Exotic Aquatic Weeds and Species Committee
Meeting of 27 August 2013, LOB 307, 10:00 AM
Minutes of Proceedings

Members present: Rep. Ben Lefebvre (Chair), Rep. David Kidder (Vice Chair), Rep. Dennis Malloy, Rep. Rose Marie Rogers; Public Members Andrea LaMoreaux and Bob Reynolds (Clerk)

NHDES Representative: Amy Smagula (Exotic Species Program)

Members Absent: Rep. Adam Schroadter, Sen. Bob Odell

Guests present: Angela Piemonte (NHDES intern), Joel Anderson (House Committee Research Staff)

Rep. Lefebvre called the meeting to order at 9:07 AM.

Rep. Malloy moved to approve the minutes, as written, from the June 10 meeting. Rep. Kidder seconded. The motion passed 6-0.

Ms. Smagula gave a presentation on the NH DES Exotic Species Program, focusing on the invasive aquatic plant and animal species that pose a threat to NH lakes, ponds, and rivers. Invasive species are defined as non-native species that cause economic, environmental, and/or human health harm or negative impacts. They tend to reproduce and proliferate in an out-of-control manner because, not being native to a particular area, they lack any natural predators or other factors that would normally control their population. She described the many ways that invasive species can cause damage to native species, environments, and economies (e.g., shorefront property values, commercial food production, and tourism).

Variable milfoil currently infests 69 NH water bodies. Eurasian milfoil infestations are found in only a few NH lakes, but is a much more prevalent problem in other states nationwide. Fanwort infestations are found mostly in southeastern NH. Water chestnut and Brazilian elodea infestations are found in a few water bodies in southern NH, and the Asian clam specie has now infested three NH water bodies. As yet, we have not seen any Zebra mussel or spiny water flea infestations in NH, but they are found in Vermont and New York. Hydrilla has not yet infested any NH water bodies, but it is in nearby Maine, Massachusetts, Connecticut, and New York water bodies; it could pose an even more serious threat than variable milfoil.

The NH DES Exotic Species Program was re-established and provided with stable funding in 1998. RSA 487:16 and Chapter Env-Ws 1300 charge the Program with preventing infestations, monitoring existing infestations, early detection of new infestations and performing rapid response control activities, controlling existing infestations, conducting research into new control methods, and cooperating with other state and regional organizations with similar interests. The Program is responsible for invasive aquatic plants; responsibility for invasive animals (aquatic and terrestrial) lies with the NH Dept. of Fish and Game. RSA 487:17 charges the Program with education, outreach, and other prevention activities, and RSA 487:23 established the milfoil prevention and control grant program. The Program is funded by boat registration fees; $7.50 from each boat registration fee is dedicated to the program and allocated as follows:

- $4.00 for program staff, prevention and research grants
- $3.00 for administration, supplies, education, and control grants
- $0.50 for Clean Lakes Program studies, sampling, and administration.

Ms. Smagula presented a historical perspective on the control grants program, showing that the program typically matches 30-50% of funds requested, depending on funding availability and the total annual level of funds requested by towns and lake associations for control activities. The amount of available funding has increased during the last two years due to carrying forward unused funds from previous years (these funds are now gone). She is directly involved in the planning, evaluation, award, and execution of control grants to ensure optimal efficiency and cost-effectiveness.

Legislative actions that would be helpful include the authority to temporarily quarantine an infested water body under special circumstances, and others that are included in her presentation.

When asked what she would do with significant additional resources for the Exotic Species Program, Ms. Smagula responded that she would use it to expand control efforts, as resources have never met the costs of control activities. Additional funding would not be used to hire additional DES Program staff, but would rather issue more grants to hire local contractors for divers, DASH units, etc. The industry seems to have adequate capacity, but funding for control efforts has always been inadequate.

Rep. Lefebvre suggested that someone from the NH Fish and Game Commission should be a permanent member of the EAWSC to represent invasive animal species. Ms. Smagula agreed, and also suggested that someone representing NH rivers should be a member as well.

