

To report concerning activities in our
Drinking Water Supply Areas

Call 902 420-9287

Emergency Spills Dial 911



Volume 1—Issue 1

Source Water Protection Newsletter

Halifax Water Source Water Newsletter

This, the first edition of the *Source Water Protection Newsletter*, is a annual newsletter created by Halifax Water for the purpose of improving awareness and communications with Halifax Water customers and stakeholders on watershed related news. This newsletter replaces the Lake Major and Middle Musquodoboit newsletters to reach a broader ranging audience. Delivery will be by Halifax Water's social media platform, with a limited number of hard copies available to the public at a select few community-based centres.

Lake Major Water Level Update

In November and December 2024, residents and businesses, supplied by the Lake Major system—Dartmouth, Burnside, Cole Harbour, Westphal, North Preston, and Eastern Passage—were notified by Halifax Water to reduce their water use. Thanks to conservation efforts and significant rainfall, Lake Major's water level returned to normal operating conditions.



As a result, water restrictions were lifted on December 9, 2024. Many thanks to everyone for conserving water during this time.

Reason for Conservation Measures

The lack of rainfall and daily water demand led Halifax Water to implement conservation measures. Lake Major's water intake, as currently designed does not account for significantly lower water levels.

Why Not Pockwock?

Lake Major and Pockwock have different water intake designs. Pockwock is better equipped to handle low water levels, unlike Lake Major. Reducing demand helps replenish the lake.

Are New Developments Affecting the Supply?

Lake Major's issues are related to a technical design flaw rather than a water supply shortage. Halifax Water's modeling shows an adequate supply across the system. A capital project is underway to install a new intake in Lake Major to access deeper water. Future supply needs will be evaluated based on factors like population growth.

To learn more about Halifax Water's
Source Water Protection Program

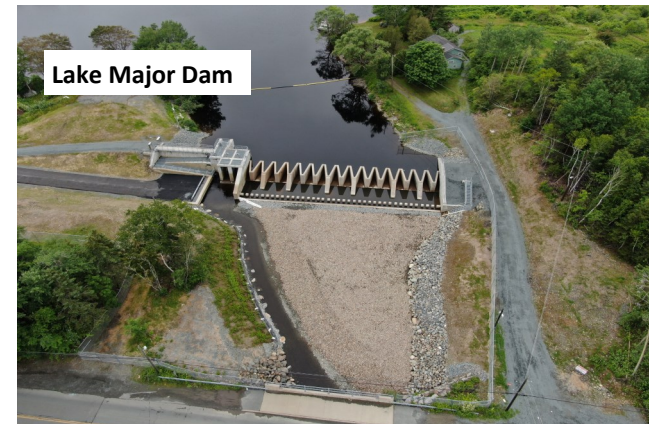
please visit

halifaxwater.ca/protected-water-areas

Winter 2025 Edition

Impact of Climate Change

Changing weather patterns, such as longer dry periods and severe storms, necessitate Halifax Water to build adaptable infrastructure. Relocating Lake Major's intake to deeper water is one area being considered to better handle these conditions.



Additional Considerations

Halifax Water follows a contingency plan and implements measures to reduce lake demand. The use of surface waters is regulated by permits from Nova Scotia Environment and Climate Change and the Department of Fisheries & Oceans Canada. Adhering to these permits is crucial for managing water use within the system.

Lake Major: Little Salmon River Fish Habitat Improvement

As reported in the [Summer 2022 *Special Edition* of the Lake Major Newsletter](#), Lake Major Dam construction approvals from Nova Scotia Environment and Climate Change (NSECC) and the Department of Fisheries and Oceans Canada (DFO) were granted in 2017. A condition of the DFO approval was for Halifax Water to complete a fish habitat compensation project to offset the 6,858 m² of shoreline area displaced by the construction of the new dam and to ensure the required environmental flows through the fish ladder.



In January, 2024, DFO approved the Habitat Offset Plan (compensation project) for sandwanding remediation and fish habitat improvements in the Little Salmon River, downstream of the Lake Major Dam.

Sandwanding is a remediation process that uses water pumps to lift the stream substrate, separating fine material embedded in the stream bottom from years of accumulation, then discharging it to a shoreline location.



Removing fine sediment improves stream productivity by allowing oxygen-rich water to penetrate deeper into the stream bed, enabling channel reshaping during higher water flows, and enhancing fish habitat and fish passage.

