2013 Update

Vermont Department of Environmental Conservation, November 2013

Aquatic Animal Species Population Monitoring

- Sixteen inland lakes deemed vulnerable to **zebra mussel** establishment, and one river (Connecticut), were monitored for zebra mussel veligers using plankton net sampling. Results of microscopic examination of these samples found no zebra mussel veligers. Known zebra mussel populations in Vermont remain confined to Lake Champlain and Lake Bomoseen. Monitoring of all Lake Champlain segments was conducted and zebra mussel settlement was noted on all plates recovered. No major population changes were noted; the Mallets Bay segment continues to have the lowest densities.

Aquatic Plant Species Population Monitoring

- New sightings of two aquatic invasive plant species known to already exist in the state were confirmed this year. One new **European frog-bit** (*Hydrocharis morsus-ranae*) population was confirmed in a wetland associated with the northern tip of Lake Bomoseen, bringing the total number of infested bodies of water to seven in Vermont. There were four new **water chestnut** (*Trapa natans*) infestations discovered, two within Missisquoi Bay, Lake Champlain and one within the Missisquoi National Wildlife Refuge, areas where water chestnut populations have rebounded in the last several years, and one new population found in Lake Shaftsbury in southern Vermont**.**
- **While no new populations of yellow-floating heart** (*Nymphoides peltata*) were confirmed, an expansion of the only known population, located in southern Lake Champlain, was noted.
- No new **Eurasian watermilfoil** (*Myriophyllum spicatum*), **variable-leaved watermilfoil** (*Myriophyllum heterophyllum*), **curly leaf pondweed** (*Potamogeton crispus*) or **brittle naiad** (*Najas minor*) sites were identified.
- For the other five invasive aquatic and wetland plants known from the state – **Japanese knotweed** (*Fallopia japonica),* **flowering rush** *(Butomus umbellatus),* **yellow flag iris** *(Iris pseudacorus*), **purple loosestrife** *(Lythrum salicaria*), **common reed** *(Phragmites australis*) – new distribution information was not collected**.**
- Aquatic plant related **surveys** were conducted on 40 water bodies representing 61 survey days. These surveys map established species populations, search for new invasive plant introductions, or gather related data (e.g. rare, threatened or endangered species information).

Control and Spread Prevention Projects

- $244,000 in grant funds representing 25% of annual Vermont motorboat registration receipts were provided thru the **Grant-in-Aid grants program** and supported 34 municipal aquatic invasive species projects this year. With requests for $1.5M, grant awards were low and for the first time, low priority projects were not funded. Funded projects included:
  - 22 Eurasian watermilfoil control projects, 11 of which also included a boat access area "greeter" program in cooperation with the Department of Fish and Wildlife or local partners.
  - 12 spread prevention projects, all of which included public boat access area "greeter" programs, most in cooperation with the Department of Fish and Wildlife.

  The results of these funded projects are currently under review.

- In the absence of an available local entity, Department staff continued to manage an incipient **Eurasian watermilfoil** population in Hinkum Pond in Sudbury. Control assistance was also provided to local partners associated with two waters, Crystal Lake (Barton) and Shadow Lake (Glover).

Water chestnut in Lake Shaftsbury (VTDEC)

- **Water chestnut control** occurred in all but two of the 26 water bodies confirmed with this invasive aquatic plant. Water levels at these two sites were too low for access. In 2013, 12 of 24 non-Lake Champlain sites had less than 20 rosettes handpulled and no water chestnut was found in 5 previously managed rivers and lakes in VT - Lake Paran, Lake Bomoseen, North Springfield Reservoir, Lily Pond (Poultney), and Little Lake (Wells). Handpulling continued to be the main control method used at all sites. Mechanical harvesting is used on dense mats and only in Lake Champlain. An increase in funding and help from NYSDEC and the Town of Dresden allowed all dense mats in Lake Champlain to be targeted and the total amount of water chestnut removed was a program record. All mechanical harvesting spoils were composted at a farm in Benson, VT. Similar to 2012, VT Lake Champlain control efforts ended a mile south of the Narrows of Dresden. Management efforts represent a partnership with numerous government and nongovernment entities, including The Nature Conservancy, The Lake Champlain Basin Program, the U.S. Fish and Wildlife Service, the US Army Corps of Engineers, the Lewis Creek Association, the State of New York, and the town of Dresden, NY.

- **Grant funds were provided to the Friends of Missisquoi Bay** to support a seasonal position to assist Missisquoi National Wildlife Refuge staff with water chestnut surveying and removal within the Refuge boundary.