Rep. Lefebvre requested that Mr. Anderson update the Committee at its next meeting on the status of pertinent legislation:

- HB292, a bill to create an invasives "sticker" program for boats not registered in NH; at last report it was retained by the House RR&D Committee, and a subcommittee (Reps. Smith (Chair), Beaulieu, Gottling, Lovett, Merrow, and Mullen) had been formed to study the bill.
- HB411, a bill to repeal the provision to "sunset" portions of boater registration fees in 2015; at last report it had been passed in the House and was pending in the Senate.

Rep. Lefebvre mentioned the need to replace the public member position on the EAWSC vacated by Don Foudriat. Ken Marschner was suggested as a replacement, but Mr. Reynolds said that he is reluctantly unable to commit the time necessary for such an appointment. Other candidates discussed included Robert Wood from the Lake Sunapee Association (Rep. Kidder will contact June Victor about his availability) and Rebecca Hanson from Squam Lake Association. Rep. Lefebvre will determine what process should be followed to appoint a replacement member.

Ms. LaMoreaux updated various NH Lakes Association programs such as the "Clean, Drain, and Dry" campaign, an expanded Lake Host program with 130 official "saves", and the "Hands Across the Water" Lake Fest event on Saturday, September 7 at Weirs Beach in Laconia.

Rep. Lefebvre suggested that the Committee meet at least monthly, on a regular schedule, possibly on the second Monday of each month (depending on the schedule for another statutory committee that two members are assigned to). He will notify all members when the next meeting is scheduled, possibly as early as Monday, September 9.

Rep. Rogers moved to adjourn the meeting at 10:30 AM. Rep. Kidder seconded. The motion passed 6-0.

Respectfully submitted,

Bob Reynolds, Clerk

New Hampshire Exotic Species Program



Prepared by Amy P. Smagula

NH DES Exotic Species Program Coordinator

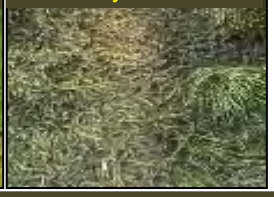
Exotic + Nuisance = *Invasive*

Federal Executive Order 13112:

"A species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health."

Parrot feather

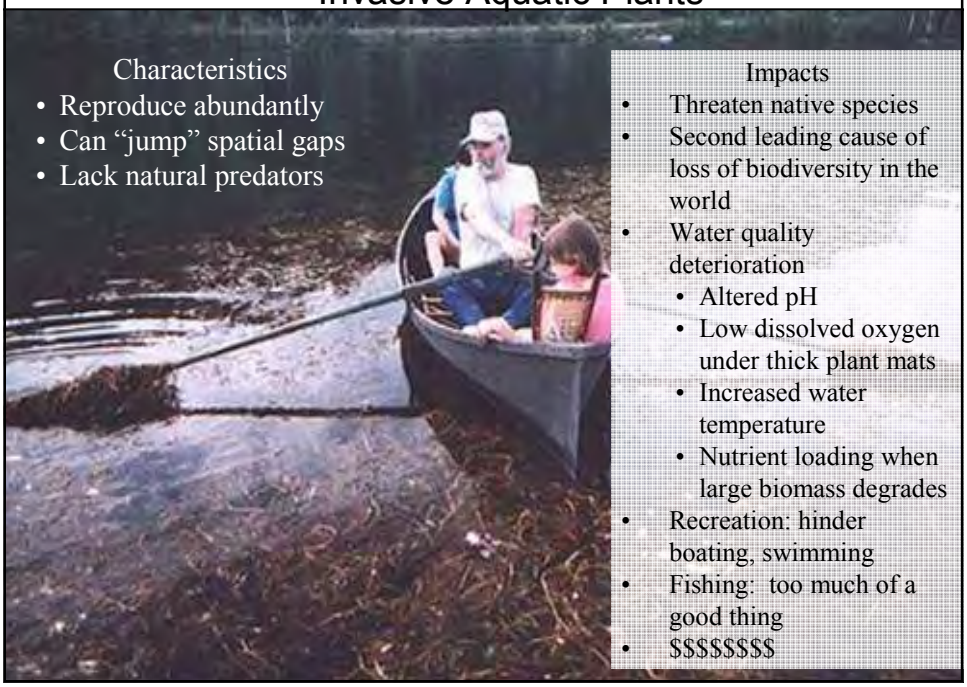
Hydrilla



Water chestnut

Eurasian watermilfoil

Invasive Aquatic Plants



Characteristics
- Reproduce abundantly
- Can "jump" spatial gaps
- Lack natural predators

