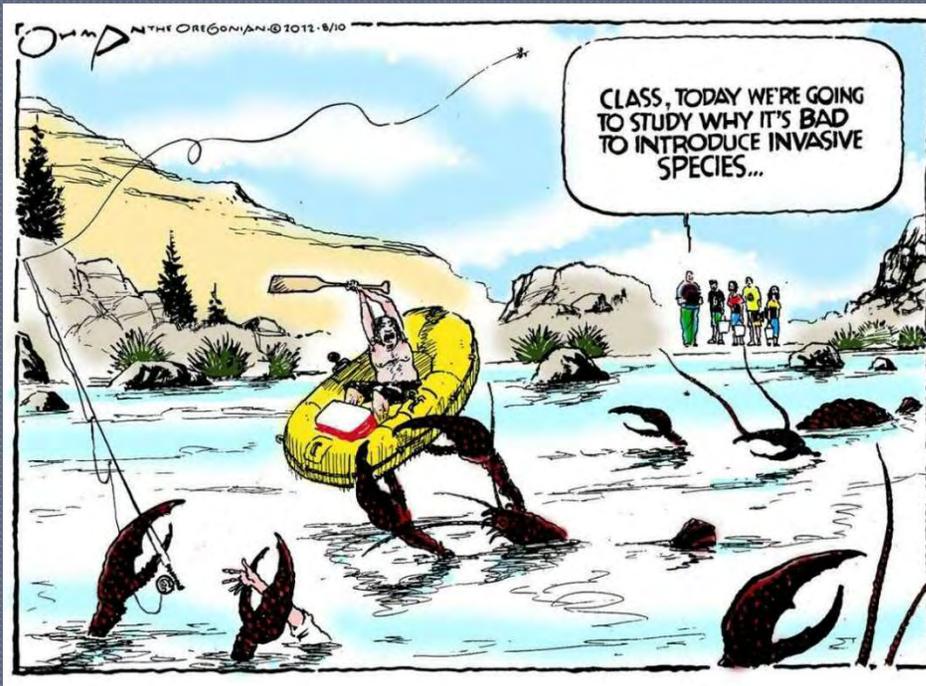
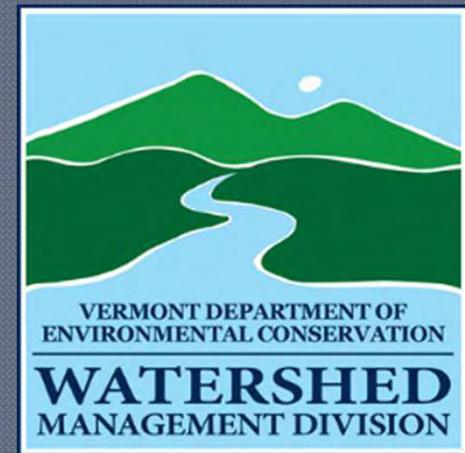


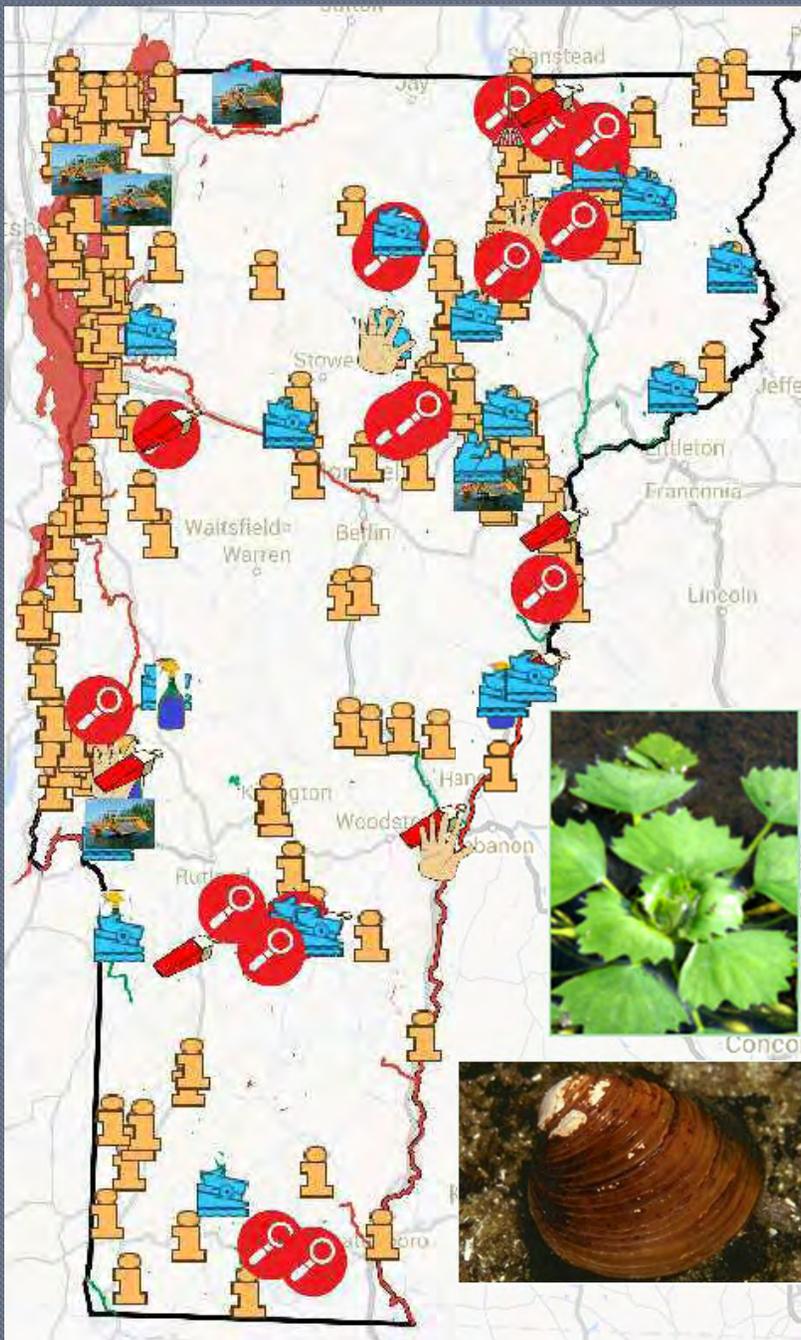
VTDEC Aquatic Invasive Species Program Highlights



Josh Mulhollem
Vermont Department of
Environmental Conservation



Aquatic Invasive Species & Management in Vermont



Plants

- ❖ Eurasian watermilfoil (98)
- ❖ Curly leaved pondweed (37)
- ❖ Water chestnut (LC + 30)
- ❖ Brittle naiad (9)
- ❖ European frogbit (9)
- ❖ Starry stonewort (1)

Animals

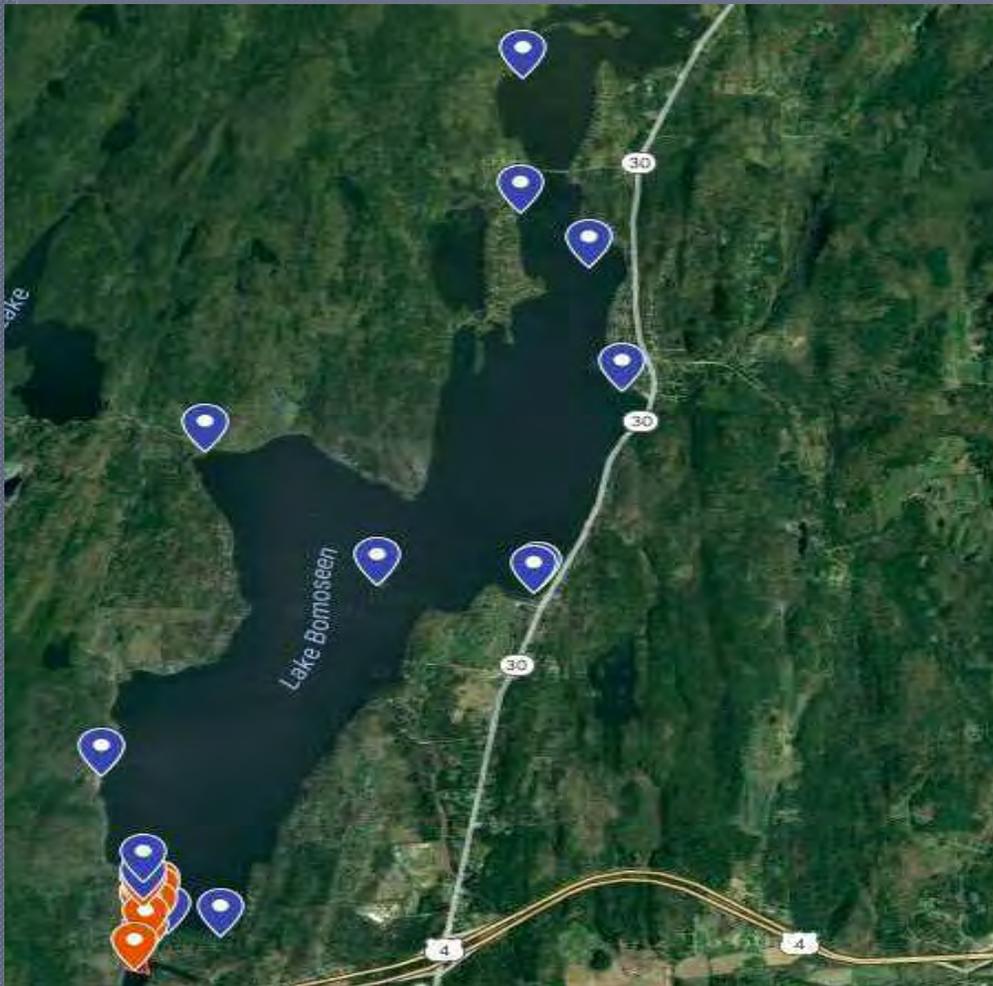
- ❖ Alewife (LC + 2)
- ❖ Zebra mussel (LC + 1)
- ❖ Asian clam (1)
- ❖ Rusty crayfish (???)
- ❖ Spiny waterflea (LC?)



