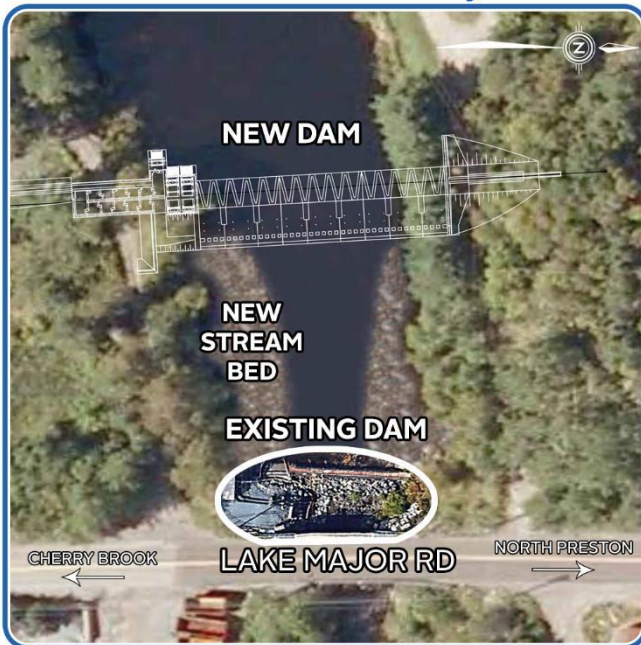


# LAKE MAJOR DAM REPLACEMENT

## New Dam Location & Layout



This image shows the new dam location in relation to Lake Major Road with fishway and a representation of how the new stream bed will look.

## Why replace the current dam?

The existing dam is a rock-filled timber crib structure and was built for a private milling operation in the late 1940's. Lake Major dam is reaching the end of its useful life and needs to be replaced.



This image shows the general Lake Major area. The small box shows where the Lake Major Dam Replacement Project is taking place in relation to the communities in and surrounding the Lake Major area.

This image shows the area of Lake Major in the immediate vicinity of the project, and the existing dam in the bottom right corner, adjacent to the bridge.

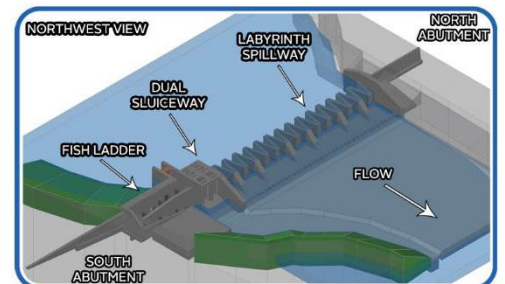


## Features:

- The new dam will provide significantly more flexibility to manage water levels upstream and downstream of the dam;
- More storage in the reservoir to help mitigate periods of drought;
- Fish ladder designed in accordance with Department of Fisheries and Oceans (DFO) requirements to improve fish migration;
- Provides more reliability and a 50+ year life span;
- Reduces flood related risks upstream and downstream of the dam.

## The New Dam Includes:

- A labyrinth spillway section to help mitigate flood risk;
- Monitoring and surveillance equipment for efficient operation;
- New "pool and weir" fish ladder (DFO approved) to support fish migration;
- Two sluice gates to provide environmental flows to support downstream aquatic life;
- Meets Nova Scotia Environment (NSE) requirements. Environmental Assessment approval was given on February 9, 2017;
- NSE project approval was given on May 28, 2018.



**THERE ARE NO ROAD CLOSURES PLANNED AS PART OF THIS PROJECT.**

## Project Timeline

June 2018  
Project Begins

December 2018  
New Dam Completed

Spring/Summer 2019  
Expected Project Completion



## Halifax Water Dams in Lake Major Watershed

Halifax Water owns and operates six dams under a dam management program based on the Canadian Dam Association's *Dam Safety Guidelines (DSG)*. Two of these dams are within Lake Major's water supply system: the Lake Major Dam, situated at the outlet of Lake Major and the East Lake Dam, situated at the outlet of East Lake. As per the *DSG*, dam safety reviews are completed by a third party every seven years (most recently in 2005 and 2012) in addition to regular internal inspections. Both dams have recently undergone repairs and the Lake Major Dam is about to be replaced.

### Lake Major Dam Replacement Project



Two **Community Information Sessions** for the **Lake Major Dam Replacement Project** were held the afternoon and evening of **Monday, June 4 at the North Preston Community Centre**. These sessions were a follow-up to the initial public consultation conducted November 10, 2016, to provide an update on the status of the Project for Lake Major Watershed area residents. **A detailed overview of the information is illustrated on the flip side of this newsletter.** Construction has now begun.

At these sessions, Halifax Water staff along with consultants' representatives provided information and answered questions about the Project.

Pictured above is Lake Major Watershed Advisory Board member, Sherry Bernard, speaking with Tom Gorman, Water Infrastructure Engineering Manager at Halifax Water, about the Project.

## Lake Major Watershed Advisory Board

The Lake Major Watershed Advisory Board is pleased to welcome two new members: **Sherry Bernard**, representing the Lake Loon/Cherry Brook Development Association; and **Reverend Wayne Desmond**, representing the North Preston Ratepayers Association. Stay tuned for more detailed introductions in upcoming issues of the *Lake Major Newsletter*.

### East Lake Dam 2018 Repair

In January 2018, Nova Scotia Environment approved repairs that were subsequently done to the East Lake Dam as part of the Lake Major Dam operating requirement. The mechanism to close the sluice gate of the East Lake Dam was bent, which prevented it from closing tightly. The water level of Lake Major was very high at the time and a significant rainfall was forecast.

The work plan was designed to fix the mechanism so the gate could be closed before the rain event occurred, in order to greatly reduce water flow into Lake Major, which would in turn put less stress on the Lake Major Dam.



### Halifax Water on Screen

To see the work and some faces of the dedicated Halifax Water staff performing this work, we invite you to visit our

**YouTube Channel link at:**

<https://www.youtube.com/channel/UC4SuO2XqgECbp2qNFK7f7kQ>

**The Lake Major Watershed Newsletter is a Halifax Water publication.**

Visit: [www.halifaxwater.ca](http://www.halifaxwater.ca)

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## Lake Major Dam Fish Pump

A CanaVac fish pump purchased from a local manufacturer and installed in May 2016 was placed at the Lake Major Dam, to transfer fish from the Little Salmon River into Lake Major while the fish ladder is out of commission.



In the first seven months, the fish pump successfully transferred an estimated 40,000 fish including gaspereau, white suckers, trout and a few other species upstream over the dam. In 2016 and 2017, approximately 34,000 and 16,000 fish transfers were counted, respectively.



The project included design and installation of a stainless steel chute on the dam to aid in downstream migration of fish. Numbers of fish passing through the Little Salmon River into Lake Major had not been documented prior to this work. The fish pump will be utilized until a new dam with a permanent fish ladder is operational.

(Source: Levy, H. and N. Collins (2016))