Impacts
- Threaten native species
- Second leading cause of loss of biodiversity in the world
- Water quality deterioration
  - Altered pH
  - Low dissolved oxygen under thick plant mats
  - Increased water temperature
  - Nutrient loading when large biomass degrades
- Recreation: hinder boating, swimming
- Fishing: too much of a good thing
- $$$$$$$$

The Haves....

- 69 waterbodies with variable milfoil
- 5 waterbodies with Eurasian milfoil
- 9 waterbodies with fanwort
- 1 waterbody with water chestnut
- 1 waterbody with Brazilian elodea
- 3 Asian clam populations

And Have Nots (Yet)

- Zebra Mussels – VT, CT, NY, MA
- Hydrilla – MA, ME, NY

Since 1998

- When the program was re-established in legislation in 1998, five program goals were outlined:
  1) Prevention of new infestations,
  2) Monitoring for early detection of new infestations to facilitate rapid control activities
  3) Control of new and established infestations,
  4) Research towards new control methods with the goal of reducing or eliminating infested areas, and
  5) Regional cooperation

A Quick Program History

- Activities associated with the control of exotic aquatic plants formally began in 1981 with the passage of an exotic plant control law, RSA 487:15.
- In 1998, RSA 487:16-a was adopted, establishing the current legislative basis for the Exotic Aquatic Plant Program.
- In September of 1999, Chapter Env-Ws 1300 was adopted, further defining the provisions of the exotic aquatic

RSA 487:17, II

The department is directed to prevent the introduction and further dispersal of exotic aquatic weeds and to manage or control exotic aquatic weed infestations in the surface waters of the state.

It's the Law!

RSA 487:16-a prohibits certain activities associated with listed (29) exotic aquatic plants, including:

- Sale
- Distribution
- Importation
- Purchase
- Propagation
- Transportation
- Introduction

RSA 487:16-b
Exotic Weed Penalties

It shall be unlawful to knowingly, recklessly, or purposely offer for sale, distribute, sell, import, purchase, propagate, or introduce exotic aquatic weeds into New Hampshire waterbodies. Any person engaging in such an activity shall be guilty of a violation.

