobans are generally well protected because of investments in flood protection infrastructure from previous generations.

In 2011, southern Manitoba experienced widespread flooding and Lake Manitoba experienced high inflows through the Waterhen River, Whitemud River and the Portage Diversion. The magnitude and duration of flooding on the Assiniboine River, Lake Manitoba and Lake St. Martin exceeded the capacity of Manitoba's flood control infrastructure. Shorelines and backshore areas around Lake St. Martin were flooded and forced the evacuation of residents from a number of Indigenous communities.

The Lake Manitoba and Lake St. Martin Outlet Channels Project (Outlet Channels Project) is intended to improve floodwater protection for Lake Manitoba and Lake St. Martin. During high water years, similar to the Flood of 2011, the Outlet Channels Project would contribute approximately 5 per cent of the total annual inflow into Lake Winnipeg and cause a negligible increase (7 cm) to Lake Winnipeg water levels. This represents a minor change relative to natural historic events.

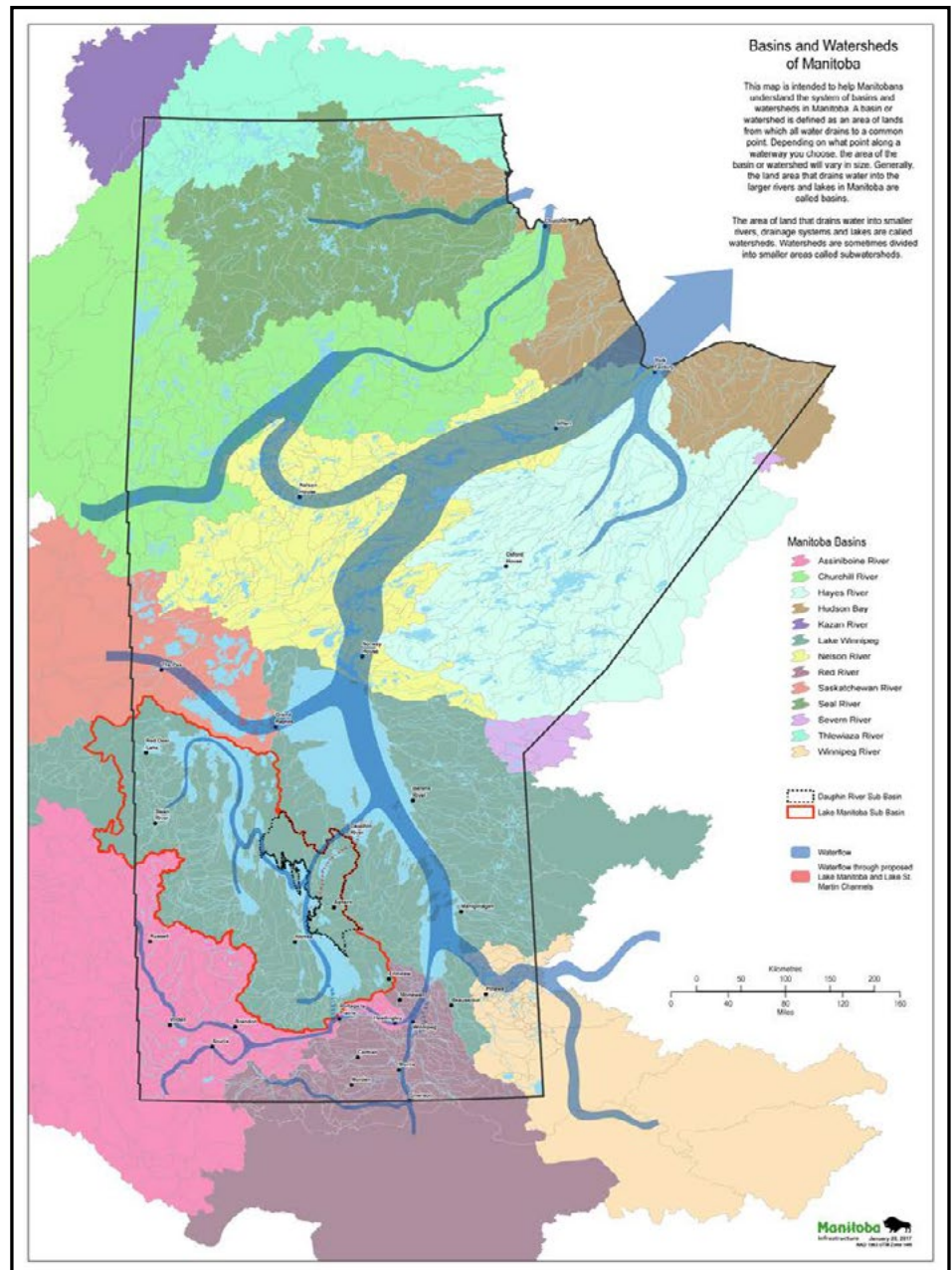


Figure 1: Water flow through the Lake Winnipeg Basin

Flood Protection

The Outlet Channels Project will allow for quicker lowering of Lake Manitoba and Lake St. Martin water levels during a flood. During a repeat of the 2011 flood, with the channels in operation, water levels on Lake Manitoba will be 1.48 feet lower (Figure 2) and water levels