An independent contractor was awarded the contract. Work began in the summer of 2024 near Lake Major Road, moving downstream, focusing on predefined areas.

Fine sediment removed during sandwanding last summer was deposited along the shoreline with landowners' permission. The sediment was spread through vegetated areas and promptly seeded with local grasses for rapid revegetation and stabilization. These areas were delineated and will be monitored over the next couple of years.

Residents were informed of nearby work. The work was completed in September 2024, and a final report is being prepared. Monitoring will continue for the next two years, in the spring and fall, to document the project's success.



Zebra Mussels and other fresh water invasive species

Zebra Mussels, native to the Black and Caspian seas region in southeastern Europe, entered the Great Lakes in the late 1980s through discharged ballast water from ships. They have since spread throughout much of eastern Canada and the United States, but **have not yet been detected in Nova Scotia.**



These filter feeders attach themselves to solid surfaces, breeding rapidly, with females capable of releasing up to one million eggs each breeding season. The free-swimming larvae (called veligers) can colonize in densities over 700,000 individuals per square metre on surfaces including boats, docks, rocks, plants and native mussels.

For more information, visit [Zebra Mussel on the DFO website](#).



Invasive species like Zebra and Quagga Mussels significantly impact freshwater habitats:

- **Outcompete native species** for food, disrupting food webs.
- **Harm native mussels**, including species at risk, by attaching and suffocating them.
- **Affect fish spawning areas** by changing important substrates.
- **Create clearer water** with multiple consequences:
 - Promote blue-green algae growth due to deeper sunlight penetration.
 - Increase growth of submerged aquatic vegetation.
 - Lead to toxic algal blooms, as they avoid feeding on toxic algae.
 - Raise levels of pathogenic bacteria, avian botulism, and localized anoxia.
- **Cause socio-economic damage** in Canada, with millions of dollars in annual costs from clogging water treatment intake structures and damaging watercrafts.

If you find an aquatic invasive species...

- **Do not return the species to the water.**
- **Take photos and note the exact location (GPS coordinates), the observation date, and identifying features.**
- **Report it to DFO—Nova Scotia (Maritimes) at:**
 - * **Toll-free: 1-888-435-4040**
 - * **Email: DFO.MARAquaticInvasiveSpecies-EspeciesAquatiquesEnvahissante.MPO@dfo-mpo.gc.ca.**