Monitoring

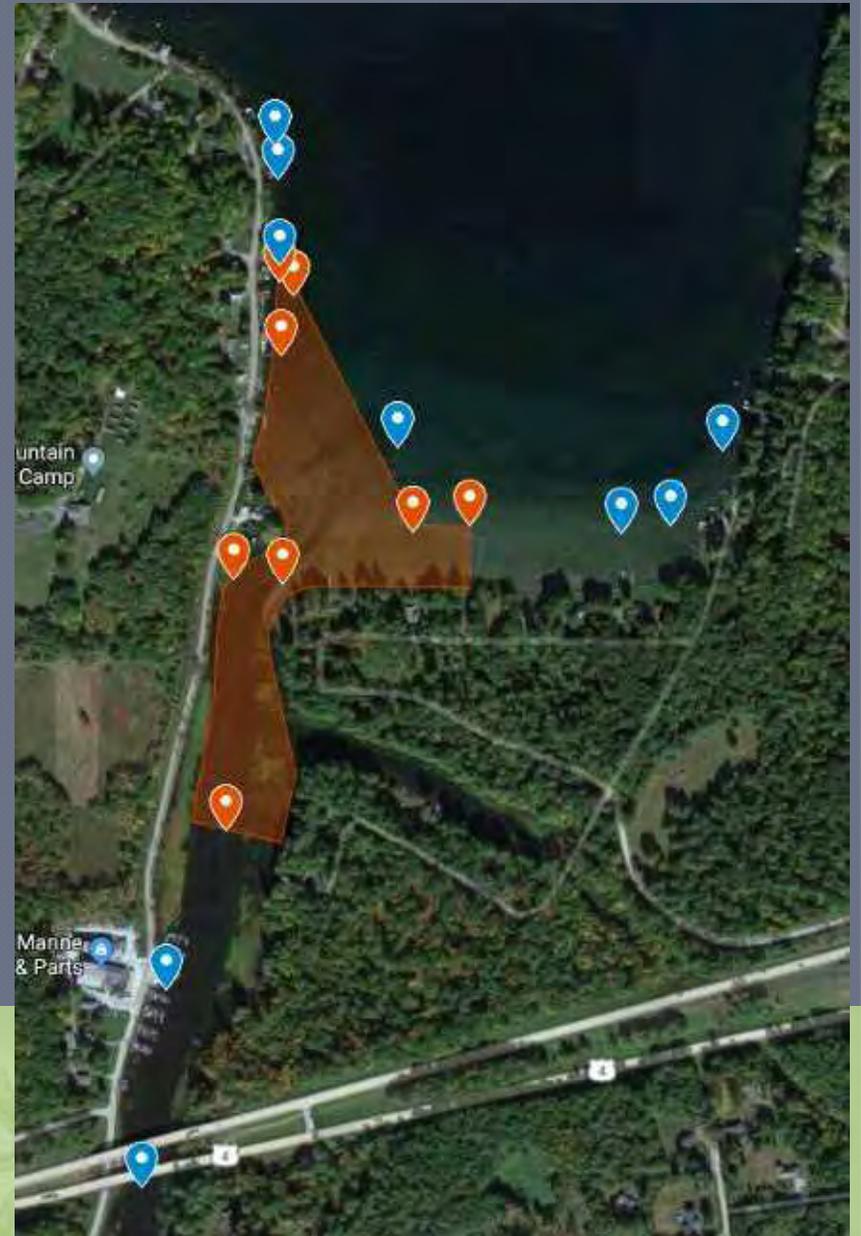
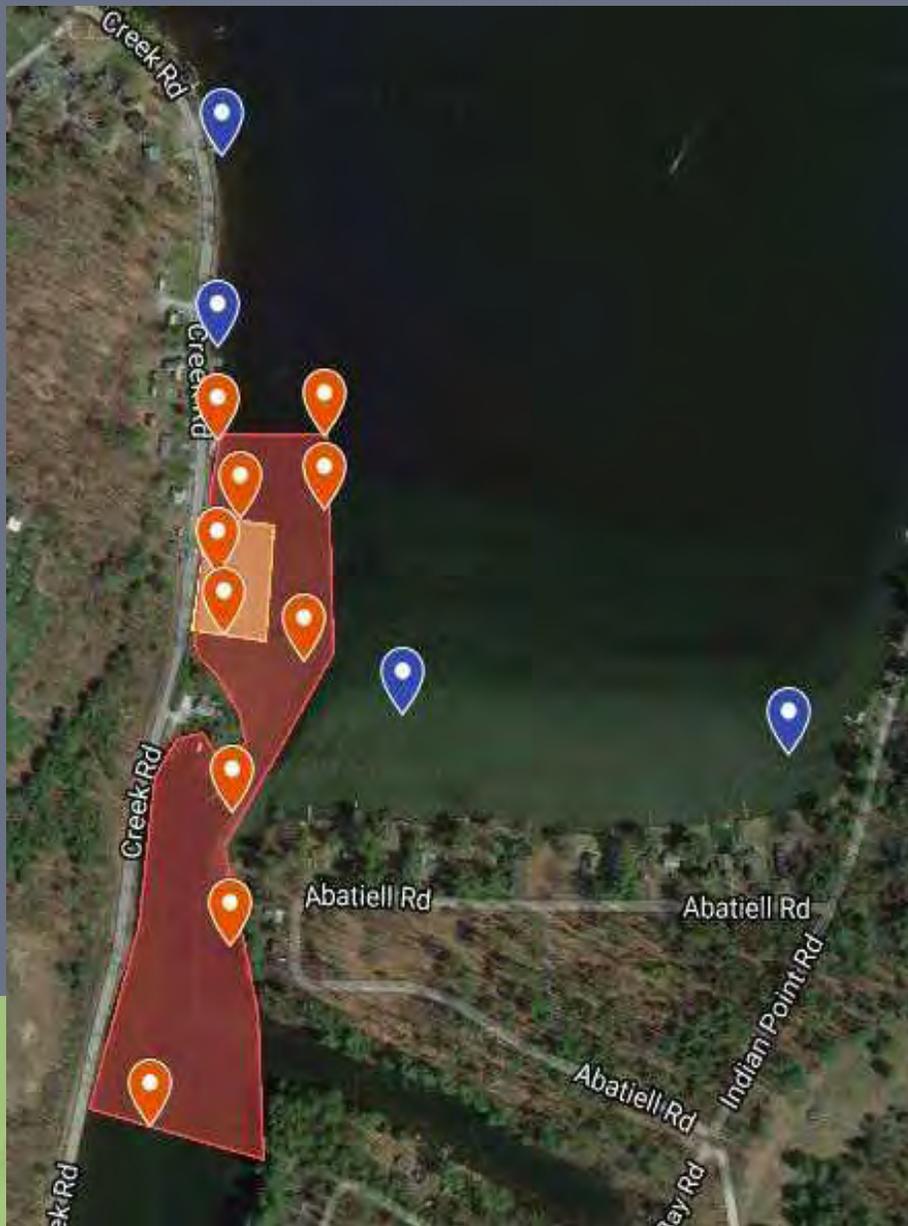
Asian clam surveys

