Zebra Mussel Monitoring Program

Crowe Valley Conservation Authority is launching a pilot program from June to September to monitor and report the presence of invasive zebra mussels found within our watershed. To date, zebra mussels have already been reported in several of our lakes; including Crowe Lake, Wollaston Lake, and Steenburg Lake. Early detection and public education play a crucial role in stopping the spread and reducing harmful ecological impacts. These programs help to discover hot spots, determine high risk areas, allow for quicker control response, and improve resource allocation. Through the support of volunteers like you, we hope to prevent and control the spread of harmful invasive species, protecting our biodiversity for future generations.

Zebra Mussel Information

Zebra mussels (*Dreissena polymorpha*) are invasive freshwater mussels that were introduced to the Great Lakes by ballast water from transoceanic ships that were carrying larval (veliger), juvenile, or adult mussels. Since being discovered in the Great Lakes in 1986 they have spread to many in-land lakes in southern Ontario, including the Trent-Severn Waterway. A single female zebra mussel can produce up to a million eggs per year. These eggs are free-floating and cannot be seen by the naked eye. They spread by being picked up by water currents or can be carried from invaded water to un-invaded water by human activities. They can also spread by secreting sticky fibres to attach themselves to submerged crafts and equipment such as boats, motors, trailers, docks, etc.

Zebra mussels can filter up to one litre of water a day, depleting plankton, which is a fundamental food source for many native species. Filtering also increases the amount of sunlight able to penetrate the water column, increasing the water temperature and prompting algae blooms. Zebra mussels also pose a threat to human health by decreasing water quality, clogging drinking water intake pumps, cutting the bottoms of swimmers' feet, and increasing mercury levels in walleye and perch.
Sourced from: https://www.invasivespeciescentre.ca/invasive-species/meet-the-species/fish-and-invertebrates/zebra-and-quagga-mussels/

Setting Up Your Settling Plate

Zebra mussels can be easily monitored through the implementation of settling plates, which they attach to after their larval stage using tiny fibers called byssal threads.

Settling plates should be placed:

- Near high-traffic sites where the device won't be disturbed or pose a risk to swimmers and watercrafts
- Roughly 2ft below the surface without resting on the lake bottom
- Preferably in a shaded area
- Attached to a dock, buoy, or permanent structure that you own or have permission to attach to

Make sure to record the depth and location of your sampler, as well as the date placed and retrieved.

Monitoring For Zebra Mussels

Ideally, settler plates should be checked every 2-3 weeks. To safely check your sampler, follow these steps:

1. Carefully pull up your sampler from the water without disturbing the surface and place it over a container to catch any fallen organisms.
2. Closely inspect the sampler, gently running your finger along the surface. If juvenile mussels are present the surface should feel rough, like sandpaper.
3. If any zebra mussels are found take a clear photo that shows identifiable features; place the organism in a sealable bag and dispose in the trash, or dry the settling plate for a minimum of 5 days.
4. If no mussels are present, gently resubmerge the settling plate.
5. A report should be filed through EDDMapS after each check. See back for reporting steps.

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Identification and Reporting

EDDMapS, or the Early Detection and Distribution Mapping System, is a platform specifically for invasive species. Reports go directly to experts in the field, who will review all reports and verify that the reported species is correctly identified before it gets added to a distribution map. In Ontario, the Invading Species Awareness Program (ISAP) is the province's verifier. The distribution maps generated by EDDMapS are generally used by professionals such as foresters, public works, researchers, and land managers, but are accessible to the public.

Sourced from: https://www.invasivespeciescentre.ca/isc-blog-post-what-happens-when-you-report/

Identifying Zebra Mussels

Amy Benson, U.S. Geological Survey, Bugwood.org

- Average 2-2.5 cm, reaching up to 4 cm long
- Sits flat on its underside.
- Triangular in shape
- Black or brown with white to yellow zigzagged patterns
- Color patterns can vary

Reporting Through the App

1. Download the app on Google Play or the Apple Store
2. Login/Register your account
3. Begin by swiping through the initial information slides
4. Select your province to download state-based field guide
5. Register with EDDMapS or Login with your username/email and password
6. When zebra mussels are present on your settler plate navigate to **New Sighting** and fill in the fields
7. When Zebra Mussels are not found navigate to **Negative Survey** and fill in the fields
8. To submit your reports, navigate to **Upload Queue** and select the upload arrow

Reporting Online

1. Go to **https://www.eddmaps.org/**
2. Login/Register
3. Use the top bar option to **Report Sightings**
4. Select **Wildlife** as the invasive species you are reporting
5. Select your province
6. Fill in the required fields in the report form and submit

EDDMapS
find · map · track

Download on the App Store GET IT ON Google Play

Stop The Spread

CLEAN – Inspect and clean your watercraft, trailers, and equipment; removing and disposing of all plants, mud, and debris on land and away from storm drains, ditches, and waterways.

DRAIN – Drain any space that holds water, this includes: bilges, livewells, bait buckets, etc.

DRY – Completely dry all parts of the watercraft and equipment by using towels, vacuums, or air (minimum 5 days to air-dry).

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