



To: VELCO PV-20 Project

Date: April 1, 2016

Memorandum

Project #: 57660.00

From: Patti B. Kallfelz-Werts VHB
Jason Gorman, PE, CHA

Re: PV-20 Submarine Cable Replacement Project
Aquatic Invasive Species Management Plan

1.0 Introduction

The PV-20 Cable Replacement Project proposes to replace a segment of the existing 115 kV K20 line circuit that extends west-to-east, between the New York Power Authority ("NYPA") Cumberland Head Substation in Plattsburgh, New York and Vermont Transco, LLC's ("VELCO") Grand Isle Terminal Station in Grand Isle, Vermont (refer to the Site Location Map Attachment 1). This segment of the existing circuit, which is designated by NYPA and VELCO as the "PV-20 line", currently consists of six oil-filled electrical transmission cables still in operation, and one abandoned cable that failed in 1969, and will be replaced with four new extruded dielectric (oil free) submarine cables. The existing seven cables are buried along the land portions and within the shallows of Lake Champlain (the "Lake") and directly laid along the bottom in the deeper portions of the Lake.

This Aquatic Invasive Species Management ("AISM") Plan is intended to summarize planned construction activities associated with installation of new cables and removal of existing cables; and protocols to be followed during both the installation and removal phases of the project in order to limit the potential of transporting aquatic invasive species ("AIS") during Project activities, pursuant to 10 V.S.A. §1454 (transport of aquatic plants and aquatic nuisance species). Overall, the goal of the AISM Plan is to prevent further introduction and migration of AIS into Lake Champlain from vessels and equipment that may be transported from other water bodies to Lake Champlain in association with the PV-20 Project.

2.0 Project Overview

The primary project activities that will involve transport of equipment via waterways to Lake Champlain include: (1) installation of new cables via Horizontal Directional Drilling ("HDD") from an entry point on land to an exit point within Lake Champlain, (2) installation of the new submarine cables within Lake Champlain, and (3) removal of existing submarine cables from Lake Champlain. Large transport barges will carry equipment, including submarine cables, materials, and other construction-related supplies, which are anticipated to originate from Port Elizabeth, New Jersey or New York ports, through the Hudson River and Champlain Canal to Lake Champlain. It is anticipated that transporting supplies and equipment for Project construction can be accomplished in one trip from the port of origin, and will not require multiple round trips. Smaller vessels will be transported to Lake Champlain via truck, trailer, or barge. The following is an overview of the Project components which will require the use of vessels in Lake Champlain, and the anticipated types of vessels and their size classification (small or large) that will be transported to Lake Champlain for the purposes of this project:



Memorandum

HDD Installation

- Deck barge for HDD installation (large, typically 140 feet by 40 feet)
- Gravity cell for fluid containment during HDD installation (small)
- Deck barge with pumping plant (large, typically 140 feet by 40 feet)
- Support tugs (large)
- Crew boats (small)
- Outboard powered support craft (small)

Submarine Cable Installation

- Sectional lay barge (small, transported in sections, typically 200 feet by 70 feet once assembled)
- Cable transport barge (large)
- Jet sled for trenching the cable (small)
- Support tugs (large)
- Crew boats (small)
- Outboard powered support craft (small)

Submarine Cable Removal

- Steel barge with spool (small, transported overland in sections, typically 40 feet by 30 feet once assembled)
- Steel barge and barge (large)tender
- Cable tender boat (large)
- Support tug (large)
- Crew/ dive support boat (small)
- Quick response boat (small)

Based on evidence from maintenance inspections performed on the cables prior to the proposed project and subsequent lake studies for the Project, it is anticipated that the existing cables will have a significant number of zebra mussels (*Dreissena polymorpha*) attached to the cables upon recovery. In order to reduce the possibility of spreading zebra mussels, and any other potential AIS species located on the cables, once a cable has been recovered, the cable will be sectionalized into manageable lengths and placed in a covered container for transport to the appropriate disposal facility in New York.

3.0 Aquatic Invasive Target Species of Concern

The Vermont Department of Environmental Conservation ("VT DEC") and the New York Department of Environmental Conservation ("NY DEC") maintain a list of aquatic invasive species that may be present in Lake Champlain and are known to cause environmental and/or economic harm, or harm to human health (see Attachment 2). Although the lists of AIS are extensive, the following table (see Table 1) provides a subset of aquatic invasive species that are considered acceptable target species to address in managing the potential introduction and spread of other aquatic invasive species to or within Lake Champlain. Specifically, these target species are representative of the types of species that are included on the comprehensive AIS lists for both



Vermont and New York. By monitoring and treating for this sub-set of species, it is anticipated that non-target AIS will be addressed as well.