2016



2016

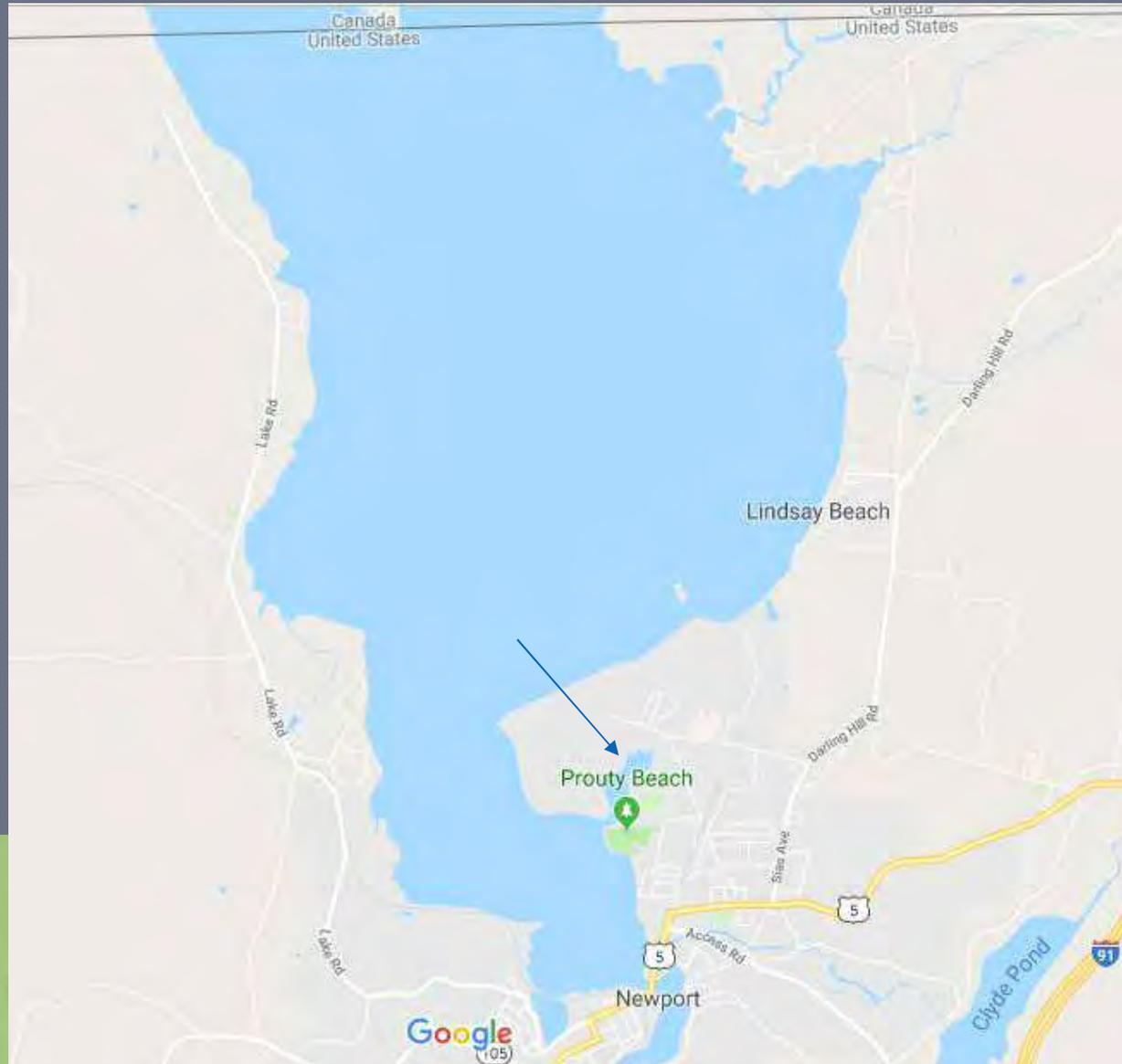
2017

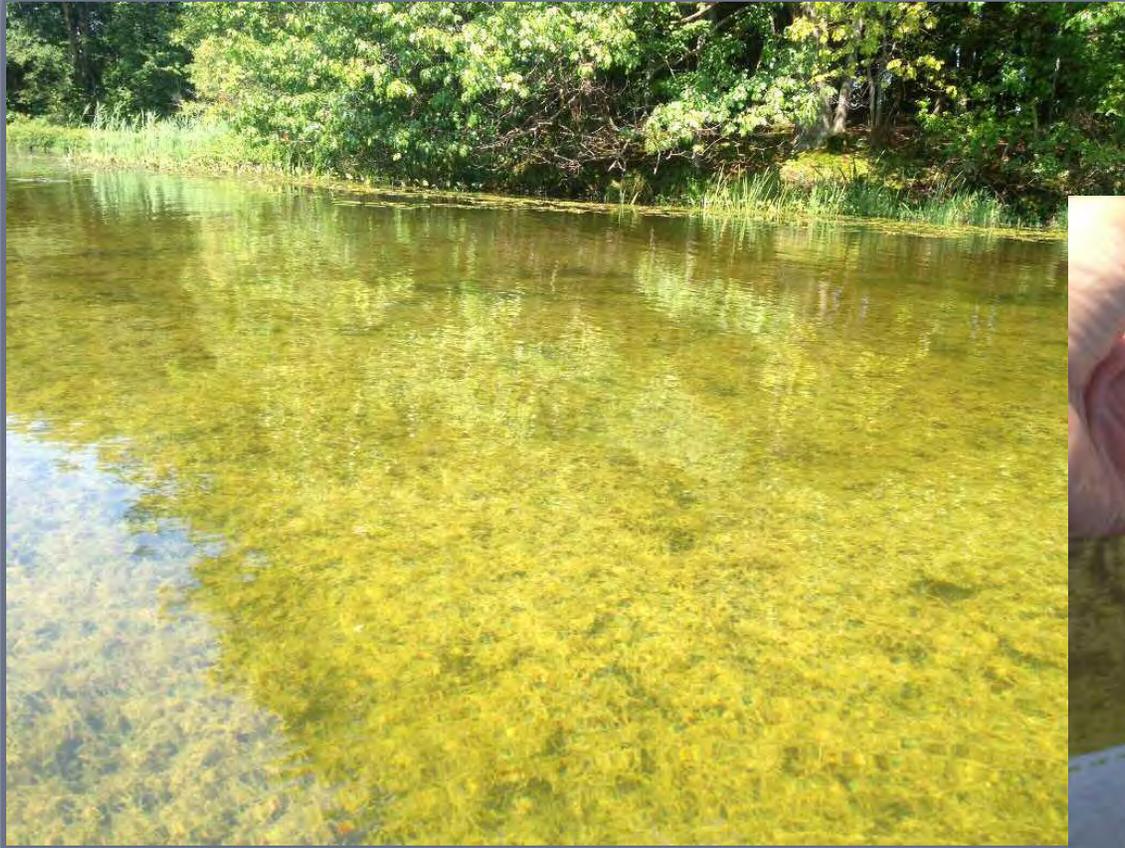


Lake Memphremagog

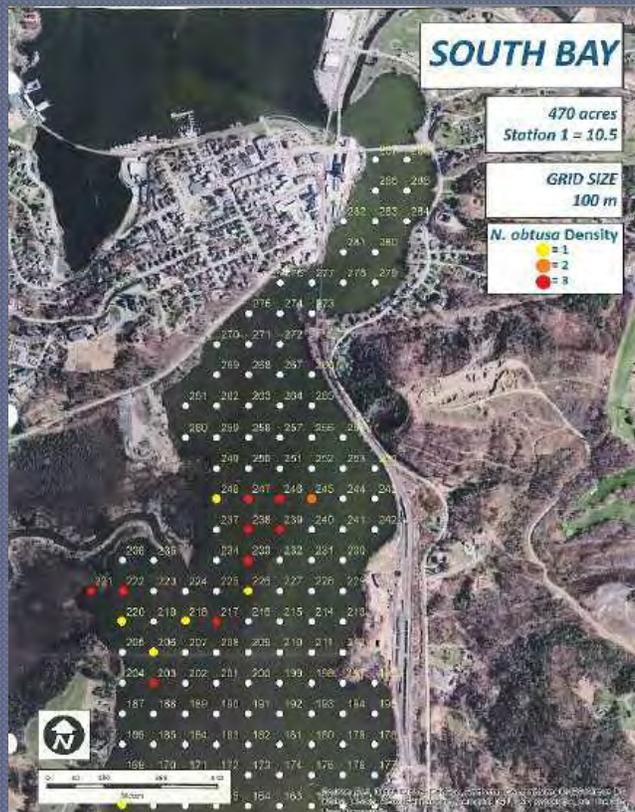
Monitoring

Starry stonewort



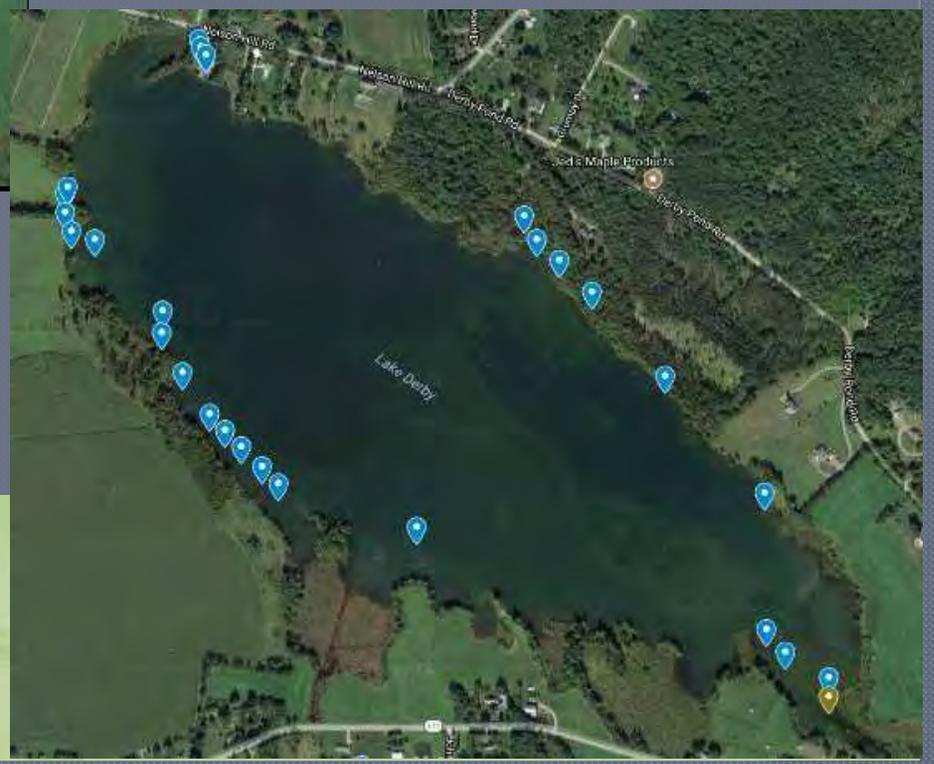


Lake Memphremagog





2016



2017

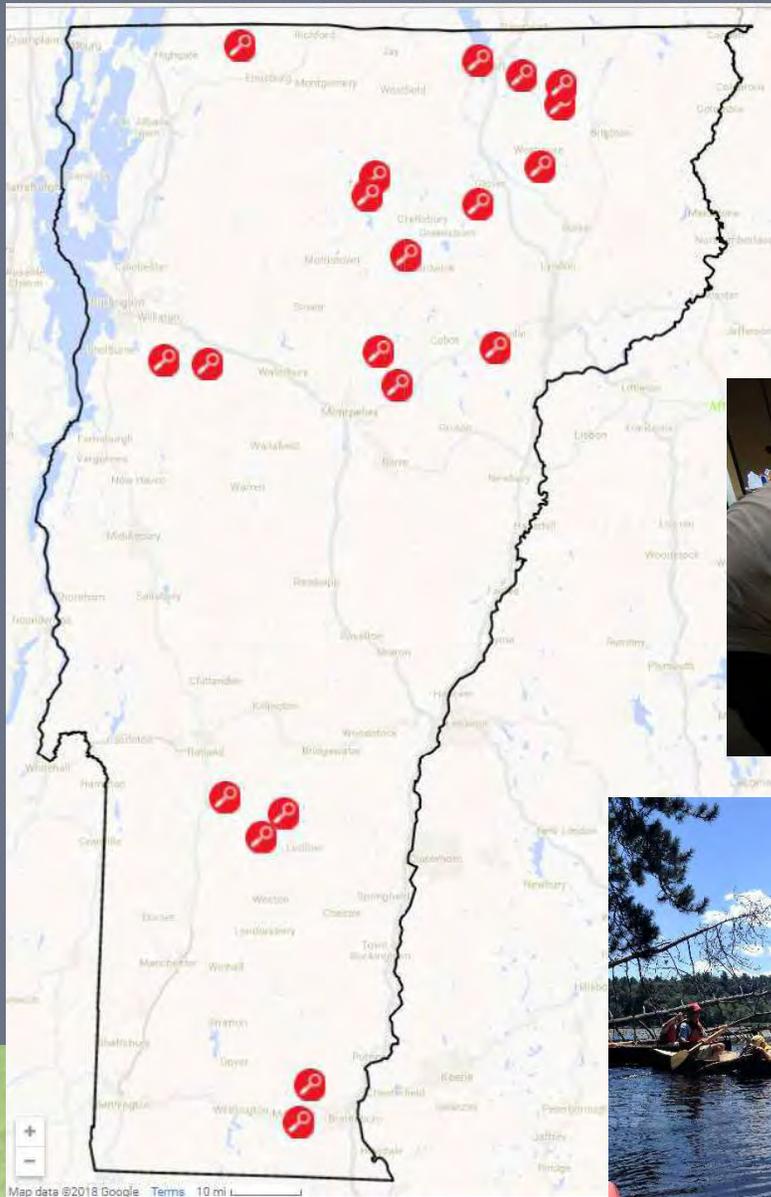
Lake Derby

Other monitoring priorities

- SWF, ZM monitoring (~40 lakes)
- EWM (new infestations)
- Rusty crayfish (2019?)
- Water chestnut genetics



Vermont Invasives Patrollers (VIPs)



BE AWARE!

While fishing on Lake Memphremagog, please help prevent the spread of the newly discovered **invasive plant species, Starry stonewort**. To prevent the spread of this species to new areas of the lake, **please clean off** your anchor, propellers, lower unit, power poles, live wells and other boating equipment that could become fouled with **aquatic vegetation** **before moving** to a different location on the lake.

LAKE MEMPHREMAGOG

The first discovery in Vermont of **STARRY STONEWORT** was found here.



Protect the Waters

CLEAN YOUR GEAR

INVASIVE SPECIES ALERT

Asian Clam

(Corbicula fluminea)



Confirmed in Lake Bomoseen in 2016

How can you identify them?

➤ This invasive freshwater bivalve is slightly triangular in shape with distinct concentric rows of elevated ridges on its shell.

Why the concern?

➤ Asian clams are filter feeding organisms that deplete resources needed by native species and reduce biodiversity.

➤ They can form dense populations very quickly in sediment, clogging intake pipes to lakeside houses, industrial water systems, and irrigation canals.



What can you do?

➤ Take these steps before launching **AND** before leaving any waterbody.

✓ **Clean** off any mud and sediment from boats, trailers, and anchors. Rinse with hot water.

✓ **Drain** your boat and equipment, including motors, all live-wells, bait buckets, bilges, ballast tanks, and other reservoirs that could transport lake water.

✓ **Dry** anything that comes into contact with the water.



For more information or to report an invasive species sighting, call 802-828-1535, or visit dep.vermont.gov/watershed/lakes-ponds



IMPORTANT NOTICE

Lake Memphremagog has **STARRY STONEWORT**, an invasive plant-like algae

This was the first discovery of this species in Vermont.

Enjoy your visit but help us prevent this **invasive species** from spreading and degrading aquatic habitats in other areas of this or other lakes.