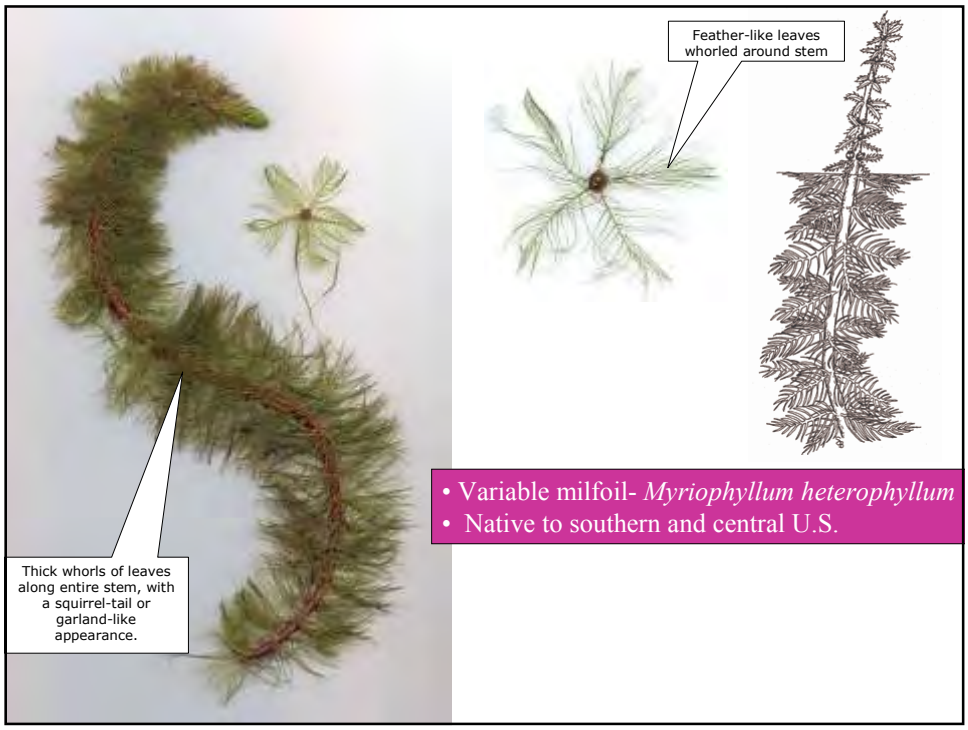
Program Funding

- The Lake Restoration Fund receives $7.50 per boat registration:
  - $3.00 goes to exotics
    - Control (eradication) projects
    - Supplies/materials
    - Administrative
  - $4.00 goes to prevention and research grants
    - 2/3 to prevention
    - 1/3 to research
    - A percentage goes to staff time for implementing the program
  - $0.50 goes to Clean Lakes Program
    - Staffing to perform studies and implementation projects

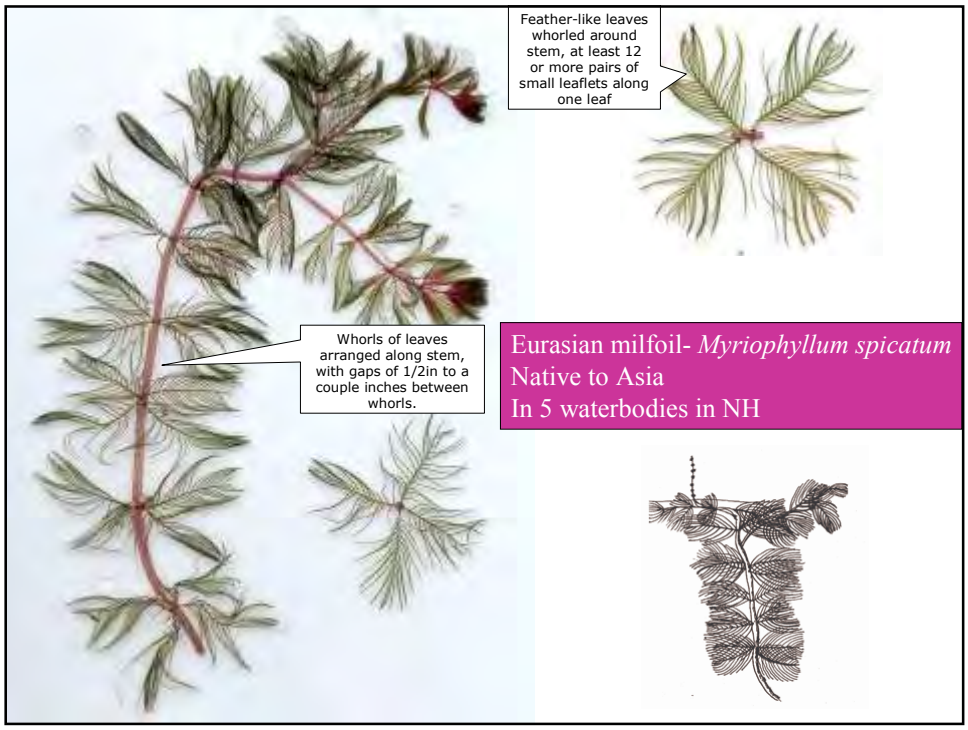
Control Funds

Year	Requests for Grants	Cumulative Cost of Projects	Available to Grant	Grants Awarded
2005	22	$175.673.00	$50,000.00	16[1]
2006	23	$256,322.00	$70,000.00	22[1]
2007	14	$140,000.00	$70,000.00	14
2008	33	$370,000.00	$110,000.00	18
2009	34	$575,000.00	$60,000.00	13[1]
2010	32	$471,000.00	$88,500.00	17[1]
2011	32	$362,000.00	$93,000.00	22[1]
2012	27	$450,000.00	215,000.00	27
2013	40	$860,000.00	$344,000.00	40