Table 1: Aquatic Invasive Animal and Plant Target Species of Concern		
Aquatic Invasive Animal Species		Aquatic Invasive Plant Species
Zebra Mussel (<i>Dreissena polymorpha</i>)	Quagga Mussel (<i>Dreissena bugensis</i>)	Water Chestnut (<i>Trapa natans</i>)
Alewife (<i>Alosa pseudoharengus</i>)	Spiny Waterflea (<i>Bythotrephes cederstroemi</i>)	Eurasian Watermilfoil (<i>Myriophyllum spicatum</i>)
Rusty Crayfish (<i>Orconectes rusticus</i>)	Sea Lamprey (<i>Petromyzon marinus</i>)	Variable-leaved Watermilfoil (<i>Myriophyllum heterophyllum</i>)
Asian Clam (<i>Corbicula fluminea</i>)	Chinese Mystery-snail (<i>Cipangopaludina chinensis malleata</i>)	New Zealand Mud Snail (<i>Potamopyrgus antipodarum</i>)

4.0 Aquatic Invasive Species Management Plan

In an effort to prevent further introduction and migration of aquatic invasive species into Lake Champlain from vessels and equipment associated with the PV-20 Project, this AISM Plan has been prepared to provide guidance to project personnel and contractors, with regard to training, precautionary measures, and decontamination procedures to be implemented when transporting vessels to Lake Champlain. This AISM Plan has been formatted to address the following two categories of vessels that are expected to transport equipment, materials, and supplies to the PV-20 Project site (see Section 2.0 for more information):

- Large Vessels – unsuitable in size to remove from the water to conduct observation and mitigation measures
- Small Vessels – suitable in size to either be transported out of water via truck or on a larger barge or, if traveling in the water, removed from the water to conduct observation and mitigation measures

4.1 Training

Prior to work within Lake Champlain, all project personnel and contractors involved with in-lake work and monitoring will be provided training to review precautionary measures (see Section 4.2) and decontamination procedures (see Section 4.3), as well as Vermont and New York guidelines to identify and prevent the spread of aquatic invasive species (see Attachment 3).

4.2 Precautionary Measures and Decontamination Procedures



The following guidance provides precautionary measures and decontamination procedures to be implemented when transporting large- and small-sized vessels to Lake Champlain. Precautionary measures are intended to serve as the first step in reducing potential for further introduction and migration of aquatic invasive species into Lake Champlain, with decontamination as a second step if determined to be necessary.

4.2.1 Large Vessels

For large vessels that will be transported to Lake Champlain via the Champlain Canal and are not feasible to remove from the water, the following precautionary measures shall be taken prior to entering Lake Champlain:

- Deploy divers to conduct a visual inspection of the barge exterior for potential aquatic invasive species and/or other foreign matter, using the guidelines provided by NY DEC and VT DEC (see Attachment 2). Particular attention to be given to: (1) cracks and crevices where animal and plant material may become trapped, and (2) areas on propellers that may harbor animal and plant material. Manually remove any observed materials.
- Drain or pump bilge water to a containment vessel or discharge bilge water prior to entering Lake Champlain.
- Sanitize all areas within the vessel where water not originating from Lake Champlain may have been stored. Generally this will be accomplished by utilizing hot water greater than 140 F. However, if required species-specific sanitation techniques may be used, such as pressure washing, washing with soapy water, chemical sanitation or any combination of thereof which would be targeted toward specific species.
- Perform visual inspections of the vessel north of the Narrows of Dresden, and again North of the Champlain Bridge, for the presence of water chestnut that may have been dislodged and caught on the vessel in these narrow sections of the Lake. If observed, manually remove the plant material from the vessel.

4.2.2 Small Vessels

For small vessels (or boats) that will be transported to Lake Champlain via truck, trailer, or barge and can be observed while on land prior to entering the water, the following precautionary measures shall be taken prior to entering Lake Champlain:

- Conduct a visual inspection of all boats, motors, trailers, and related equipment for potential aquatic invasive species and/or other foreign matter, using the guidelines provide by NY DEC and VT DEC (see Attachment 3). Particular attention to be given to: (1) cracks and crevices where animal and plant material may become trapped, and (2) areas on propellers that may harbor animal and plant material. Manually remove any observed materials.



- Wash trailer, boat exterior, and motor with hot water (high pressure and greater than 140°F) or other sanitizing measures, and rinse thoroughly. The wash and rinse water should not be allowed to drain to nearby surface waters.
- Drain bilge water and disinfect all areas that store water prior to deployment to the lake.

5.0 Attachments

Attachment 1:

- PV-20 Site Location Map

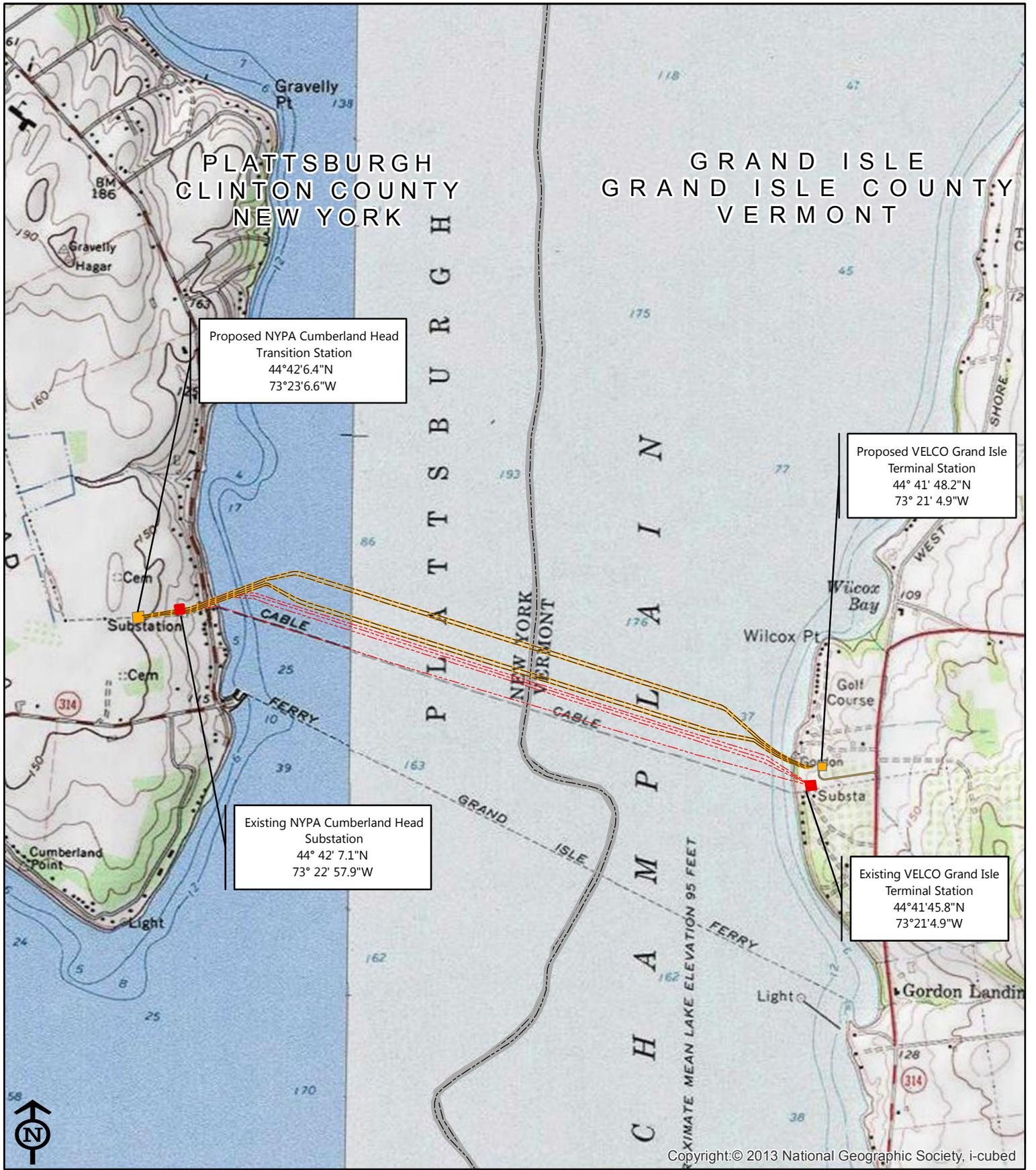
Attachment 2:

- Aquatic Invasive Species in Vermont
- Common Aquatic Invasive Species of New York

Attachment 3:

- Transport of Aquatic Plants and Aquatic Invasive Species in Vermont
- Prevent the Spread of Aquatic Invasive Species in New York

ATTACHMENT 1



Proposed NYPA Cumberland Head
Transition Station
44°42'6.4"N
73°23'6.6"W

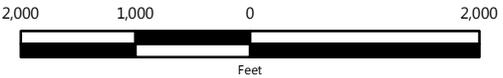
Proposed VELCO Grand Isle
Terminal Station
44° 41' 48.2"N
73° 21' 4.9"W

Existing NYPA Cumberland Head
Substation
44° 42' 7.1"N
73° 22' 57.9"W

Existing VELCO Grand Isle
Terminal Station
44°41'45.8"N
73°21'4.9"W

- Legend**
- - - Existing Cables (Approx.)
 - Proposed Replacment Cable Locations (Approx.)
 - Proposed Terminal Station
 - Existing Terminal Station
 - State Boundary

**VELCO and NYPA
PV-20 Submarine Cable Replacement Project
Grand Isle, VT and Plattsburgh, NY
Site Location Map
December 11, 2015**



Sources: USGS Topo Quads from ESRI (2015); State and Town Boundaries from VCGI (2010); Approximate Replacment Cable Locations, Existing and Proposed Terminal Station Locations from CHA (2015); Approximate Existing Cable Locaitons Digitized from Plans Provided by CHA (2015).

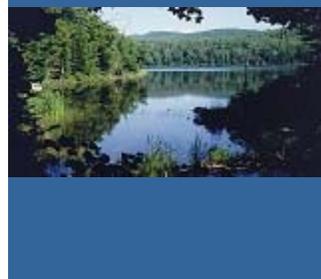


ATTACHMENT 2

Watershed Management Division



- [Surface Water Management Strategy](#)
- [Ecosystem Restoration Program](#)
- [Lakes and Ponds](#)
- [Monitoring, Assessment & Planning](#)
- [Rivers Program](#)
- [Rulemaking](#)
- [Stormwater](#)
- [Wastewater](#)
- [Wetlands](#)
- [Inspection, Compliance and Enforcement](#)
- [Water Quality Certification \(401 Program\)](#)
- [Contacts](#)



[dec home](#) > [wsmd home](#) > [lakes & ponds](#) > aquatic invasive species

Aquatic Invasive Species in Vermont

**To Report an Aquatic Invasive Species Sighting in Vermont
Call 802-490-6120**

This Aquatic Invasive Species section of the Watershed Management Division web site presents information regarding aquatic invasive species, nonnative species whose introduction can cause environmental or economic harm or harm to human health, and nuisance species, native species that reach proportions of abundance that may cause economic harm or harm to human health. The Vermont Aquatic Invasive Species Program coordinates management activities associated with aquatic invasive and nuisance species. Priority species of concern at this time are listed below.