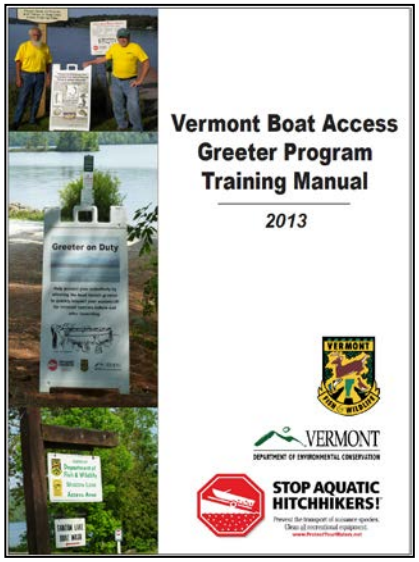
- The Department provided Vermont Fish and Wildlife Department Game Wardens and Department of Public Safety (State Police) with **grant funds to support supplemental officer hours** at water body access points. Officers provide education and enforcement of Vermont's aquatic plant, zebra and quagga mussel transport law, and Vermont's (April 1, 2011) felt-soled wader prohibition. Results of this effort are not yet available.

- **Lake Champlain Cooperative Boat Wash Initiative:** The Lake Champlain Basin Program and the Vermont Department of Environmental Conservation partnered again this year with car wash stations in Vermont and New York to connect boaters to pressure washing facilities for their boats, trailers, and other equipment. Updated information regarding dimensions of wash booths, water temperature, and water pressure from the participating carwashes was collected. One carwash dropped out of the program while three new carwashes were added in 2013, totaling twelve participating carwashes. A revised brochure listing the stations in Vermont and New York with updated information is being prepared.

Public Information and Education

- **Vermont Greeter Program reports for 2013** are pending. In 2012, 24 programs reported a total of 17,557 inspections of boats at Vermont lake access areas (up from 9,838 in 2011). Of these, 152 (4%) launching boats were found to be carrying plant material, including some that were carrying Eurasian watermilfoil and zebra mussels.

- Staff participated in four public water body access training workshops: two workshops were specifically for the **Vermont Greeter Program,** a third for Vermont State Park employees at parks in the Northeast Kingdom region, and the last as a partner to the Lake Champlain Lake Steward Program run by the Lake Champlain Basin Program. A total of 95 individuals were trained representing 27 bodies of water (46 individuals from 17 bodies of water were trained in 2012).



- A new **Greeter Program training manual** was produced and distributed to all existing greeter programs. The training manual is a greeter program nuts and bolts reference and provides guidance on a consistent public message. Sandwich boards labeled with "Greeter on Duty" and greeter-identifying t-shirts were also distributed to give individual programs a uniform appearance.
- A part-time greeter was supported at 839-acre **Waterbury Reservoir** (Waterbury, Stowe), splitting time between two access points, Blush Hill and the dam. The reservoir was confirmed with a dense population of brittle naiad (*Najas minor*) in 2012. The greeter worked a total of 18 days and reported a 142 interactions with public access users.
- Staff provided **sample identification support** to the Lake Champlain Lake Steward Program, confirming identifications of over two dozen samples retrieved from equipment by Stewards.
- **Educational invasive species presentations** were provided for several organizations, including the Hinkum Pond property owners, the Shadow Lake Association, The Lake Iroquois Association BOD, the friends of Great Hosmer, the Sunrise-Sunset Lake-Perch Pond Association, and the Ticklenaked Pond Association.
- Invasive species **spread prevention signs** continued to be posted at public boat accesses across the state. A total of 134 boat launches were visited in 2013 to install, repair, or ensure signs where at each access.
- **Site visits were made to all aquarium retailers** selling live aquatic plants (8) in cooperation with the Agency of Agriculture Food and Markets to inspect for and educate retailers on the species that are on Vermont's Noxious Weed Quarantine Rule #3. This rule prohibits the sale and movement/distribution of a number of aquatic species recognized as invasive in Vermont and adjacent states to prevent these species from potentially reaching new areas or slow their further spread across the state through commerce. No retailers were found selling any of the species listed under the Quarantine Rule. Retailers that sell aquarium plants online were also searched for and notified if they were selling a species listed under the Quarantine Rule and did not acknowledge the restriction to consumers.

Rapid Response

- Control and search efforts continued on Vermont's first **variable-leaved watermilfoil** population in Halls Lake in Newbury (confirmed in 2008). Three surveys were conducted in 2013 with no variable-leaved watermilfoil found. Variable-leaved watermilfoil has been found in the lake since June 2011.
- In September, staff responded to a sighting of water chestnut in 27-acre Lake Shaftsbury in Bennington County from a CT lake consultant. Staff surveyed the lake and associated wetlands and removed a total of 501 water chestnut rosettes. Future annual surveys paired with hand pulling will be employed to control this population.
- The Lake Champlain Basin **Rapid Response Task Force** is charged with implementing and overseeing rapid response actions in the Basin. No activities occurred in 2013 that required action by

the Task Force. In 2012, the Task Force conducted risk assessments for spiny water flea (*Bythotrephes longimanus*) in the Lake Champlain Canal system and Lake George in NY, and evaluated VTDEC's response to the confirmation of brittle naiad (*Najas minor*) in Waterbury Reservoir in VT.