[1]Grants were awarded at a much reduced rate, generally only 30-35% match, rather than the normal 50% match to allow funds to stretch further.




Variable milfoil

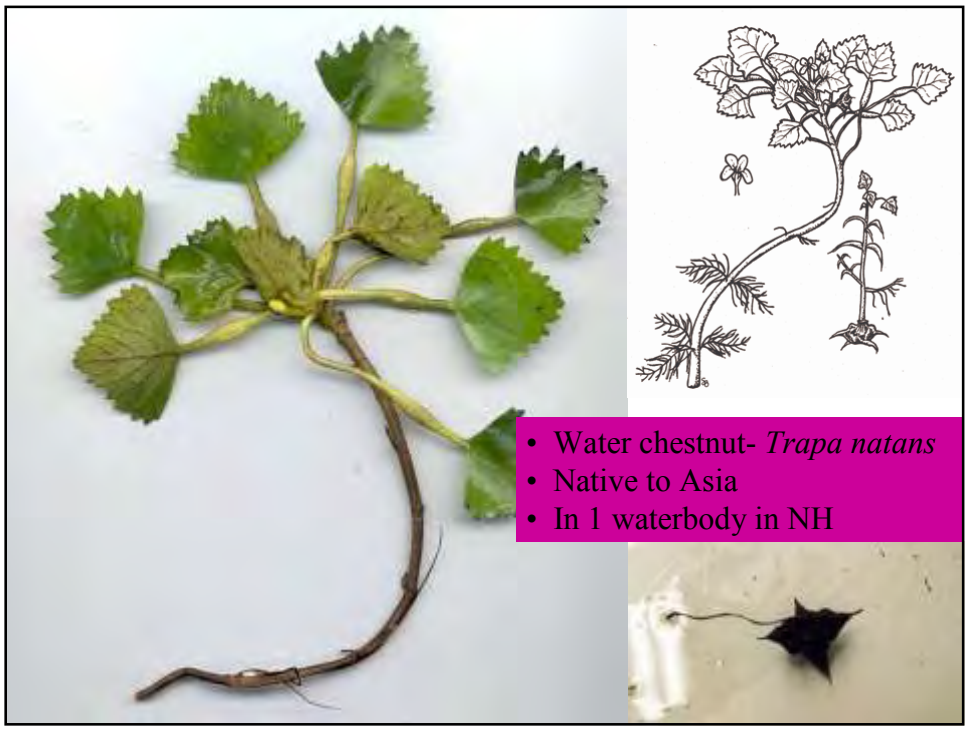

Feather-like leaves whorled around stem, at least 12 or more pairs of small leaflets along one leaf
Whorls of leaves arranged along stem, with gaps of 1/2in to a couple inches between whorls.
Eurasian milfoil- *Myriophyllum spicatum*
Native to Asia
In 5 waterbodies in NH


Eurasian milfoil


Fanwort

- Hydrilla- *Hydrilla verticillata*
- Native to South America
- Not yet found in NH (but found in MA and ME)