on Lake St. Martin will be 2.1 feet lower (Figure 3), reducing the amount of land flooded by approximately 470 km².

As this is a flood mitigation project, this project does not increase flood peaks or durations on Lake Manitoba or Lake St. Martin.

Figure 2: Water Levels: Lake Manitoba

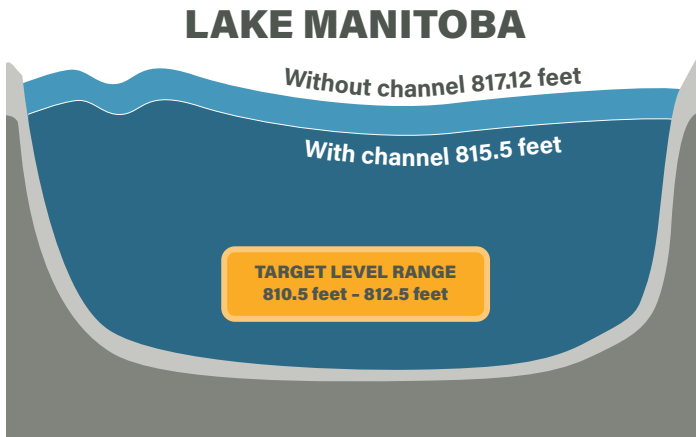
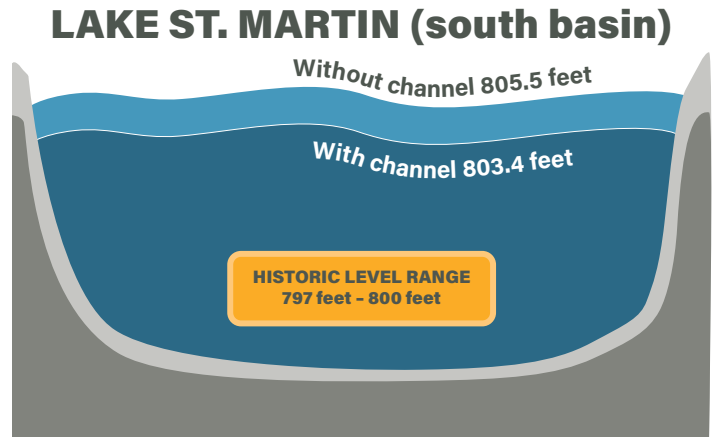
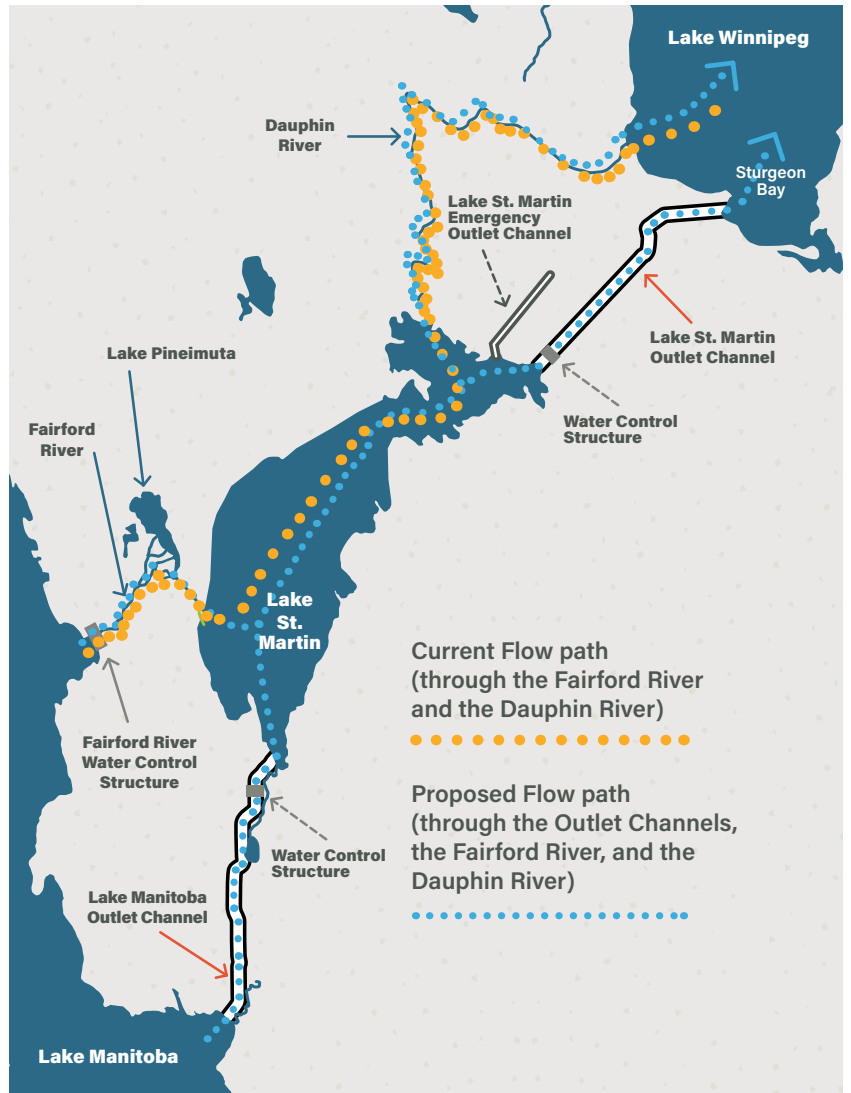