✓ **Clean** Inspect and remove plants, animals and mud from boat, trailer, anchor lines and equipment.

✓ **Drain** boat and equipment away from water.

✓ **Dry** anything that comes into contact with the water for five days.

✓ **Never** release plants or animals into a body of water unless they came out of that body of water.



Source: Paul Skelton, UW Extension Lakes Program



May 2017

For more information, contact (802) 828-1535 or visit



- Home
- About DEC
- Commissioner's Office
- Administration and Innovation
- Air Quality and Climate
- Drinking Water and Groundwater
- Environmental Assistance
- Environmental Enforcement
- Facilities Engineering
- Geological Survey
- Waste Management and Prevention
- Watershed Management
 - Business and Operations
 - Clean Water Initiative
 - Lakes and Ponds
 - Data and Maps
 - Monitoring
 - Permitting
 - Aquatic Invasive Species**
 - Gallery of Invaders
 - Spread Prevention
 - Monitoring and AIS data
 - Control
 - Laws and Regulations
 - Grants and Funding Opportunities

AQUATIC INVASIVE SPECIES

Report an aquatic invasive species sighting in Vermont at 802-828-1535

Aquatic invasive species are nonnative species whose introduction can cause harm to the environment, economy, and even human health. They can sometimes be confused with nuisance species. While nuisance species can have similar impacts, they are native. The Vermont Aquatic Invasive Species Program coordinates management activities associated with both aquatic invasive and nuisance species. View program highlights in the [2016 Aquatic Invasive Species Annual Update](#). AIS population information, management actions, and spread prevention efforts can also be viewed geographically on the [AIS Map](#).

Follow the links below for more information:

- [Gallery of Invaders](#)
- [Funding Opportunities](#)
- [Spread Prevention](#)
- [Laws and Regulations](#)
- [Monitoring](#)
- [Greater Programs](#)
- [Control](#)
- [Vermont Invasive Patrollers \(VIPs\)](#)

Below is a list of our high-priority invasive and nuisance species. Click on an image for more information. The complete list of aquatic invaders threatening Vermont can be found in our [Gallery of Invaders](#).



What is being done in Vermont?

- Vermont DEC provides educational materials including pamphlets and newsletters, slide shows, identification posters, public access signage, and provides technical assistance to towns, waterbody associations, and other interested parties.