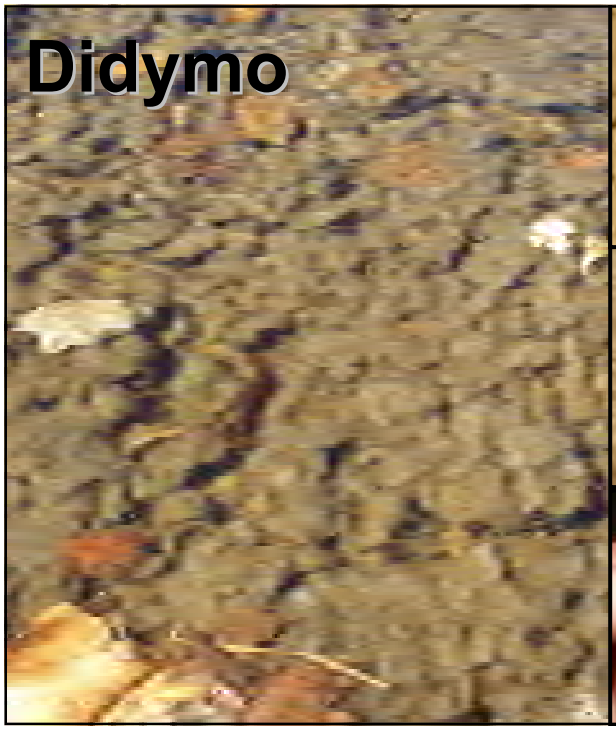
Hydrilla invasion on West Lake Tohopekaliga, Florida



- Water chestnut- *Trapa natans*
- Native to Asia
- In 1 waterbody in NH

Wetland/Shoreline Species

Didymo



Zebra mussels

- Roughly the size of a pistachio nut
- Black and white or brown and white banding pattern on shell
- Sticky byssal strands released from shell allow mussels to stick to various surfaces

Impacts to Lakes

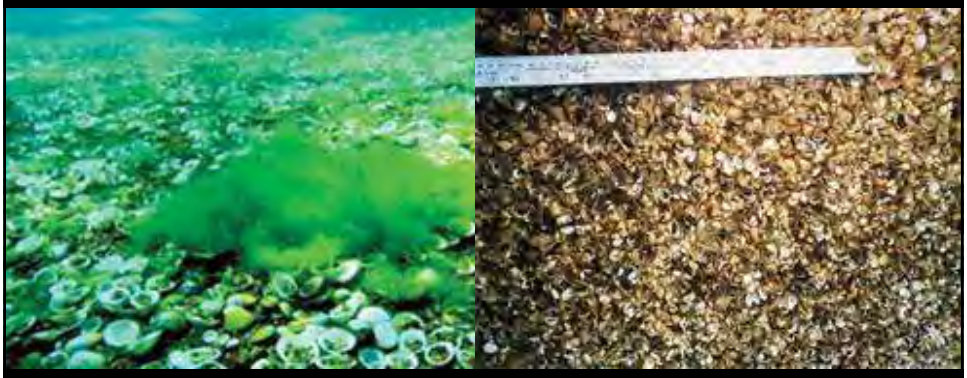
- Zebra mussels can filter feed at rates ~1 L/mussel per day
- They strip algae from the water column
- They reduce the phytoplankton in the water column, thereby altering the food chain
- They increase clarity (not so much of a bonus though)
- *They can wreak havoc on water supplies or anyone else with a water intake device in a lake, pond, or river*

Asian clam

- Hermaphrodites (takes only one)
- Thick growth of clams on lake bottom
- Three populations in NH
  - Merrimack River, Bow south
  - Cobbetts Pond, Windham
  - Long Pond, Pelham

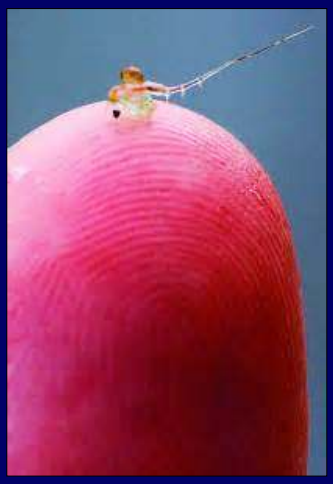
Asian Clam (*Corbicula fluminea*)
Photos courtesy of Lake George Association, N.Y.