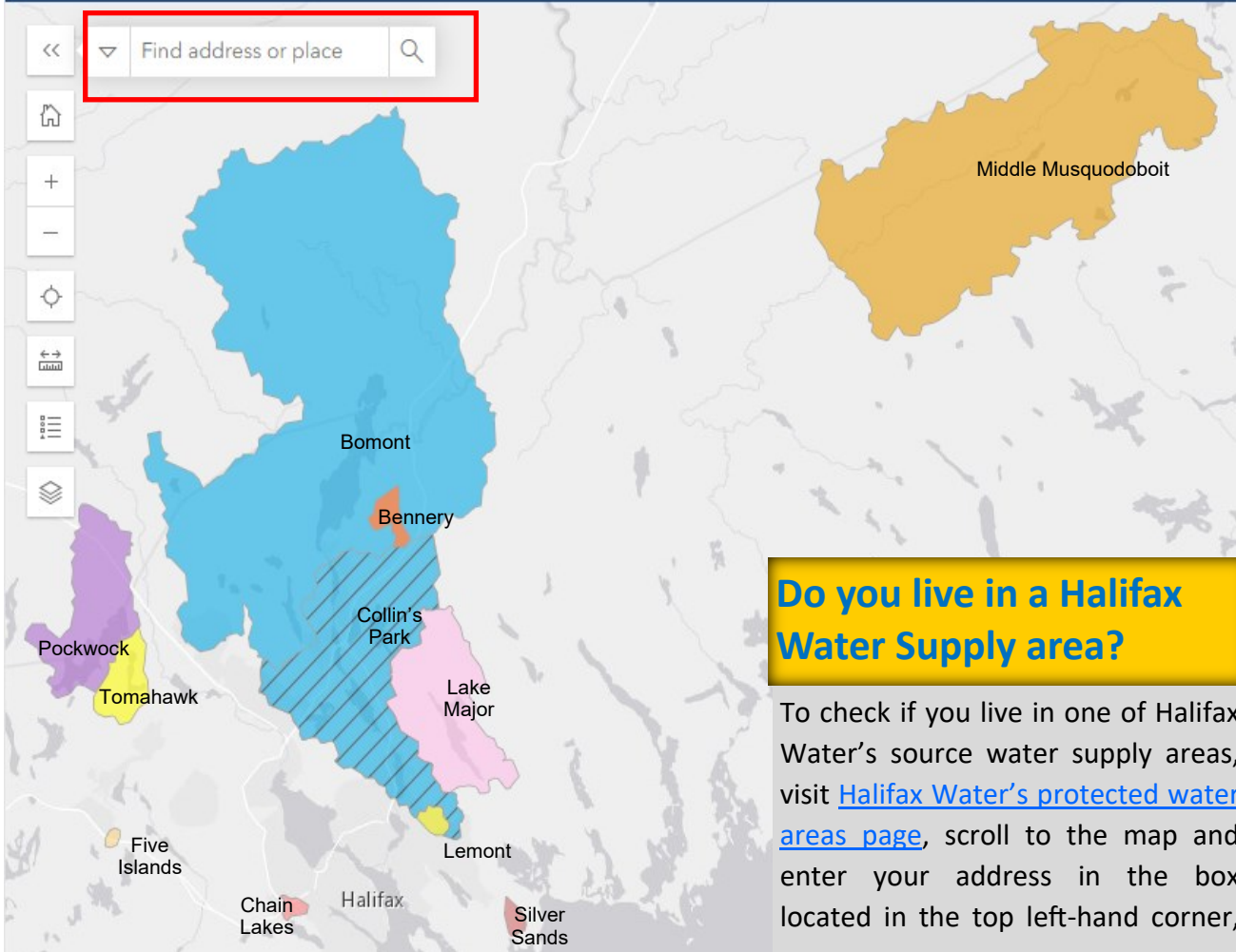
Boating



Many invasive species are associated with the movement of recreational boats from waterbody to waterbody. To reduce the risk, consider **Clean, Drain, Dry** as a good practice to decontaminate your boat before moving to a different waterbody. Visit the Department of Fisheries and Oceans (DFO) [Clean, Drain, Dry and Decontaminate \(dfo-mpo.gc.ca\)](#) webpage.

Other Considerations...

Boating is not the only recreational activity contributing to the spread of Zebra Mussels; these mussels have been identified in moss ball products sold in pet/aquarium stores in Canada. Moss ball or other aquarium products purchased in Canada or online must be disposed of responsibly. [Learn how.](#)



Do you live in a Halifax Water Supply area?

To check if you live in one of Halifax Water's source water supply areas, visit [Halifax Water's protected water areas page](#), scroll to the map and enter your address in the box located in the top left-hand corner,

Halifax Water manages 11 source water areas

3 Designated Protected Water Areas:

- Pockwock Lake (SW)
- Lake Major (SW)
- Bennery Lake (SW)

2 Emergency Supplies:

- Chain Lake (SW)
- Lake Lemont (SW)

Future Supplement:

- Tomahawk Lake (SW)

5 Small Systems:

- Bomont (SW)
- Collins Park (SW)
- Middle Musquodoboit (SW)
- Five Islands (SW)
- Silver Sands

Legislation & Approvals

Under Section 106(3) of the Nova Scotia [Environment Act](#), water works operators must protect designated areas and enforce regulations.

Approval for constructing a water treatment plant and distributing water requires a Source Water Protection Plan (SWPP).

Source Water Protection Plan (SWPP)

A Source Water Protection Plan (SWPP), is the first line of defense in the multibarrier approach in keeping clean water clean. Effective SWPPs require commitment from government, businesses, landowners, the public and other stakeholders.

Watershed Advisory Groups

Forming a watershed advisory group, an effective way of getting input and advice from stakeholders, is the first step in the process in developing a SWPP. Five of Halifax Water's source water areas have formalized watershed advisory groups:

- [Bennery Lake Watershed Management Committee](#)
- [Collin's Park Watershed Advisory Committee](#)
- [Lake Major Watershed Advisory Board](#)
- [Middle Musquodoboit Watershed Advisory Committee](#)
- [Pockwock Watershed Management Committee](#)

The terms of reference for each respective group are available through the provided links.