



2012 Update

Vermont Department of Environmental Conservation, February 2012

Aquatic Animal Species Population Monitoring

- Eighteen inland lakes deemed vulnerable to **zebra mussel** establishment, and one river (Connecticut), were monitored for zebra mussel veligers using plankton net sampling during summer 2012. Results of microscopic examination of these samples are not yet available. Known zebra mussel populations in Vermont remain confined to Lake Champlain and Lake Bomoseen.

Aquatic Plant Species Population Monitoring

- Only two new confirmations of an invasive aquatic plant, both species already known from the state were documented this season. One new **brittle naiad** (*Najas minor*) water was confirmed, 839-acre Waterbury Reservoir in Waterbury and Stowe, bringing the total number of known lakes with populations of this species to eight.* This species was first confirmed in Vermont in 1984. **Water chestnut** was identified at one new site in Missisquoi Bay, Lake Champlain: 1,469 rosettes were found and removed from Shad Island near the mouth of the Missisquoi River. In addition to Lake Champlain, water chestnut is known from 22 water bodies.
* In two of these six water bodies, declines of brittle naiad have been noted.
- No new **Eurasian watermilfoil** (*Myriophyllum spicatum*), **yellow-floating heart** (*Nymphoides peltata*), **European frog-bit** (*Hydrocharis morsus-ranae*) or **curly leaf pondweed** (*Potamogeton crispus*) sites were identified.
- In an effort to eradicate new infestations of **Japanese knotweed** (*Fallopia japonica*) in the wake of Tropical Storm Irene and the resulting remediation efforts, the Vermont Agency of Natural Resources hired an individual to coordinate volunteer-initiated mechanical control efforts. Emphasis was placed on the east central portion of the state. The coordinator successfully engaged many local river and other volunteer groups to find and remove newly established populations of knotweed throughout the state.
- For the other four invasive aquatic and wetland plants known from the state – **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 over 34 water bodies representing 50 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).

Didymo population monitoring

- No new rivers with **didymo** (*Didymosphenia geminata*) infestations were discovered in 2012. Staff limitations prevent extensive monitoring for didymo. Monitoring of bloom activity largely revolves around follow-up on public reports. Only one nuisance bloom was reported; the bloom was noted at limited sites in the Batten Kill in June.

Control and Spread Prevention Projects

- \$460,000 in grant funds (25% of annual motorboat registration receipts and federal matching funds) provided thru the **Grant-in-Aid grant program** supported 37 municipal aquatic invasive species projects this year:
 - 27 Eurasian watermilfoil control projects, 13 of which also included a boat access area “greeter”

program in cooperation with the Department of Fish and Wildlife or local partners.

- 10 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 control** occurred in all 23 water bodies confirmed with this invasive aquatic plant. Most of the sites are located on the western side of the state within the Lake Champlain Basin. 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 and the US Army Corps of Engineers. After the extremely high water levels of 2011, water chestnut populations rebounded in 2012 at a number of sites where significant reductions had been noted. These rebounds highlight the need for ongoing long-term water chestnut management. Handpulling continued to be the main control method used at most water chestnut sites. Mechanical harvesting occurred in southern Lake Champlain only to remove dense populations. Due to lower management funding and a lack of help from the New York water chestnut mechanical harvesting operation, Vermont efforts ended half a mile further north of 2011 management efforts. All water chestnut spoils were composted at a farm in Benson, Vermont.
- The Department provided Department of Fish and Wildlife 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. In 2012, The Department of Public Safety reported 392 public contacts and 393 boats/trailers inspected. No tickets for illegal transport were issued but 13 warnings were awarded. A report from the Department of Fish and Wildlife is pending.
- **Lake Champlain Cooperative Boat Wash Initiative** The Lake Champlain Basin Program and the Vermont Department of Environmental Conservation partnered with car wash stations in Vermont and New York to connect boaters to pressure washing facilities for their boats, trailers and other equipment. Ten car wash stations participated in 2012.



Public Information and Education

- During the 2012 season, 24 **Greeter 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.
- Forty-six participants, representing 16 lakes, attended the annual day-long education/training session in May for **boat access area greeters** and greeter program operators.
- All 23 existing greeter programs in the state received new program tools this year – “Greeter on Duty” sandwich board signs with aquatic invasive species

identification and spread prevention information and greeter-identifying t-shirts. Greeter program feedback to date has been overwhelmingly positive for these new tools.