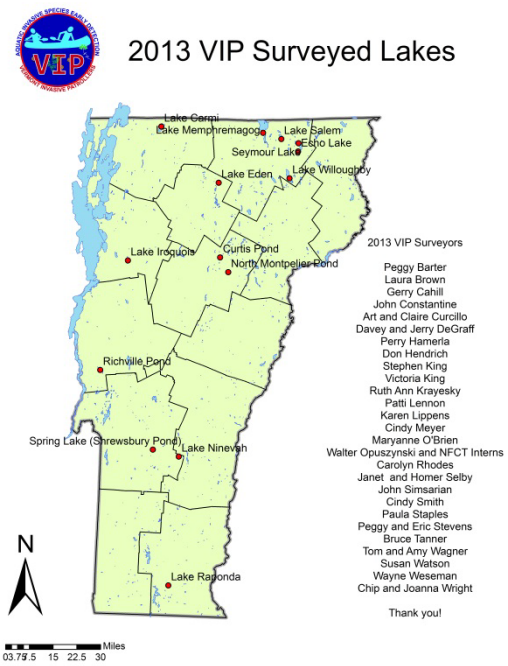
- A Vermont **emergency general permit** was authorized in February 2011. This general permit allows the commissioners of the departments of Environmental Conservation, and Fish and Wildlife to seek coverage for rapid response to a new invasive species invasion. No requests for coverage were required in 2013. To date, extended coverage has been granted to the Department of Environmental Conservation for diver operated suction harvesting of variable-leaved watermilfoil in Missisquoi Bay.

Regulatory

- Staff continued to provide guidance to those seeking coverage under the Agency of Natural Resources' issued NPDES (National Pollution Discharge Elimination System) Pesticide General Permit (PGP) for pesticide discharges to Vermont waters in compliance with the provisions of the federal Clean Water Act. Vermont's NPDES PGP took effect November 9, 2011 and expires on midnight of October 31, 2016. Coverage under this permit is available for mosquito and other nuisance pest control; weed and algae control; nuisance animal control; and forest canopy and area-wide pest control. Coverage under the NPDES PGP does not obviate the requirement to obtain an Aquatic Nuisance Control permit. A copy of Vermont's NPDES PGP and information on applying for coverage is available at http://www.watershedmanagement.vt.gov/lakes.htm

Volunteer Early Detection

- Two **Vermont Invasive Patrollers (VIP) workshops** were attended by 23 people in 2013: one workshop hosted by the Northern Forest Canoe Trail and held at Missisquoi National Wildlife Refuge Visitor Center, and the other was held at the Marsh-Billings-Rockefeller National Historic Park. Five workshop participants committed to survey through the VIP program.
- Thirty-three volunteers participated in 46 aquatic invasive species surveys of 14 Vermont lakes. No new invasive species infestations were reported.
- VIP staff conducted one site visit with VIPs at Seymour Lake and offered an introductory AIS presentation at the VTDEC/FOVLAP annual Lakes Seminar.



Other

- Vermont established cooperative invasive species partnerships or **CISMAs** - grassroots partnerships representing federal, state and local government agencies, individuals and non-government groups – continued efforts to manage invasive species in defined areas. Established CISMAs represent the following watersheds, the Ottauquechee, Upper Connecticut White rivers.
- An inter-state invasive plant collaboration, **the Connecticut River Watershed Invasive Species Leadership Initiative**– spearheaded by the Silvio O. Conte National Wildlife Refuge—continued to provide support to regional CISMAs. Six sub-watershed CISMAs currently exist in the region -- two in Vermont; two in CT; one in MA; and one spanning portions of Vermont, New Hampshire and Quebec. With the establishment of the Leadership Initiative and regional CISMAs, the opportunity to provide an integrated network better equipped to prioritize invasive plant control actions, and plan and implement early detection and rapid response actions now exists within the watershed.

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For more information, contact: **Vermont Aquatic Invasive Species Program**
Department of Environmental Conservation, Watershed Management Division*
1 National Life Drive, Main 2, Montpelier, VT 05620-3522
http://www.watershedmanagement.vt.gov\lakes.htm

* **As of October 2012, the Watershed Management Division (formerly the Water Quality Division) has permanently relocated to an office in Montpelier after a one year temporary office in Winooski and a move from the State Office complex in Waterbury, flood-damaged by Tropical Storm Irene in August 2011.**

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