INTRO TO INVASIVES GET INVOLVED NEWS & EVENTS ABOUT US

VERMONT INVASIVES

Invasives on Land Invasives in Water

Gallery of Aquatic Invasives

Exotic nuisance species not only threaten Vermont's mountains, forests, and fields - they pose a serious threat to the Green Mountain State's lakes, ponds, and rivers as well. Enjoy taking a dip in the lake on a hot summer evening? Invasive plants such as Eurasian watermilfoil and water chestnut can quickly reach nuisance levels, choking out swimming holes and crowding out beneficial native species. Happen to be an avid fisherman? Small, seemingly benign organisms like spiny waterfleas and Asian clams can drastically impact aquatic foodwebs and limit fishing opportunities for

Water chestnut can quickly cover the surface of a waterbody, limiting swimming, fishing, and boating opportunities as well as blocking out light needed by

VERMONT INVASIVES

VT Invasives @vtinvasives

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Invite your friends to like this Page

576 people like this

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Josh Mulhollen likes this

About

Typically replies within an hour

Send Message

www.vtinvasives.org

Organization

Suggest Edits

People Also Like

Vermont Urban & Com. Organization

Vermont Agency of Nat. Government Organization

Clean Water Vermont Government Organization

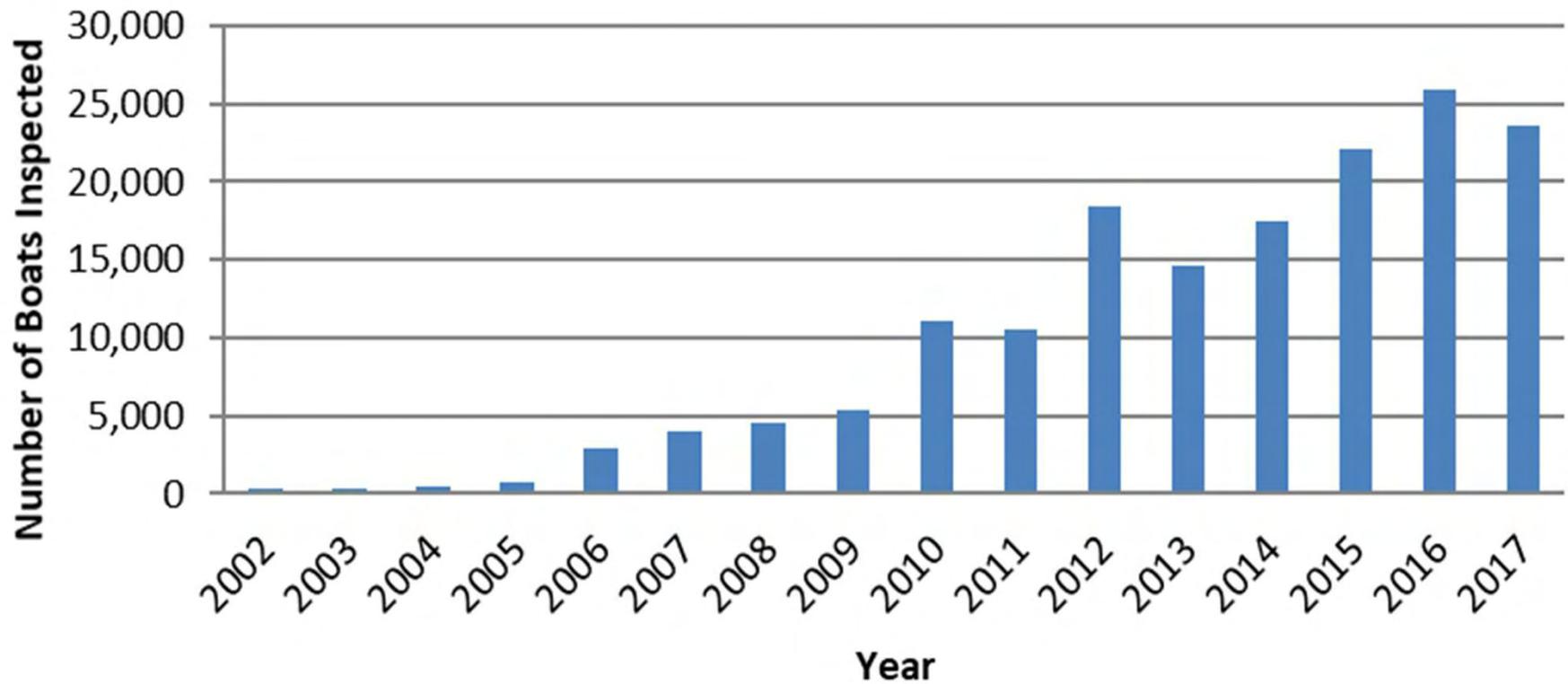
Pages liked by this Page

The Nature Conserva...

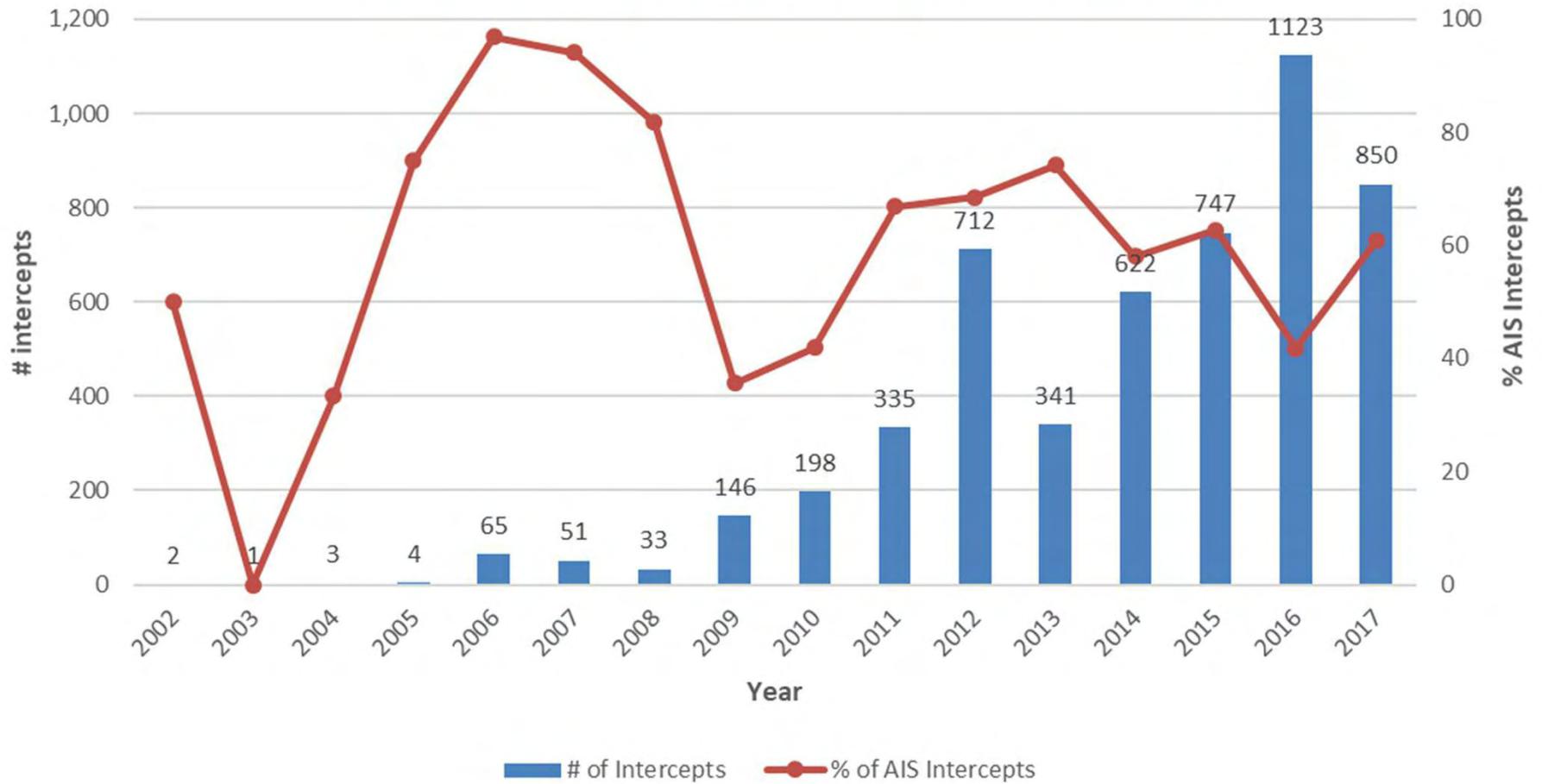
Spread Prevention Public Access Greeter Programs