Asian Clam in Lake Tahoe



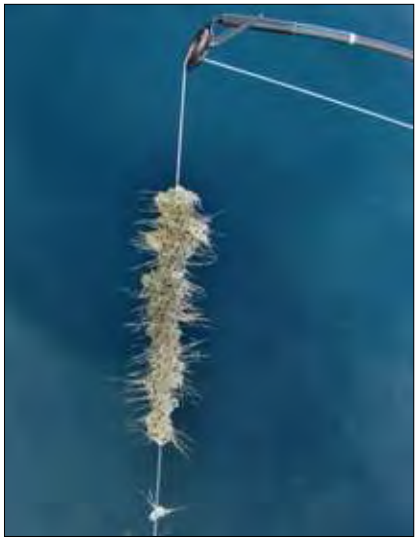
What is the Spiny Water Flea?

- Tiny crustacean
- Up to ½ inch in size
- Long barbed tail that protects from predators
- Feeds on other zooplankton, especially Daphnia
- In NY and VT now



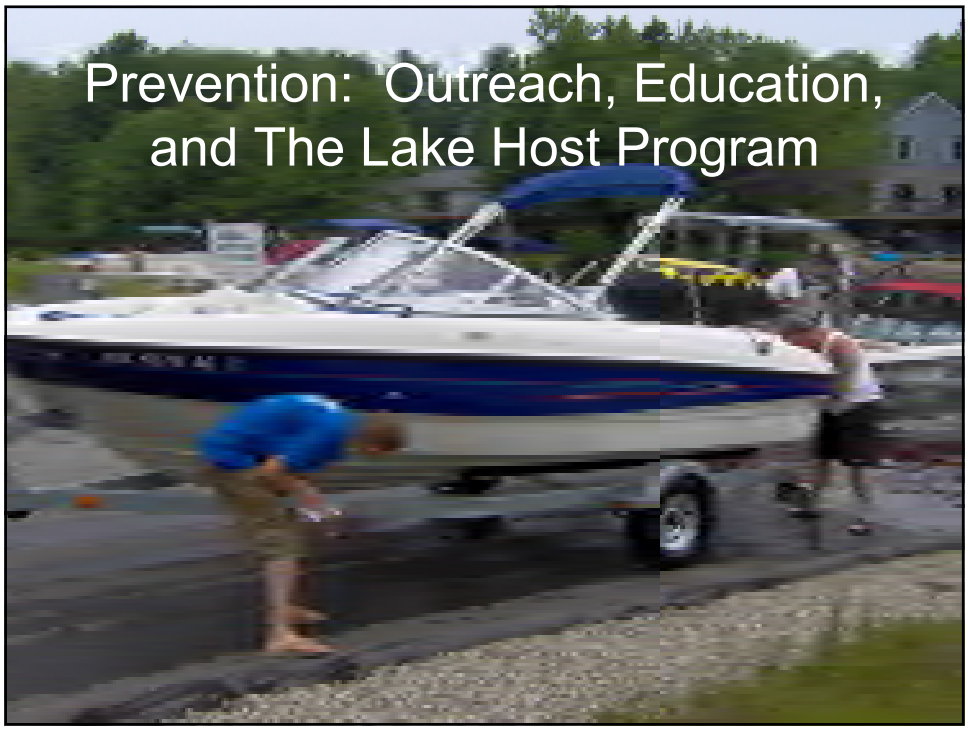
What problems does it cause?

- Spiny tail prevents predation, leading to large populations
- Feeds on native zooplankton that are important food sources for native fish, thus reducing native populations
- Clumps can ruin fishing gear



What Do We Do?