Click on an image for more information on each species.



Water chestnut (*Trapa natans*) is a glossy, green, triangular-leaved annual plant that can easily choke the waterbodies it invades, out-compete native plants, and reduce oxygen levels which can increase the potential for fish kills. Dense, nearly impenetrable water chestnut growth can make fishing, hunting, swimming, boating, and other recreational activities nearly impossible. Its sharply spined fruits wash ashore and can be hazardous to people who step on them.



Eurasian watermilfoil (*Myriophyllum spicatum*) is a rooted, submerged perennial plant that grows rapidly, producing dense stands. It aggressively competes with native plant communities reducing biodiversity. Dense mats clog propellers, impair swimming, restrict boating and fishing accesses, and affect water quality.



Zebra mussels (*Dreissena polymorpha*) are small barnacle-like mollusks. They have caused some serious economic and environmental problems in many areas. These mussels are highly prolific and able to form dense colonies out-competing native species. They feed by filtering plankton out of the water which impacts water clarity and alters the food web.



Purple loosestrife (*Lythrum salicaria*) is a wetland perennial plant able to out-compete native vegetation due to its high germination rate, and abundant and easily transported seed. Dense growth can eliminate food and shelter for wildlife including shallow water fish spawning grounds.



Alewife (*Alosa pseudoharengus*) is a marine fish from the herring family capable of surviving in freshwater. They reproduce quickly and can soon become the most dominant fish species in a lake. Alewife are very efficient feeders and consume huge quantities of zooplankton which enable them to out-compete other species.



Variable-leaved watermilfoil (*Myriophyllum heterophyllum*) is a rooted, submerged perennial plant that was first confirmed in a Vermont lake in 2008. Like its cousin Eurasian watermilfoil, variable-leaved watermilfoil is aggressive and grows rapidly, and dense growth can crowd out beneficial native aquatic plants reducing biodiversity. It can also impair recreational uses including swimming, boating and fishing.



Rusty crayfish (*Orconectes rusticus*) can be identified by their robust claws with black bands on the tips, and dark, rusty spots on each side of their body. They can out-compete native species, forcing native crayfish from daytime hiding areas and destroying aquatic plant beds. Rusty crayfish have likely been spread into numerous waterbodies in Vermont by anglers using them for bait.



Didymo (*Didymosphenia geminata*) is a nuisance algae (diatom) species capable of forming thick mats on river and stream bottoms with potentially significant impacts to fisheries and other habitat. (Picture at left from New Zealand)

What is the State Doing?

- Vermonters and visitors to our state are learning about aquatic invasive species through a variety of **educational materials**: pamphlets and newsletters, slide shows, identification posters, metal boater warning signs, and public meetings.
- **Surveys** that assess the types and amounts of aquatic plants growing in a water body are conducted to monitor existing plant growth and to detect newly introduced invasive plant populations.
- A citizen-based, early detection program, the [Vermont Invasive Patrollers \(VIP\) Program](#), trains volunteers to search water bodies for new aquatic invasive species infestations.
- A net-work of trained [Public Access Greeters](#) (pdf, 577KB) offer visual inspections of boats and associated equipment to locate and remove any plant material or animals, and educate water users on the importance of

Clean Boats Clean Waters

Before Launching AND Before Leaving

<p>Clean off any mud, plants, and animals from boats, trailers, and equipment.</p>	<p>Drain your boat and equipment away from the water.</p>	<p>Dry anything that comes into contact with the water.</p>
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Never release plants, fish or animals into a body of water unless they came out of that body of water

STOP AQUATIC HITCHHIKERS!

Under Vermont Law, you may be fined up to \$1000 for transporting any aquatic plant or plant fragment, zebra mussels or

spread prevention and appropriate spread prevention techniques. [Clean Boats, Clean Waters](#) (pdf, 220KB) is a list and description of the workshops being offered in 2014.

- The Program keeps abreast of **current research** to learn of improved aquatic invasive species control methods and their applicability for use in Vermont.
- **Demonstration projects** have been implemented on a number of Vermont lakes to evaluate new control methods as well as to refine established techniques.
- **Technical assistance** on aquatic invasive and nuisance species control is provided to towns, water body associations, and others.
- [Financial assistance](#) is available through the Aquatic Nuisance Control Grant-in-Aid grant program in the form of grants to municipalities for qualified applicants to implement restoration, management, or protection projects.
- The overland movement of boats, personal watercraft, fishing gear, and other water-based equipment is a significant means by which aquatic invasive species “hitch a ride” between water bodies. [The transport of all aquatic plants, zebra mussels and quagga mussels is illegal in Vermont.](#)
- [Vermont Aquatic Invasive Species Program 2014 Update, November 2014](#) (pdf, 683 KB)



You Can Help!

Prevent the introduction and spread of aquatic invasive species.