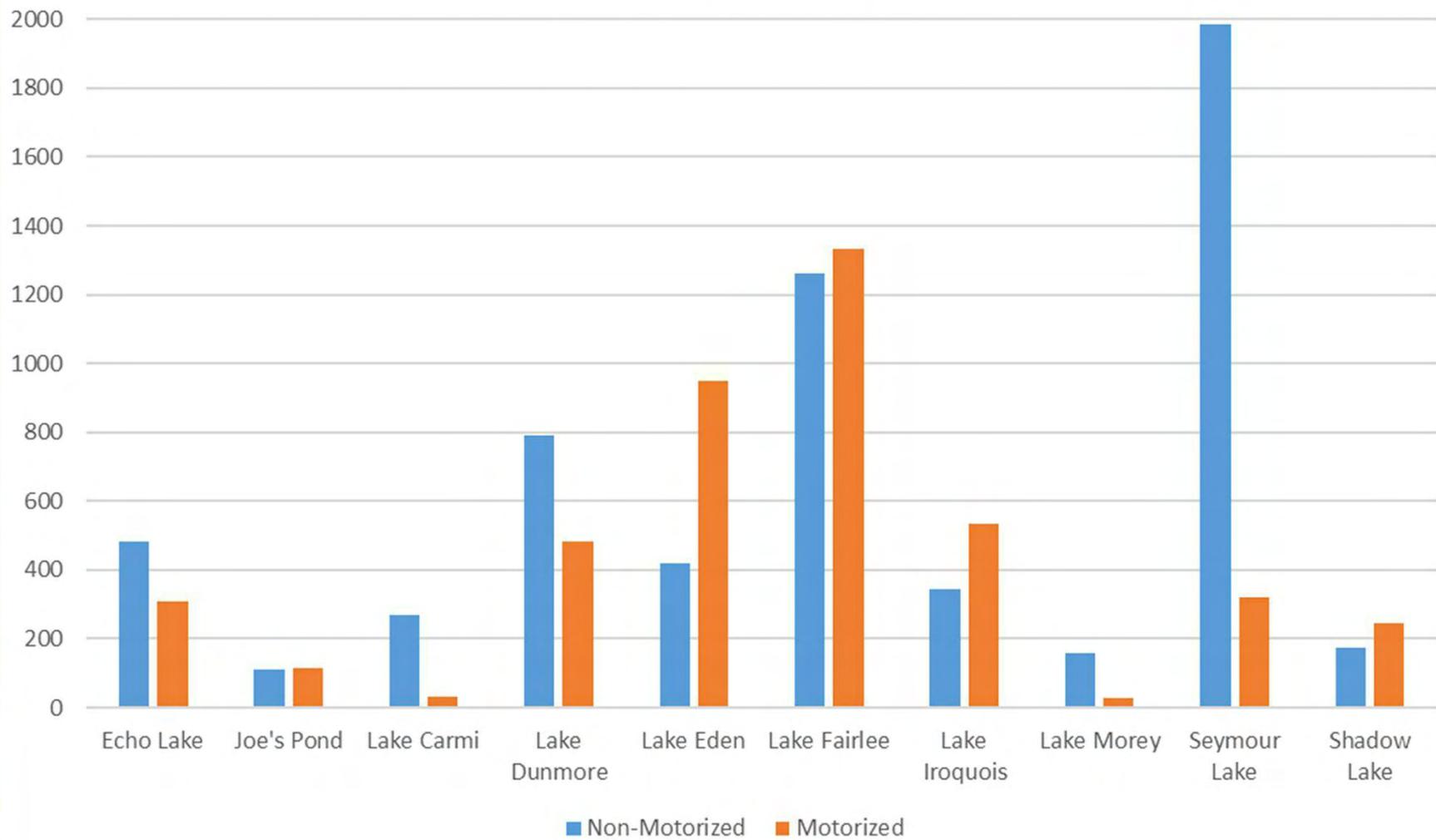
Number of Watercraft Inspected Per Year in Vermont



Intercepting Aquatic Invasive Species in Vermont



Watercraft using public access on selected lakes during greeter hours during the 2015 boating season



Spread Prevention Watercraft Decontamination



Aquatic Invasive/Nuisance Species Control Efforts



- ❖ Handpulling
- ❖ Bottom Barriers
- ❖ Diver Operated Suction Harvesting
- ❖ Hydroraking
- ❖ Mechanical Harvesting
- ❖ Herbicide Treatment

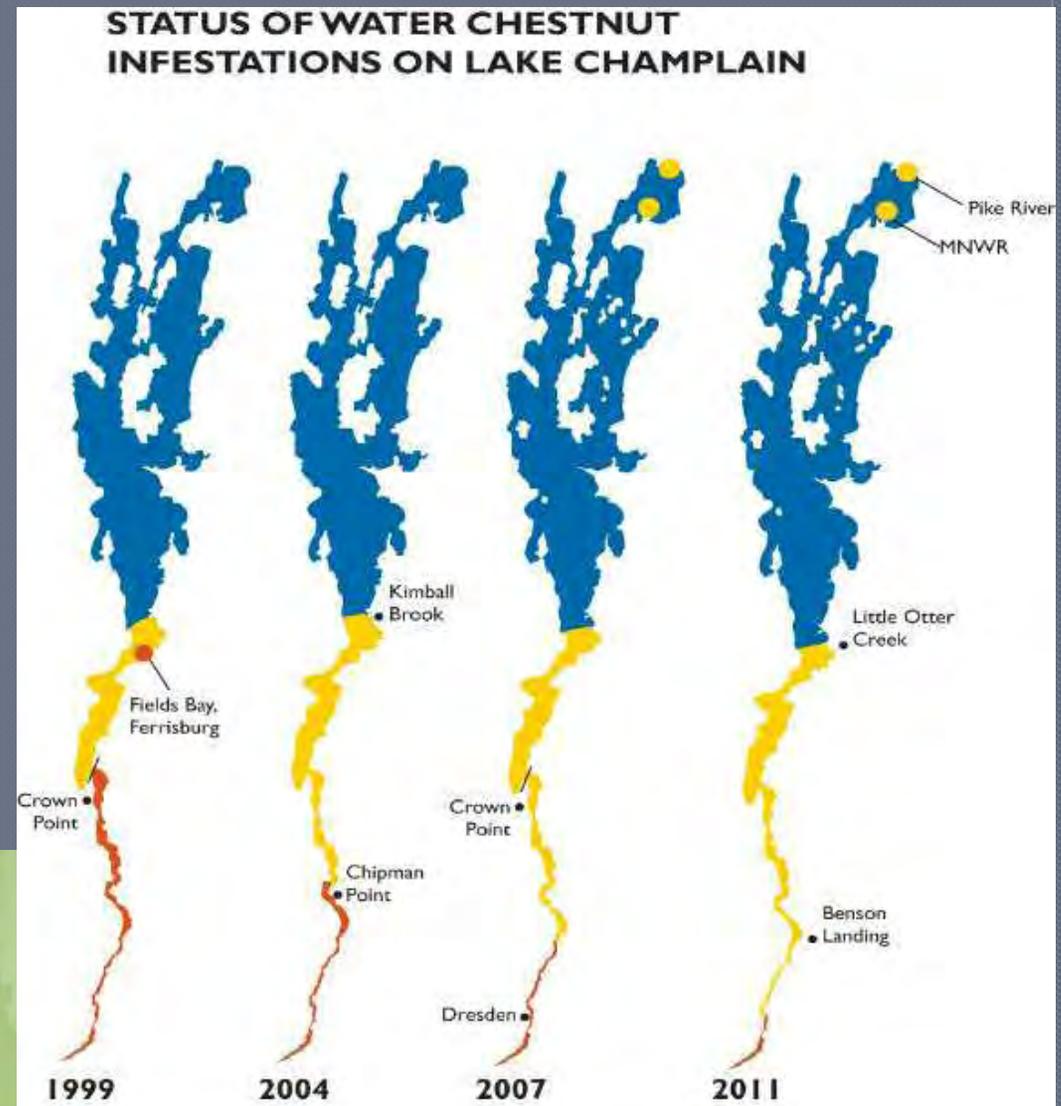


Water chestnut control program

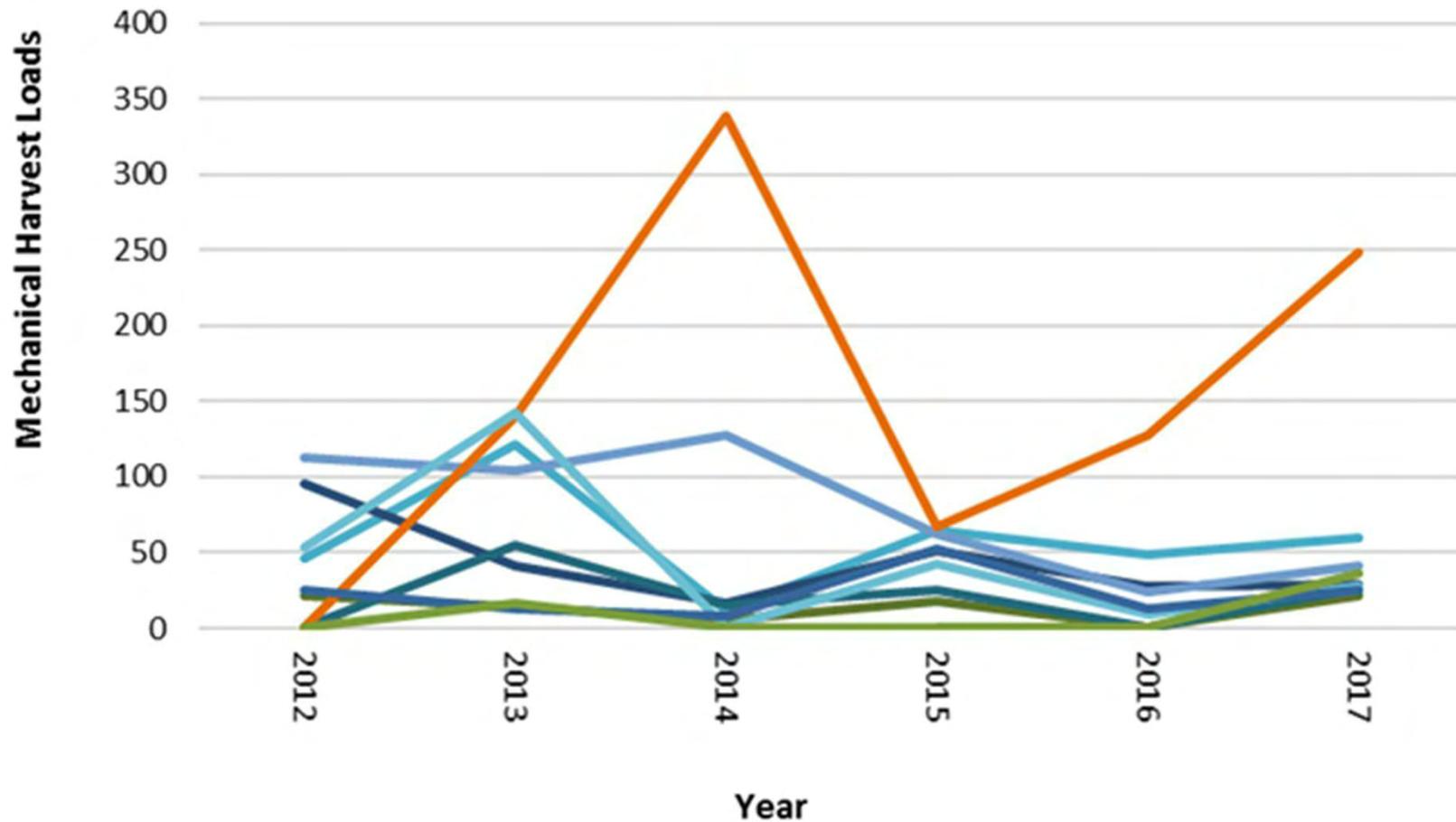
1. Large Scale Mechanical Harvesting

Completed on sites along the shoreline of Lake Champlain that contain dense mats.

