

What will this Project do to Stop Hydrilla?

The U.S. Army Corps of Engineers (USACE) Buffalo District is continuing to focus their demonstration project treatment efforts on the 15-mile section of the Erie Canal, from the confluence with the Niagara River east to Lockport due to the documented presence of hydrilla in this stretch of the canal. Last year's treatment of this area resulted in the following:

Purpose of the Demonstration Project:

To develop selective control methods to manage hydrilla in a flowing water system while minimizing impacts on native vegetation.

- 1) No hydrilla detected during the August 2016 survey (1,799 sites); and sparse hydrilla at 6 of 1,960 sites (0.3% frequency) in September 2016;
- 2) Tuber attrition following 2014 and 2015 treatments was approximately 93%, leaving only 9 tubers found during the entire 2016 sampling season (780 core samples). Overall tuber reduction since the beginning of the project is 99%;
- 3) A small patch of hydrilla just east of the River Road bridge in Tonawanda was found to be recovering from the 2015 treatment during initial surveys. However, after the 2016 treatment, subsequent surveys in August and September 2016 indicated that the treatment was successful in removing the hydrilla.
- 4) Water sampling during the 2016 herbicide application indicated that the herbicide moved eastward (as expected) in the canal during the 48-hr period when flow was reduced by structures in Lockport. However, in comparison to 2014 and 2015, the movement in 2016 was reduced. Thus, the main channel just west of the Dog Park did not receive an adequate endothall concentration/exposure to fully control the hydrilla. While hydrilla recovery was not extensive in this area, the 2017 treatment will be modified accordingly. Likewise, 2 sparse fragments of hydrilla were found in the eastern portion of the treatment zone (east of Campbell Road); therefore, this area will be sampled extensively in 2017.
- 5) Following the large-scale reduction of native plant abundance and frequency in 2014, native plant frequency of occurrence remained fairly stable in 2015 and 2016. However, despite the 40% reduction in herbicide use, and favorable water clarity (due to the 2016 drought), a post-treatment resurgence of native plants was not noted.

Goals of the treatment:

- To continue to reduce the total mass of hydrilla in the 15-mile section of the Canal
- To continue to reduce hydrilla tubers

The following Year 4 treatment blocks will be as follows:

- **Western block:** 4.9 miles between East Niagara Park in Tonawanda to the West Canal Park in Niagara County; and
- **Eastern block:** 8 miles between West Canal Park and the Pendleton Guard Gate in Lockport

During treatment, the New York State Canal Corporation will shut down or significantly reduce flow in the 15-mile section of the Erie Canal for 48 hours. The western block contains the majority of the large hydrilla beds and will receive direct herbicide application. After the 48 hours, the flow in the canal will be returned to pre-treatment levels. As this occurs, the block of herbicide-treated water from the western block will begin moving east toward Lockport, following the typical direction of flow in the canal at this time of year. As the water moves, it will treat the hydrilla beds in the eastern treatment block without the need for additional herbicide to be applied in that section. This approach will significantly reduce the amount of herbicide used, providing cost savings and reducing exposure to non-target plants.

Post-treatment monitoring will be done to determine the success of the treatment and to determine whether additional canal-wide treatments will be needed in the future.

When will the Project Take Place?

The USACE has identified the week of July 31st for the aquatic herbicide application with an alternate week of August 7th if there are weather delays. Late July has been selected as hydrilla will be most susceptible to the herbicide at that time of the growing season, and to avoid important local events like Canal Fest. The treatment will take place for 48 hours between Tuesday and Thursday of one of these two designated weeks to minimize disruptions during peak weekend use.

Weather conditions leading up to those two weeks could impact the timing of the treatment. Periods of little rainfall provide optimal conditions due to lower flows within the canal. If there is heavy rain leading up to the application, the treatment dates will need to be rescheduled. Any changes in the schedule of the treatment will be communicated to the public.

JULY  **OR AUG** 

What Restrictions will be in Place on the Canal during the Project?

The herbicide endothall (Aquathol K) will be applied to the section of the Tonawanda Creek/Erie Canal to be treated as per label directions. The herbicide degrades naturally by bacterial action in the water, and has a half-life of 5-8 days. Half-life refers to the time it takes for 50% of the chemical to degrade or break down.

A water sampling program will be implemented to determine endothall concentrations within the 4.9 mile treatment area, as well as within downstream areas following the resumption of flow in the canal. This sampling program will ensure that the herbicide is applied at the targeted concentration rate (1.5 ppm), and will also determine the rates at which the herbicide disperses and degrades within the canal as it moves downstream.