- **Contact** the [Watershed Management Division](#) immediately if you think you have found a new occurrence of an aquatic invasive species.
- **Join the VIPs!** [Vermont Invasive Patrollers](#) help search for new infestations so we can respond immediately and prevent them from becoming established.
- **Start a public access greeter program** (pdf, 714KB) to help prevent the spread of aquatic invasive species.
- **Learn** to identify aquatic invasive species. Know which water bodies are infested. Review identification and distribution information on this website. The [Maine Center for Invasive Aquatic Plants - Virtual Herbarium website](#) also has identification information for many invasive aquatic plants found in the northeast, including a [Maine Field Guide to Invasive Aquatic Plants](#), and their common native look alikes.
- **Spread** the word, not aquatic species! Public participation is essential to the success of AIS spread prevention efforts.

Before moving boats between waterbodies:

- **CLEAN** off any mud, plants, and animals from boat, trailer, motor and other equipment. **Discard** removed material in a trash receptacle or on high, dry ground where there is no danger of them washing into any water body.
- **DRAIN** all water from boat, boat engine, and other equipment away from the water.
- **DRY** anything that comes into contact with the water. Drying boat, trailer and equipment in the sun for at least five days is recommended if **rinsing** your boat, trailer parts and other equipment with hot, high pressure water is not an option.

Resources

Early Detection

- [Aquatic Plant Sample Submission Form](#) (pdf, 272 KB)

- [How to Conduct an Aquatic Plant Survey](#) (pdf, 86 KB)
- [Vermont Invasive Patrollers \(VIP\) Program](#)

Financial Assistance

- [Grant-in-Aid Program](#)
- [Report on the Vermont Aquatic Nuisance Control Grant-In-Aid Program, January 2006](#) (pdf, 684 KB)

Regulations

- [List of Prohibited Aquatic Plants](#) (pdf, 72 KB)
- [Noxious Weed Quarantine](#) (pdf, 105 KB)
- [Vermont Aquatic Nuisance Control Permit Program](#)
- [Vermont AIS Regulations](#)

Resources, Publications

- [Aquatic Invasive Species Resources/Publications \(Watershed Management Division\)](#)
- [Aquatic Plant Management Contractors List](#) (pdf, 174 KB)
- [Exotic Invasive Aquatic Plants of Concern in Vermont and Local Native Look-alikes](#) (pdf, 295 KB)
- [Infested Water bodies List](#) (pdf, 183 KB)
- [Lake Champlain Basin Aquatic Nuisance Species Management Plan](#) (pdf, 1.1 MB)
- [Links to Other Aquatic Invasive Species Sites](#)
- [Native Aquatic Plants](#) (pdf, 2MB)
- [Vermont AIS Highlights in Out of the Blue Newsletter](#)
- [Vermont Map of Major Aquatic Invasive Species](#) (pdf, 902 KB)
- [Vermont invasives website](#)

Threats

- [Aquatic Invasive Species Threatening Vermont](#) (pdf, 995KB)
- [Aquatic Invasive Species: Threats from Outside the Lake Champlain Basin](#)

Spread Prevention

- [Intercepting Aquatic Organisms](#) (pdf, 438 KB)
- [Public Access Greeter Program](#) (pdf, 714KB)
- [Spotlight on a Greeter Program](#) (pdf, 266KB)
- [Vermont Boat Access Greeter Program Training Manual](#) (pdf, 2.43 MB)
- [VTDEC Greeter Program Data Sheet](#) (pdf, 55KB)
- [VTDEC Intercept Report Sheet](#) (pdf, 24KB)
- [Greeter Program Summary Reporting Form](#) (pdf, 24KB)

Voluntary Guidelines to Prevent the Introduction and Spread of Aquatic Invasive Species: Recreational Activities:
http://www.anstaskforce.gov/Documents/AIS_Recreation_Guidelines_Final_8-29-13.pdf

Voluntary Guidelines to Prevent the Introduction and Spread of Aquatic Invasive Species: Water Gardening:

http://www.anstaskforce.gov/Documents/ANSTF_Water_garden_steps_FINAL_9_23_13.pdf

Please share with anyone who may be interested. Thanks!

www.watershedmanagement.vt.gov

VT DEC • Watershed Management Division • 1 National Life Drive, Main 2 • Montpelier, VT 05620-3522 • Tele: 802-828-1535 • Fax: 802-828-1544

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Department of
Environmental
Conservation

Common Aquatic Invasive Species of NY

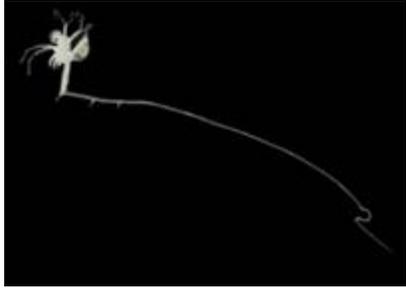
The following table contains some of the more common aquatic invasive species found in New York, the areas of the state they currently inhabit, and the control strategy recommended to ensure that they are not spread to new waters via boating and fishing equipment.