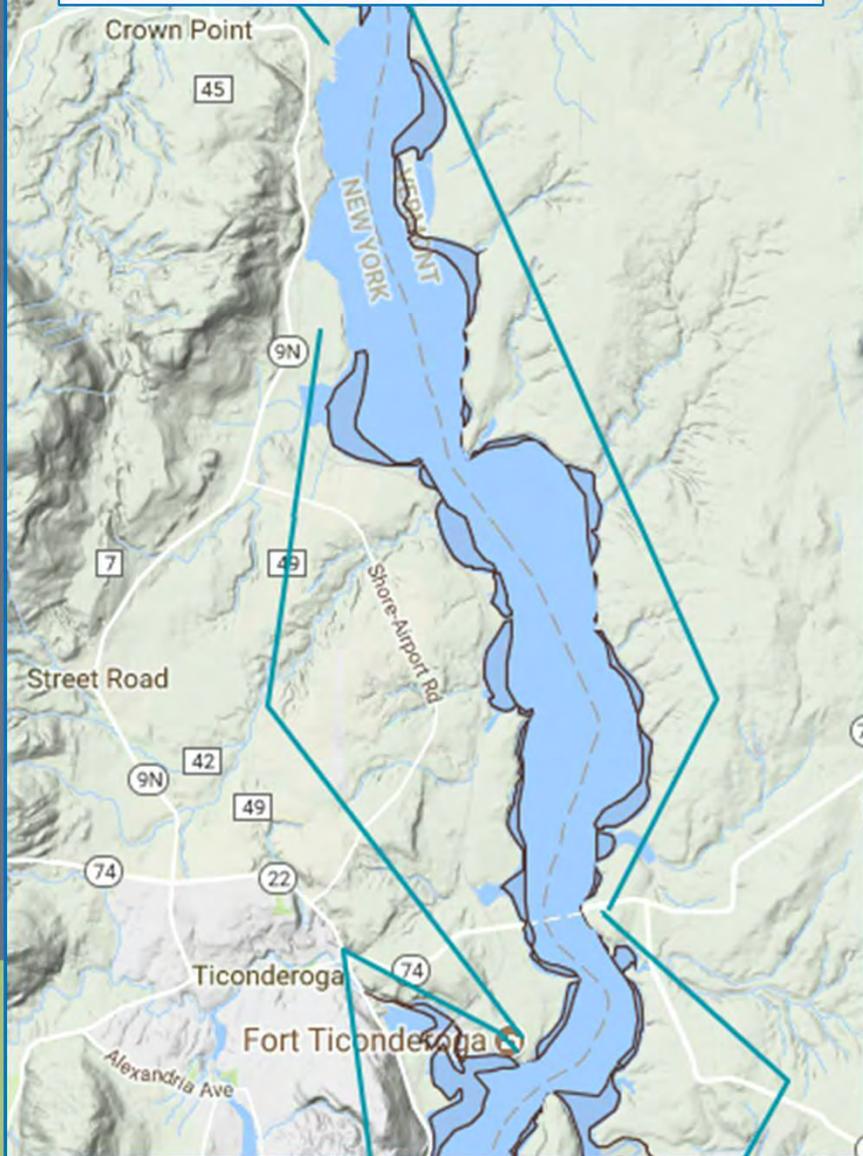
- Private Contractor
- Compost contract



Lake Champlain Mechanical Harvested For Past Five Years - All Sites



North Ticonderoga Region, VT & NY



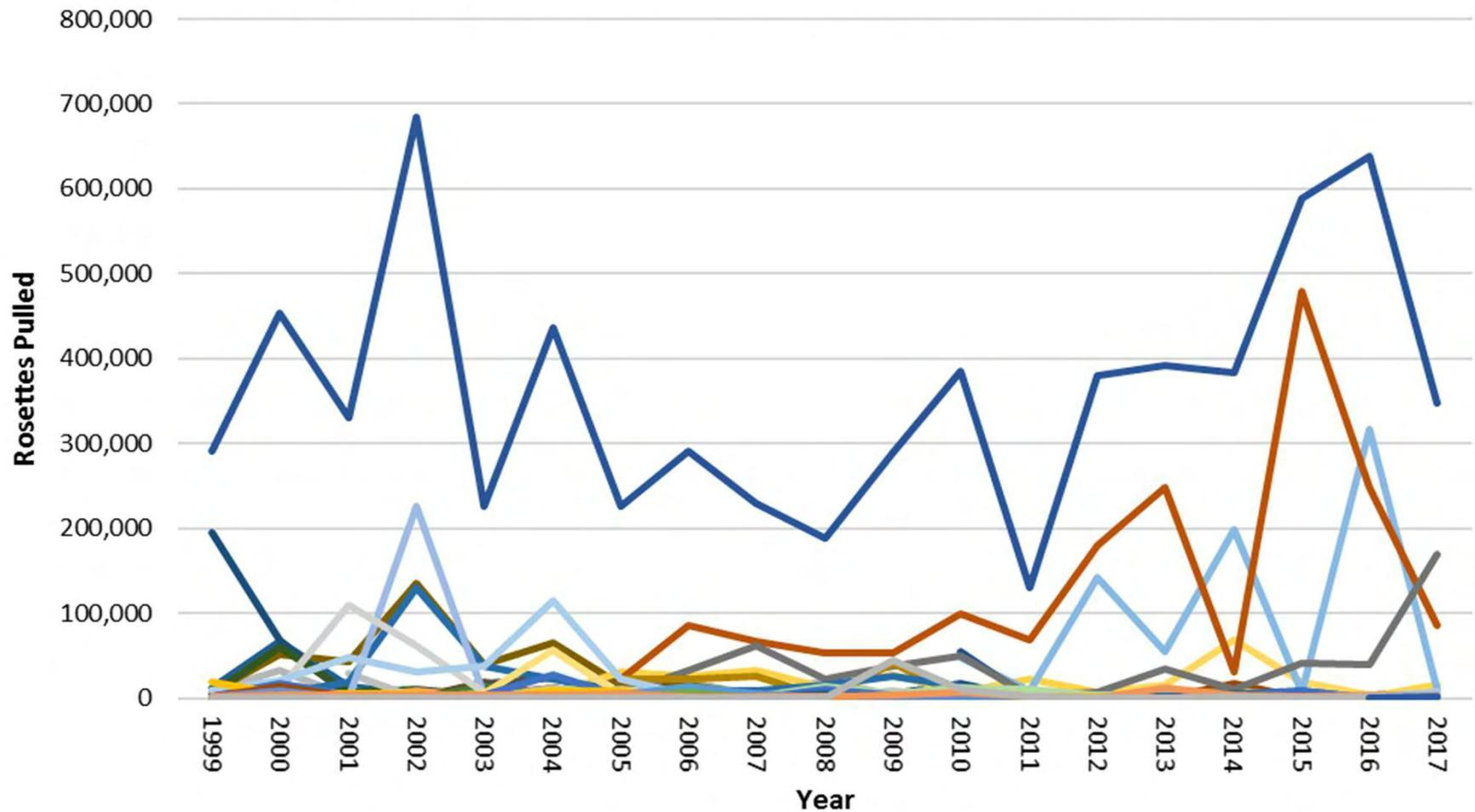
2. Handpulling Operations (63 Sites)

Completed on sites along the shoreline of Lake Champlain and other VT waterbodies

