

**Report To: Board of Directors**

**Subject: European Water Chestnut Rapid Response Program**

**Report No: FA-19-22**

**Date: May 20, 2022**

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**Recommendation:**

**THAT** Report No. FA-19-22 RE: European Water Chestnut Rapid Response Program **BE RECEIVED.**

**Purpose:**

The purpose of this report is to inform the Board of Directors about a collaborative program between the Invasive Species Centre (ISC), Ontario Federation of Anglers and Hunters (OFAH), and the Niagara Peninsula Conservation Authority (NPCA) – the Rapid Response Program to control the spread of European water chestnut (*Trapa natans*) in the Welland River.

**Background:**

European water chestnut (EWC) is an invasive floating aquatic plant that is native to Europe, Asia and Africa. Outside of its natural range, the plant will form dense mats that shade out native vegetation, decreasing plant biodiversity, and making recreational activities like swimming, boating, and angling almost impossible in the infested areas. The hard nuts or seeds of this plant have barbed spines that are painful when touched or stepped on. The EWC is a prohibited species in Ontario under the Invasive Species Act (2015); therefore, it is illegal to import, possess, release, transport, breed/grow, sell, lease or trade.

The EWC was discovered in the Welland River between the City of Welland and the Town of Wellandport in 2021 by local paddlers and reported through the Early Detection & Rapid Response (EDDR) Network app. EDDR is defined as a coordinated set of actions to find and eradicate potential invasive species in a specific location before they spread and cause harm. This was the first known occurrence of the EWC in the Welland River and the detection triggered a response from the Invasive Species Centre.

The Invasive Species Centre (ISC) is a not-for-profit organization that connects stakeholders, knowledge, and technology to prevent the introduction and spread of invasive species that harm Canada's environment, economy and society. The ISC contacted the NPCA in the fall of 2021 to discuss potential collaboration via access to the Welland River at EC Brown Conservation Area and

Chippawa Creek Conservation Area, as well as potential biomass disposal/control sites on NPCA properties and participation in the Welland River Collaborative.

## **Discussion:**

The European Water Chestnut Rapid Response Program is a new project at the Invasive Species Centre (ISC) to organize a field team to control EWC in the Welland River. Authorization to remove EWC in the Welland River is provided by the Ministry of Natural Resources and Forestry which will be coordinated by ISC. Funding to support the program has been coordinated through various grants by ISC and OFAH. ISC has been working with Ducks Unlimited and Voyageur Provincial Park to develop best practices for the control of EWC as they have been working to eradicate it in other parts of Ontario.

ISC coordinated the production and installation of EWC signage at three (3) key water access points along the Welland River: Chippawa Creek Conservation Area, EC Brown Conservation Area, and the Wellandport Community Centre Boat Launch. They will also be coordinating a Welland River Collaborative and a River Watchers group, including NPCA, municipalities along the Welland River, Peninsula Paddlers, Bert Miller Nature Club, and Niagara College. The Collaborative will be facilitated by ISC and will work together to develop program plans and budgets for the project. The River Watchers will be a community group that will help coordinate paddling tours and engagement to teach the community how to identify and report EWC.

The field program to actively remove EWC will run from end of June 2022 to September 2022. The ISC is working with OFAH to hire four (4) Invasive Species Field Technicians through the OFAH Hit Squad program. The NPCA has agreed to provide equipment storage for the Hit Squad team, as well as a “home base” at the Chippawa Creek Conservation Area. The students will be employed by OFAH, and all training and equipment for the students will be provided by OFAH.

Forms of co-operation between ISC, NPCA and OFAH:

- joint teaching/training and supervision of summer hires
- participation in the Welland River Collaborative
- co-host River Watchers paddling tours and outreach events
- creation of biomass disposal plan
- joint communications, outreach and engagement activities

NPCA commitment:

- site-specific training for Hit Squad team
- access to the Welland River at EC Brown and Chippawa Conservation Areas
- equipment storage for the Hit Squad team and facility use (e.g. parking)
- monthly meetings with ISC
- community outreach and engagement activities (sharing on social media, paddling tour, etc.)
- locations for biomass disposal of EWC at EC Brown and Chippawa Creek
- participation in the Welland River Collaborative
- provide letters of support for funding applications

**Financial Implications:**

There are no financial implications to the NPCA for this program. The NPCA is providing in-kind support for the program through staff time and facility use.

**Links to Policy/Strategic Plan:**

The EWC Rapid Response Program supports all NPCA strategic priorities, especially Partner of Choice and Healthy and Climate Resilient Watersheds due to the collaborative nature of this program and the focus on the protection of the Welland River ecosystem.