Aquatic invasive plants and animals NY boaters need to be concerned about

Name	Description	Distribution	Cleaning Strategy
<p>Brazilian Elodea</p>  <p><i>B. Rice, sarracenia.com, Bugwood.org</i></p>	<p>Stems have numerous branches and can grow over 20 ft. in length. Is often confused with hydrilla and native elodea. Lance-shaped leaves are about 1/8 inches wide and 1.5 inches long and often have very minute teeth along the edges that may require magnification to see. Leaves are arranged in whorls around the stem with each whorl composed of 4 to 6 leaves. The number of leaves per whorls doubles or triples every 8 to 12 nodes. These "double nodes" are the only place where branches occur along the stem.</p>	<p>Found primarily on Long Island, but recently discovered in Westchester County.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Brittle Naiad</p>  <p><i>G. Lovell, ADCNR, Bugwood.org</i></p>	<p>Leaves are opposite (in pairs along the stem), but sometimes appear to be in a whorl at the tip. Leaves are 1-2 inches long, toothed, stiff and pointed. Plant is very brittle and easily breaks into pieces.</p>	<p>Most abundant in the Hudson Valley and Central New York. It has also found its way into some Adirondack waters.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Curly-leaf Pondweed</p> 	<p>Stems are branched and somewhat flattened. Leaves are reddish-brown in color, oblong and about 3 inches long. Leaves are usually stiff and crinkled and unlike other pondweeds have finely toothed edges.</p>	<p>Found throughout New York State</p>	<p>Visual Inspection/Hand Removal</p>

<i>L.J. Mehroff, Univ. of Ct., Bugwood.org</i>			
<p>European Frogbit</p>  <p><i>L.J. Mehroff, Univ. of Ct., Bugwood.org</i></p>	<p>Floating leaves are heart-shaped and 1-2 inches wide. They resemble the leaves of a miniature waterlily, veined on top and dark purplish red with a spongy coating on the underside. The plant has numerous roots up to 12 inches in length that float freely under the plant.</p>	<p>First documented in Lake Ontario, the St. Lawrence River and adjacent waters, but has since expanded to Oneida Lake and other inland waters. Has recently been detected in some waters within the Adirondack Park.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Eurasian Watermilfoil</p>  <p><i>L.J. Mehroff, Univ. of Ct., Bugwood.org</i></p>	<p>Stems are usually 3 to 10 feet in length and can range from pale pink to reddish brown in color. Bright green feathery leaves are finely divided and occur in whorls (circles) around the stem. Each leaf has 12-21 leaflet pairs. Native northern watermilfoil which it can commonly be confused with has 5-10 leaflet pairs.</p>	<p>The most common and widely distributed aquatic invasive plant in New York State. It can be found in all watersheds, although still relatively rare on Long Island.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Fanwort</p>  <p><i>L.J. Mehroff, Univ. of Ct., Bugwood.org</i></p>	<p>Stems are long and appear tubular. Leaves are fan-like with a short stem and are arranged opposite each other on the stem. Plants have white to light pink flowers that float on the surface.</p>	<p>Most common in southeastern NY, but also found in some southern Adirondack waters.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Hydrilla</p>  <p><i>L.J. Mehroff, Univ. of Ct., Bugwood.org</i></p>	<p>Plants looks very similar to Brazilian elodea and other native Elodeas. Northern plants often lack the spiny underleaf and finely toothed leaves may be difficult to see. Best distinguishing characteristic is the turion or bulb connected to its roots that the other plants lack.</p>	<p>Most widespread on Long Island, but also recently identified in the inlet to Cayuga Lake and the Upper Niagara River.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Variable Leaf Milfoil</p>	<p>Leaves are similar to Eurasian watermilfoil except each leaf has 5-14 leaflets. As the stem reaches the surface it changes its growth</p>		

	<p>pattern to become a stout emergent flower-spike carrying an entirely different type of leaf. These emergent leaves are stalkless, wedge-shaped, stiff, and pointed, with variably-toothed margins.</p>	<p>Found primarily in Lake Champlain and other Adirondack waters.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Water Chestnut</p> 	<p>Stems are very flexible and can reach 12 to 15 ft. in length. On the waters surface the plant contains a circular cluster of saw-toothed edged, triangular floating leaves that are connected to an inflated petiole (bladder) that provides added floatation. Feather-like leaves can be found along the submerged stem. Fruit is a nut with four 1/2 inch barbed spines.</p>	<p>Found primarily in the Hudson Valley, southern Lake Champlain and Mohawk River. Recently found in some western New York waters.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Parrot Feather</p> 	<p>Woody stems can grow over 5 feet in length, often extending outward onto the bank or shore. Emergent leaves are bright blue-green, rigid and deeply serrated. Leaves are arranged in whorls of 4-6 around the stem, with each leaf containing 10-18 segments. The leaves can extend 12" out of the water and look like miniature fir trees. The underwater leaves are red-brown in color and have 20-30 segments per leaf. They appear to be decaying and are often confused with Eurasian watermilfoil leaves.</p>	<p>Found in the Peconic River on Long Island.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Creeping Water Primrose</p> 	<p>Leaves are willow-like and are alternately arranged on hollow red stems. Young leaves may be rounded. Has bright yellow flowers from spring - fall. Sprawling growth habit that forms dense mats.</p>	<p>Currently found in the Peconic River and Prospect Park Lake on Long Island.</p>	<p>Visual Inspection/Hand Removal</p>
<p>Asian Clam</p>	<p>Triangular or rounded triangular</p>	<p>Scattered distribution across state including many</p>	