Figure 3: Water Levels: Lake St. Martin



Lake Manitoba, Lake St. Martin and Lake Winnipeg are currently connected through the Fairford and Dauphin Rivers. The water in the system currently flows from Lake Manitoba, through the Fairford River to Lake St. Martin, and then flows from Lake St. Martin, through the Dauphin River to Lake Winnipeg (Figure 4: yellow dots). The new outlet channels do not increase the volume of water entering Lake Winnipeg, but they do allow water coming in from Lake Manitoba to arrive faster (Figure 4: blue dots).

Figure 4: Water Flow Path





Example of a water control structure

What will happen to water levels downstream of Lake Winnipeg?

The Outlet Channels Project is not expected to have any recognizable effect on Lake Winnipeg or further downstream.

Manitoba Transportation and Infrastructure recognizes that there were historic inquiries during the late 1950s that looked at a long-term plan for generating hydroelectric power on Lake Manitoba. However, these studies did not result in any feasible recommendations.

Operations of the Outlet Channels Project is independent of Manitoba Hydro. The Outlet Channels Project is not being designed or meant to regulate water levels on Lake Manitoba or Lake St. Martin for hydroelectric production. The project is also not being designed to supplement flows into Lake Winnipeg to support hydroelectric production along the Nelson River. When the outlet channels are in operation, they will move water more quickly from Lake Manitoba and Lake St. Martin into Lake Winnipeg to provide flood relief to these lakes, but no additional water volume will be introduced into the system.

Manitoba Hydro operates Lake Winnipeg Regulation to meet the objectives of reducing shoreline flooding on Lake Winnipeg and helping to provide a reliable supply of electricity for Manitobans. Manitoba Hydro will continue to manage water levels in the Nelson River in accordance with the Lake Winnipeg Regulation operating criteria. During periods when the water level is above 715 feet, Manitoba Hydro must operate the control structure at Jenpeg in a way that will result in maximum discharge. During extreme flooding, such as in 2011, the Outlet Channels Project may modestly increase lake levels (7 cm) on and outflows from Lake Winnipeg leading to slight increases to peak water levels downstream. Changes in flows and water levels in the Nelson River are not expected to be discernible given existing variations in water level in the system. Cross Lake could increase by 6.1 cm inches during a repeat flood of record (2011) and Split Lake could increase by 1.0 cm during a repeat flood of record (2005). These changes only occur during extreme floods when water levels on Lake Winnipeg are already high.

We Want To Hear From You

Please share your comments on the potential effects of the project by participating in meetings, or by contacting your local project Community Coordinator, band office, government office, or association or email outletchannels@gov.mb.ca. For updates on the Outlet Channels Project please visit [the Outlet Channels Project website](#).

For More Information

A series of information sheets have been developed to provide more detail on different aspects of the Outlet Channels Project, including:

- Project Components
- Project Alignment Options
- Project Purpose
- Design Updates
- Operations

To view all the information sheets, visit the