- Prevention
  - Outreach, education, inspections, legislation/regulation
- Early Detection
  - Weed/Scum/Animal Watching
  - Report anything suspicious immediately
- Rapid Response
  - Containment
  - Control
- Long-term Management


Prevention: Outreach, Education,
and The Lake Host Program


Early Detection: Weed Watchers

In the Past

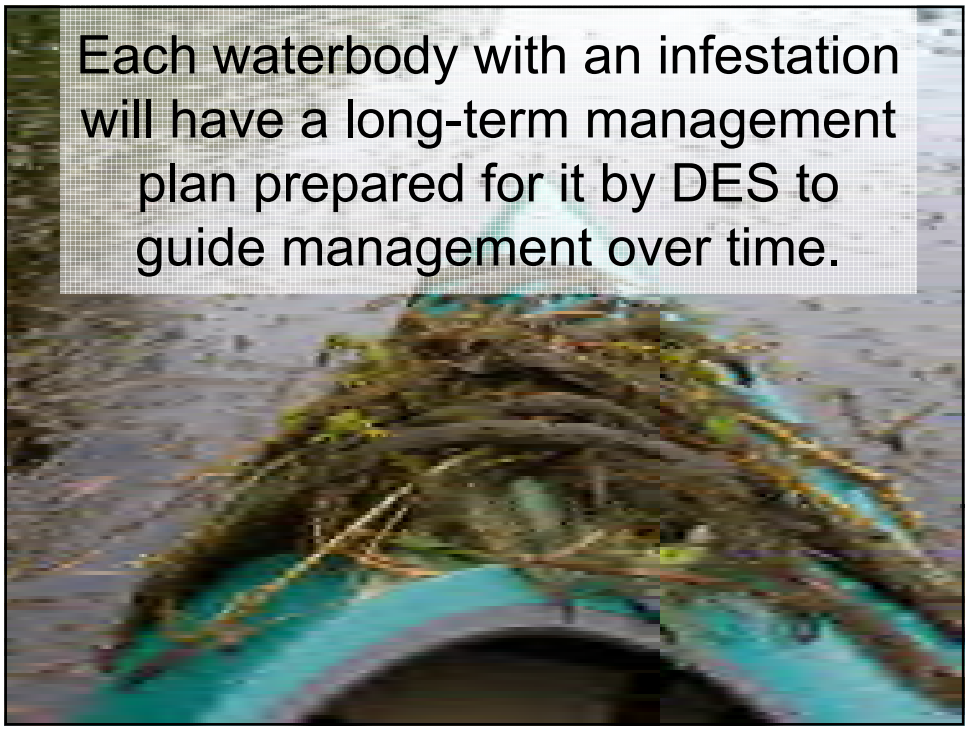
- We were more reactive to problems
  - Control would take place when the problem got very bad
  - Control would be conducted and then there would be a lag until the problem got very bad again
  - We were not making any headway

Now

- Rate of spread has been reduced from 5-6 new waterbodies each year to only 1 or 2, if that, which is a credit to outreach, education, and prevention activities, as well as rapid response initiatives.
- New infestations are generally detected early and are small scale, needing simple diving work to control the problem, which is a credit to Weed Watchers.
- Through research and implementation of integrated plant management techniques, control strategies work better, last longer and are more effective.

Control

- Control strategies use a scaled approach and are determined base on the type, size, density, and distribution of an infestation
- We strive to implement an integrated approach at control (Integrated Pest Management or IPM)
- A presentation later in this session will highlight the variety of control techniques that are available.



Legislative Activity History

- 2002 — HB592 New $3 surcharge on boat registrations eff. Jan 1, 2003. (sunset June 30, 2008)
- 2003 — Water access fee failed
- 2004 — Established Legislative committee to study exotic aquatic weeds and species
- 2005 — Boat Registration fee increase failed. Premature.
- 2006 — Boat Reg. fee increase failed
- 2006 — Voluntary contribution of Road Toll refund passed
- 2009 — $3 surcharge from 2003 increased to $7.50 (sunset June 30, 2015)
- 2012 — HB 292- Out of State Boater Sticker- Retained
  HB 527- Repealing EAWS- ITL

Other Legislative Ideas

- Sticker for canoes, rowboats, kayaks
- Shorefront land assessment fee
- Registration surcharge on boat trailers
- Ability to quarantine a waterbody for invasive species spread prevention

Questions?

Amy P. Smagula
NHDES
Amy.Smagula@des.nh.gov
603-271-2248

- Note: All of this information is explained in more detail in the 2009-2012 Exotic Species Program Report, which was emailed separately as a PDF.