	<p>shell. Light brown in color with numerous rings on outside of shell. Inside of shell light blue or light purple in color.</p>	<p>Long Island waters, Finger Lakes, Chautauqua Lake, Lake Erie and Lake George.</p>	<p>Dry or disinfect</p>
<p><i>USGS Archive, USGS, Bugwood.org</i></p>	<p>Zebra Mussel</p>  <p>Shell "D" shaped usually with dark and light colored stripes.</p>	<p>Widely distributed in New York State with the exception of Long Island, Lower Hudson Valley and the Adirondack region. Particularly abundant in the Great Lakes, Lake Champlain, Chautauqua Lake and many central NY waters.</p>	<p>Dry or disinfect</p>
<p><i>USGS Archive, USGS, Bugwood.org</i></p>	<p>Quagga Mussel</p>  <p>Similar to the zebra mussel, but rounder in shape and has a paler color near the hinge.</p>	<p>Found mostly in western and central New York waters. Not as widely distributed as zebra mussels.</p>	<p>Dry or disinfect</p>
<p><i>A. Benson, USGS, Bugwood.org</i></p>	<p>Fishhook Waterflea</p>  <p>Body size 1-3 mm without tail, 6-13 mm with tail. Tail has 3 pairs of barbs and a characteristic loop (fish hook) near the end.</p>	<p>Lake Ontario, Lake Erie, Finger Lakes and some adjoining waters.</p>	<p>Dry or disinfect</p>
<p><i>I. Grigorovich, Bugwood.org</i></p>	<p>Spiny waterflea</p> <p>Can reach 15mm in length, with the tail making up 70% of more of total length. Tail has numerous</p>	<p>Primarily found in the Great Lakes and adjacent waters, including the Finger Lakes. Also found in northeastern NY in</p>	

 <p>Minnesota DNR</p>	<p>spines along its length. When they collect on fishing line, they look like bristly gobs of jelly with black spots.</p>	<p>Great Sacandaga Lake, Stewarts Bridge Reservoir, Peck Lake, Lake Pleasant and Piseco Lake.</p>	<p>Dry or disinfect</p>
<p>Bloody Red Shrimp</p>  <p>OMNR Archive, Bugwood.org</p>	<p>A relative of the Great Lakes opossum shrimp. bloody red shrimp are generally less than 1/2 inches in length. They can be distinguished from the native opossum shrimp by the flat end to its tail.</p>	<p>Great Lakes, Oneida Lake and some Finger Lakes.</p>	<p>Dry or disinfect</p>
<p>Starry Stonewort</p> 	<p>Looks like a rooted plant, but is actually an algae related to the native Chara. Can form dense mats on the lake bottom. Has long uneven-length gelatinous branches that look angular at each joint. May have one cream colored bulb at the base of each branch cluster.</p>	<p>Great Lakes, St. Lawrence River, Oneida Lake</p>	<p>Visual Inspection/Hand Removal</p>
<p>Didymo</p> 	<p>An invasive algae species that can form thick mats on the bottom of streams. Typically tan, brown or white in color (not green). Does not fall apart when rubbed between fingers and feels like wet wool (not slimy).</p>	<p>Esopus Creek, Schoharie Creek, Delaware River, East Branch Delaware River, West Branch Delaware River, Battenkill</p>	<p>Dry or disinfect</p>
	<p>The alewife is native to the</p>		

<p>Alewife</p> 	<p>coastal waters of New York. Unfortunately, due to migrations from these waters and bait bucket introductions, this species has also become established in nuisance proportions in the Great Lakes and many inland waters in New York State, most recently in Lake Champlain. Alewives are silver in color with a blue-green metallic luster along the back, usually with a black spot behind the gill cover and a serrated belly. In freshwater, they usually grow to 3 to 6 inches in length; however, in saltwater they can attain lengths of a foot or more.</p>	<p>Coastal waters, tidal Hudson River and lower Mohawk River, Great Lakes, Finger Lakes and a few other scattered lakes across New York.</p>	<p>Do not release any fish or dump baitfish into a body of water that they did not come from.</p>
<p>Round Goby</p> 	<p>Round gobies are bottom-dwelling fish that were introduced to the Great Lakes from central Eurasia. Round gobies are usually 3 to 6 inches in length, but can reach 10 inches. Key identifying characteristics include a black spot on the rear of the upper dorsal fin, a raised frog-like eye, thick lips and a body mostly slate gray or black, mottled with black or brown spots.</p>	<p>Lake Erie, Upper and Lower Niagara River, Lake Ontario and the St. Lawrence River and their tributaries upstream to the first barrier impassible to fish.</p>	<p>Do not release any fish or dump baitfish into a body of water that they did not come from.</p>
<p>White Perch</p> 	<p>White perch are an anadromous species that live most of their life in marine waters, but spawn in freshwater. Although a valued sportfish in some coastal waters, this species can become a nuisance when accidentally or purposefully introduced into landlocked waters. White perch are silvery-gray in color, with a light belly. Unlike the white bass and striped bass, they lack striping. They can attain lengths of 12 inches or more in freshwater and even larger in marine waters, but in overabundant populations rarely exceed 6 inches in length.</p>	<p>Coastal waters, tidal Hudson River, Mohawk River, Oneida Lake, Onondaga Lake, Otisco Lake, Chautauqua Lake, Cassadaga Lakes, Erie Canal, Lake Ontario and scattered ponds and Reservoirs in the Hudson Valley and Long Island.</p>	<p>Do not release any fish or dump baitfish into a body of water that they did not come from.</p>

ATTACHMENT 3

Law Prohibits the Transport of Aquatic Plants and Aquatic Invasive Species in Vermont

Invasive species such as Eurasian watermilfoil and zebra mussels are typically spread by “hitchhiking” on boat trailers, propellers and fishing gear that isn’t cleaned, or in bilge water, bait buckets, or livewells that aren’t drained before moving to a different water body. It often takes only a tiny fragment of an invasive plant, sometimes less than an inch, to start a whole new infestation.