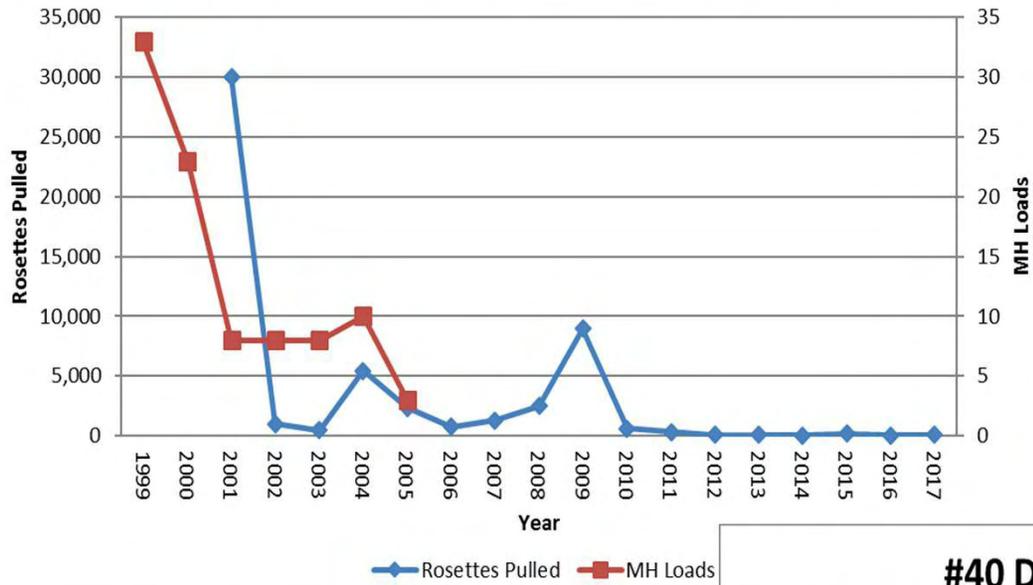
- Private Contractors
- The Nature Conservancy
- Missisquoi National Wildlife Refuge
- Vermont Youth Conservation Corp
- VTDEC



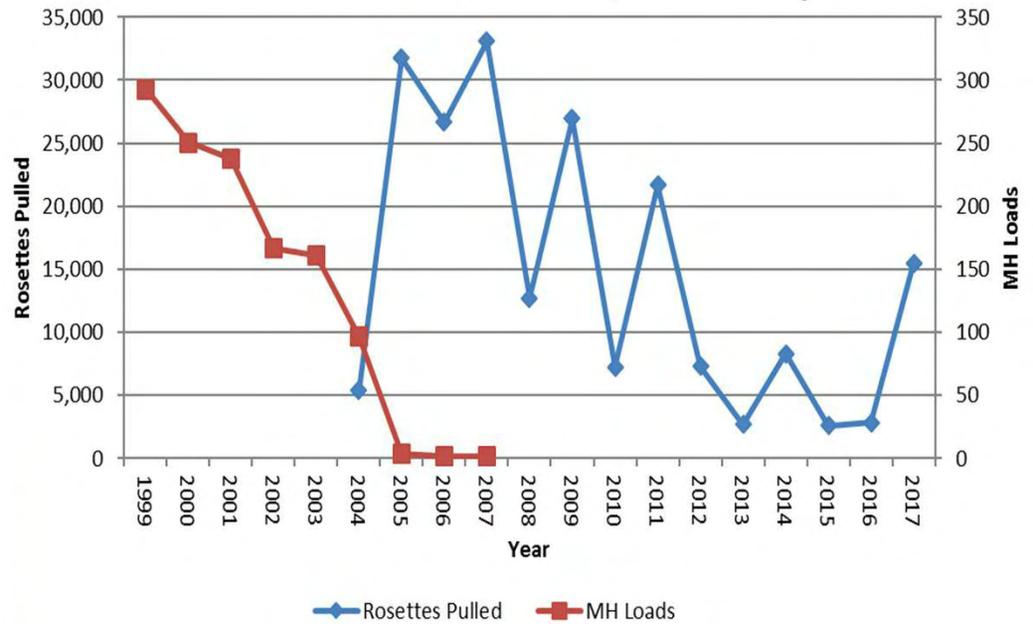
Lake Champlain Hand Harvested Sites - All Sites



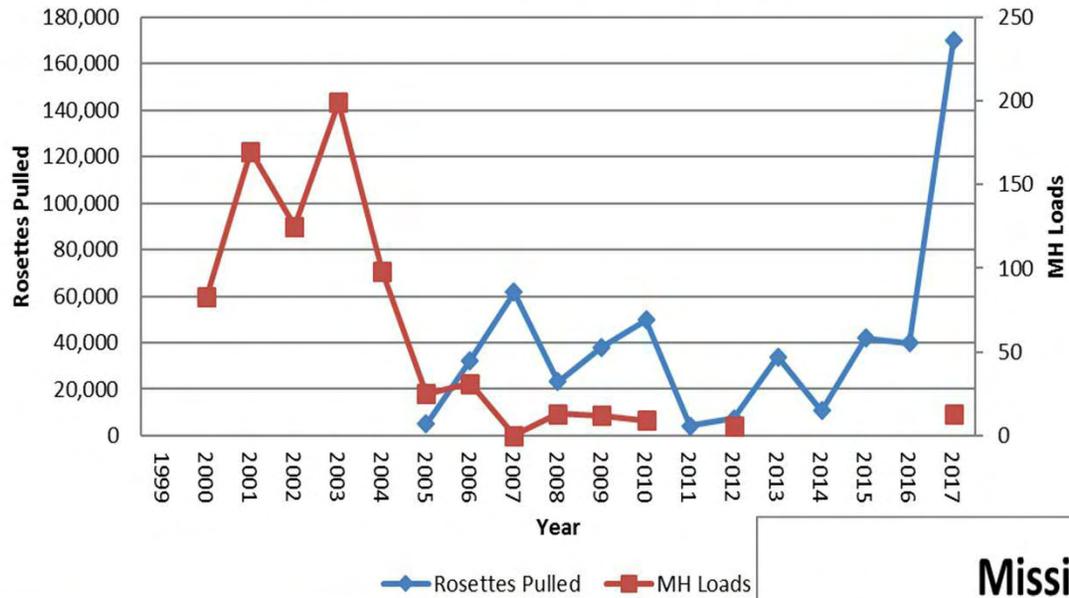
#39 Benson Landing, VT - Champlain



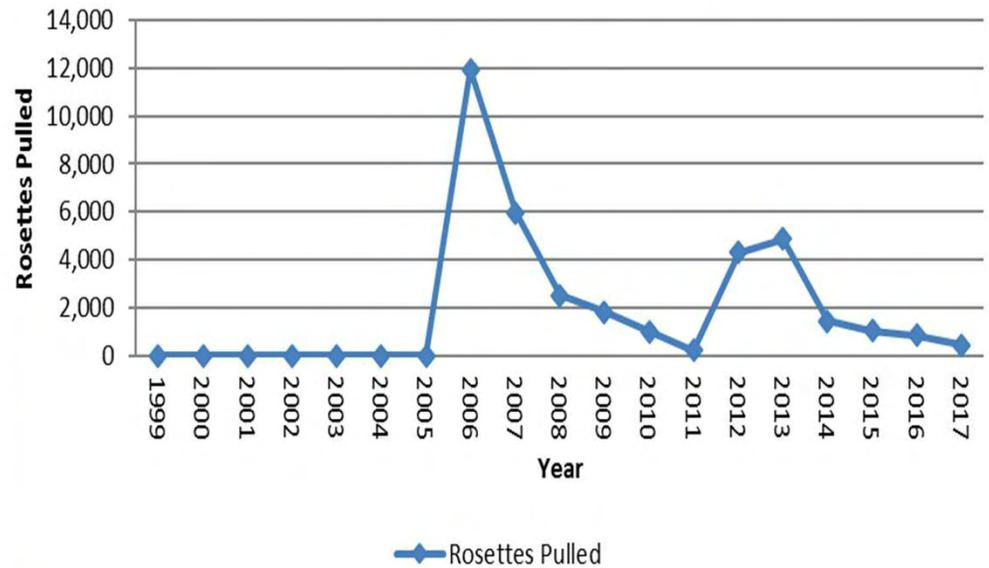
#40 Dutchers and South, VT - Champlain



#53 NY Light 4, NY - Champlain



Mississquoi Bay Region, VT & NY



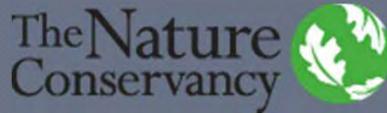
Other Vermont highlights

- ANC Grant-in-aid program
- Statutory Changes
- Lake Carmi...

The image shows a screenshot of the Facebook page for 'Save Lake Carmi'. The page features a cover photo of a wooden dock extending into a lake with green algae. The page name is 'Save Lake Carmi' with the handle '@SaveLakeCarmi'. The navigation menu on the left includes Home, Posts, About, Photos, Community, Events, Reviews, and a 'Create a Page' button. The main content area shows a post from 'Save Lake Carmi' shared about 'Lake Carmi TMDL Implementation', with 282 likes. The right sidebar displays 'INSTANT GAMES', 'YOUR GAMES', 'YOUR PAGES' (including 'VT Invasives' and 'Vermont Lakes and Ponds'), and 'CONTACTS' (listing several users and their activity times).



VT AIS Program On the Horizon



- ❖ VT Department of Environmental Conservation
 - ✓ VT ANR Atlas Mapping – Lakes & Ponds Layers
 - ✓ Bathymetry, vegetation density mapping
- ❖ VT Agency of Natural Resources (DEC, F&W, FP&R)
 - ✓ Collaborative outreach materials
- ❖ VT Aquatic Nuisance Control Permits
 - ✓ Rulemaking