**Related Reports and Appendices:**

Appendix 1: European Water Chestnut Factsheet

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# European Water Chestnut

(*Trapa natans*)



Floating mat of European water chestnut in Voyageur Provincial Park.

Photo courtesy of Francine MacDonald, Ontario Federation of Anglers and Hunters (OFAH).

European water chestnut is an invasive aquatic plant that has been introduced to a section of the Ottawa River in eastern Ontario within Voyageur Provincial Park. The plant is native to Europe, Asia and Africa, and is used in North America as an ornamental water garden plant. Although it's not certain how the plants arrived in the Ottawa River, it could possibly be the result of a water garden plant(s) being improperly released or a boat contaminated with water chestnut being launched within or near the park.

## Range

Water chestnut was introduced into North America sometime before 1879 by a gardener at the Cambridge Botanical Garden in Massachusetts. The gardener reported planting it in several ponds. Since then, water chestnut has spread to other states in the northeast. It has also been found in Quebec, and in tributaries of the Niagara River and Lake Ontario in New York State. The population in the Ottawa River is the only known population in Ontario.

## Impacts of Water Chestnut

Water chestnut populations in the Ottawa River, as well as neighbouring provinces and states have become a serious nuisance causing a number of impacts, including:

- Forms extremely dense floating mats of vegetation that shade out native vegetation, decreasing plant biodiversity, and making recreational activities like

swimming, angling, and boating almost impossible in the infested areas.

- The hard nuts with barbed spines can accumulate on shore and cause injury when stepped on.
- Reduced light penetration and plant growth beneath the water chestnut canopy, combined with a large amount of decomposing vegetation below, can lead to decreased dissolved oxygen levels, which can impact native species and cause fish kills.

Since the water chestnut population in the Ottawa River is the only known population in Ontario, it's very important that we put every effort towards removing this plant before it spreads to other locations. The Ministry of Natural Resources, with support from partnering agencies, are working to eradicate water chestnut from the Ottawa River by pulling the plants by hand, with rakes and mechanical harvesters. Efforts to control this new invader are ongoing.



## How to Identify Water Chestnut

Water chestnut has an appearance unlike any other plant species in Ontario. Features that can be used to identify water chestnut include:

- Floating leaves.
- The leaves are green, with sharply toothed edges.
- The leaves form a densely crowded rosette up to 30 cm in diameter.
- The leaf stems are up to 15 cm long, with a spongy swollen section that helps the plant float.
- Underwater leaves are feather-like with finely dissected leaf segments.
- The flowers are small (8 mm long), white, and have four petals.
- Produces a hard “woody” nut (seed), 3-4 cm wide with sharp barbed spines. Viable seeds are greenish brown and sink to the bottom. Older seeds are black, floating, and are not viable.
- The nuts bear no resemblance to the “water chestnut” used in Asian cooking.



Water chestnut rosette.

Photo courtesy of Francine MacDonald, OFAH.

## What Can I Do

- Learn how to identify European water chestnut and how to prevent accidentally spreading the plants and seeds. This is especially important if you are planning to do work or participate in recreational activities in the Ottawa River in the area that contains water chestnut.
- Do not plant European water chestnut in your water garden. Water gardeners should use only native or non-invasive plants and are encouraged to ask garden centres for plants that are not invasive.
- Never release unwanted aquarium plants or pets into any waterbody. Return or donate unwanted plants or pets to a pet store or garden center, a school or a friend.
- Always inspect your boat and boating equipment, and remove any plants or animals that are visible before leaving the waterbody.
- To prevent spreading plants and seeds to new locations avoid boating through the area around the Ottawa River that contains European water chestnut.
- Report sightings to the Invading Species Hotline 1-800-563-7711 or visit [www.invadingspecies.com](http://www.invadingspecies.com)



Barbed water chestnut nut in Voyageur Provincial Park.

Photo courtesy of Eric Snyder, MNR.

## Other Resources

[www.ontarioinvasiveplants.ca](http://www.ontarioinvasiveplants.ca)

[ontario.ca/invasivespecies](http://ontario.ca/invasivespecies)

[www.invadingspecies.com](http://www.invadingspecies.com)

## For More Information:

Please contact the Invading Species Hotline at 1-800-563-7711.

Cette publication est également disponible en français.



Manual removal of water chestnut from Voyageur Provincial Park.

Photo courtesy of Francine MacDonald, OFAH.