- **Educational invasive species presentations** were provided for several organizations, including the Ticklenaked Pond Association; the Lake Carmi Association; the Sadawga Pond Association; the annual Lakes Section/Federation of Vermont Lakes and Ponds Lakes Seminar; and the annual meeting of the Federation of Vermont Lakes and Ponds.
- In February, Vermont's Invasive **Plant Quarantine Rule #3** was amended to prohibit the sale and movement/distribution of Norway maple (*Acer platanoides*), Amur maple (*Acer ginnala*), burning bush (*Euonymus alatus*), Japanese and common barberries (*Berberis thunbergii* and *B. vulgaris*), yellow flag iris (*Iris pseudacorus*), and European naiad (*Najas minor*). These species are recognized as invasive in Vermont or adjacent States. The impacts of these plant species on native ecosystems outweigh their value as ornamental plants in the nursery and landscaping trades to the extent that the Agency of Agriculture has banned their sale in an effort to prevent their introduction into as yet uninfested areas, or slow their further spread across the state through commerce.
- Invasive species **spread prevention signs** continued to be posted at public boat accesses across the state. A total of 110 boat launches were visited in 2012 to install, repair, or ensure signs where at each access.

Rapid Response

- Control and search efforts continued on Vermont's first **variable-leaved watermilfoil** population in Halls Lake in Newbury, confirmed in 2008. The response to date is highly successful: although the tally of variable-leaved watermilfoil plants removed since 2008 is over 57 cubic feet, only one variable-leaved plant was found and subsequently removed in 2012. Contracted suction harvesting of Vermont's second population in Missisquoi Bay, Lake Champlain was postponed due to extensive spread resulting from high floodwaters in 2011.
- The Lake Champlain Basin **Rapid Response Task Force** is charged with implementing and overseeing rapid response actions in the Basin. 2012 activities included conducting risk assessments for spiny water flea (*Bythotrephes longimanus*) in the Lake Champlain Canal system and Lake George in NY, and evaluating 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. 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. Staff from both departments met in July with VT Department of Health risk assessment personnel to continue discussions related to pesticides that might be used in an emergency and the general permit process.

Regulatory

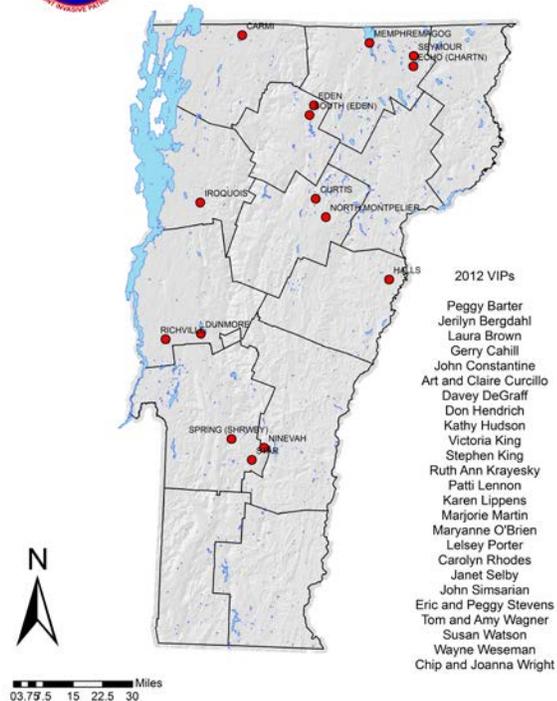
- The Agency of Natural Resources issued a NPDES (National Pollution Discharge Elimination System) Pesticide General Permit (PGP) for pesticide discharges to Vermont waters in compliance with the provisions of the federal Clean Water Act. Vermont's NPDES PGP took effect November 9, 2011 and expires on 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 www.vtwaterquality.org/lakes.htm

Volunteer Early Detection

- Two Vermont Invasive Patrollers (VIP) **workshops** were attended by 29 people in 2012. One workshop was hosted by the Northern Forest Canoe Trail and held at Missisquoi National Wildlife Refuge Visitor Center. The other workshop, supported by a Green Mountain Coffee Roasters grant, was hosted by the Federation of Vermont Lakes and Ponds, the Memphremagog Association, and the NorthWoods Stewardship Center, and held at the Community College of Vermont in Newport.
- Twenty-nine VIPs submitted 48 aquatic invasive species **surveys** for 15 of Vermont's lakes. No new invasive species infestations were reported. Thank you to all VIPs who submitted surveys in 2012!
- VIP staff conducted five **site visits** with VIPs at Lake Eden, Lake Iroquois, Echo Lake, North Montpelier Pond, and Curtis Pond.



2012 VIP Surveyed Lakes



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. The Ottauquechee River watershed and Upper Connecticut River watershed received federal funds to hire seasonal staff to map and control invasive plants (primarily terrestrial) and help spread the word about invasive species.
- An inter-state invasive plant collaboration, **the Connecticut River Watershed Invasive Species Leadership Initiative**— spearheaded by the Silvio O. Conte National Wildlife Refuge—was successful in obtaining federal funds to support a coordinator, offer two early detection species training workshops, one held in Quechee in July, and host a regional “CISMA” brainstorming session in MA. 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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