Restrictions

- There is a swimming restriction during the 2-day application period, and 24 hours following the application;
- Although there are no restrictions on irrigation of turf, ornamental plants, and crops immediately after treatment, irrigation is not recommended during the 2-day application period; and
- There are no restrictions on fishing (catching and eating fish).

Signs will be placed at all public access locations within the treatment area to notify the public of these restrictions.

Who Can I Contact for More Information?

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TONAWANDA CREEK/ERIE CANAL HYDRILLA CONTROL DEMONSTRATION PROJECT Year 4

Stop hydrilla from expanding further into other areas of New York State and the Great Lakes!



Source: Chris Evans, River to River, CWMA, Bugwood.org

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Why do We Need to Stop Hydrilla?

- It is one of the world's most invasive aquatic plants.
- It can grow up to one inch per day.
- It forms dense mats that block sunlight and displace native plants.
- It decreases dissolved oxygen levels which can lead to fish kills.
- It destroys waterfowl feeding areas and fish spawning sites.
- It reduces the weight and size of sportsfish due to loss of open water and native vegetation.
- It restricts boating, fishing, and swimming due to its thick mats.
- It can hurt our local economy due to impacts on tourism and waterfront property values.



Source: Leslie Mehrhoff, from the U.S. Forest Service

What is Hydrilla?

Hydrilla is a very aggressive aquatic invasive plant native to Korea. It is a submerged aquatic plant that is typically rooted in shallow water, with long stems that can grow up to 30 feet in length and up to one inch per day. These stems branch at the water's surface and grow horizontally, forming thick, dense mats. Hydrilla also produces tubers, small potato-like structures, which store food for the plant and also allow it to overwinter in the substrate of the waterbody and sprout in the spring.

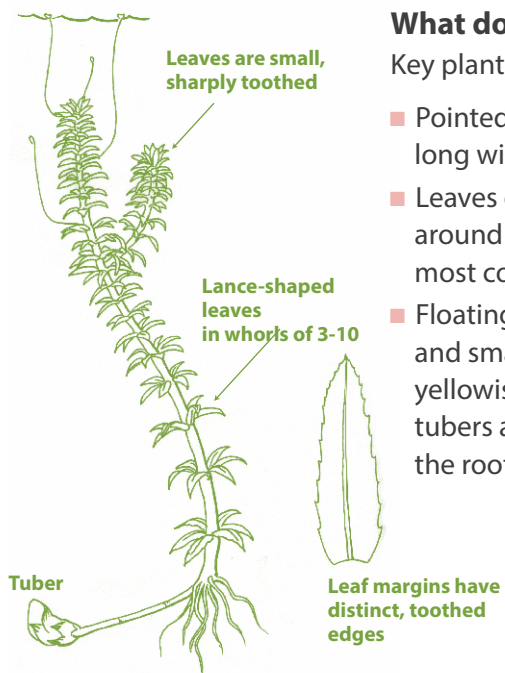
What does Hydrilla Look Like?

Key plant identification features:

- Pointed, bright green leaves about 5/8 inch long with small teeth on the edges
- Leaves generally grow in whorls of 3-10 around the stem, though 5 leaves are most common
- Floating white flowers and small white to yellowish potato-like tubers attached to the roots



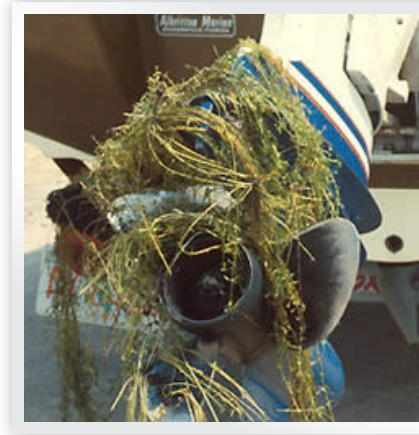
Source: Scott Kishbaugh, NYSDEC
Hydrilla whorls up close



Source: Cayuga Lake Watershed Network 2012

How Does it Spread?

- Primary method of spreading is through hydrilla fragments on recreational boats and trailers
- Even tiny fragments of hydrilla can sprout roots and establish new populations
- Fragments float and can be spread via wind and water currents



Where was Hydrilla Found on the Erie Canal?

Hydrilla was found growing in the Tonawanda Creek section of the Erie Canal in Western New York in September 2012 by the U.S. Fish and Wildlife Service. The infestations known today extend from the outlet of the canal near the Niagara River in Tonawanda and North Tonawanda, to the Lockport area approximately 15 miles to the east. Currently, hydrilla beds are patchy and limited to the shallower shoreline areas outside of the main navigational channel throughout this 15-mile stretch.

Project Area Map