On July 1, 2010, Vermont’s 22-year old law prohibiting the transport of important aquatic invasive species changed. Previously, the law prohibited the transport of the invasive plants Eurasian watermilfoil and water chestnut. As of July 1, Vermont’s invasive species transport law now **prohibits the transport of all aquatic plants or aquatic plant parts** on the outside of a vehicle boat, personal watercraft, trailer or other equipment.

The law defines an aquatic plant as “...a plant that naturally grows in water, saturated soils or seasonally saturated soils, including algae and submerged, floating leafed, floating, or emergent plants.”



A poster titled "CLEAN BOATS CLEAN WATERS" with a green leafy border. It includes the text: "No More Free Rides", "Under Vermont Law, you may be fined up to \$1000 for transporting any aquatic plant or plant fragment, zebra mussels or quagga mussels. So carefully inspect and clean your boat and trailer every time you take them out of the water.", and "WATERCRAFT CHECK POINTS". Below this is a diagram of a boat on a trailer with labels: Hitch, Live Well, Transom Well, Rollers, Axle, and Lower Unit/Propeller. At the bottom, it says: "When you leave a body of water: Clean off any mud, plants (even small fragments), and animals from boats, trailers and equipment. If possible wash at home or at a car wash. Drain boat and equipment away from water. Dry anything that comes into contact with water. Never release plants, fish or animals into a body of water unless they came out of that body of water."

The law change means both the public and those who enforce the law will not have to know how to distinguish one type of aquatic plant from another.

Vermont’s invasive species transport law also will continue to prohibit the transport of two animal species, zebra mussels and quagga mussels.

The full law is available [here](#).

A person who violates this law may be subject to a penalty of up to \$1,000 per violation (Vermont Statutes Annotated Title 23, Chapter 29 § 3317. Penalties).

More information

- Click [here](#) for the full text of Vermont’s aquatic invasive species transport law.
- For more information on aquatic invasive species, contact:



Vermont Watershed Management Division
at 802-828-1535
or visit their Web site at
<http://www.vtwaterquality.org>

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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Prevent the Spread of Aquatic Invasive Species

A grant is available for [aquatic invasive species \(AIS\) spread prevention](#). The deadline for submission of the grant application is January 29, 2016 at 2:00 PM.

Boats, trailers, waders and other fishing and boating equipment can spread [aquatic invasive species](#) from waterbody to waterbody unless properly cleaned, dried or disinfected after use. Although some invasive species such as water milfoil are readily visible to the human eye, many others are too small to be readily noticed. To avoid spreading invasive species please follow the guidelines in the following steps:

1. [Check](#)
2. [Clean](#)
3. [Drain](#)
4. [Dry](#)
5. [Disinfect](#)

Check

Check your boating and fishing equipment for invasive species.



**STOP AQUATIC
HITCHHIKERS!™**



Don't forget to also inspect all gear used during your fishing or boating trip

If your boat has been used in a water containing zebra mussels, run your hand along the hull. If it feels like sandpaper, it likely has mussels attached.



Photo courtesy of Utah DWR

Clean

Clean any visible mud, plants, fish or animals before transporting equipment.

Discard items in an upland area or in one of the invasive species disposal stations that have been installed at many boat launch sites for your convenience.



Zebra mussels can be difficult to remove from a boat hull. They first need to be killed by exposure to water or steam at least 140 degrees F and then removed by brush or pressure washer.



Photo courtesy of Utah DWR

Drain

Drain all water holding compartments including live wells, bait wells and bilge areas.



Drain your boat before you leave the access site!



Be sure to drain boat ballast tanks if your waterski or wakeboard has them.



Drain your livewell if you have one.

Dry

Dry boats, trailers and all equipment before use in another waterbody.



Drying your boat takes at least 5-7 days in dry, warm weather.

The most effective method to ensure that no invasive species or fish diseases are transported to a new body of water is to completely dry your boating and fishing equipment. The key is to make certain that equipment is COMPLETELY dry before using it in a new water body. Drying times vary significantly depending upon the type of equipment, air temperature and relative humidity. While the outside of a boat will dry relatively rapidly, bilge, live wells and other areas of a boat not reached by the sun or lacking good air circulation will take additional time to dry completely. A minimum of 5-7 days drying time in dry, warm conditions is recommended. [Drying times can be estimated](http://www.100thmeridian.org/Emersion.asp) at <http://www.100thmeridian.org/Emersion.asp> (leaving DEC website).

Disinfect

Disinfect anything that came into contact with water, if it cannot be dried before reuse.



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[Details on how to disinfect your boat and fishing equipment](#)

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