

Alien Invasion

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A dedicated band of water stewards works to stop the spread of aquatic hitchhikers

BY AMY SMAGULA AND LIZA POINIER

Yuck. Like an alien invader in an old horror film, variable milfoil is green and slimy, appears in unwanted places, grows with staggering speed, and can multiply when you try to destroy it. The dreaded variable milfoil is here now, in dozens of New Hampshire's lakes and ponds — choking the waters, snagging fishing lures, clogging boat engines, and elbowing out native aquatic plants and animals.

Aquatic invaders are changing the ecosystem, threatening native plants that are essential to the ecological balance of lakes and ponds. These natives provide critical shade, food, fish and invertebrate habitat, and diversity in the aquatic environment. But some of their ugly cousins — and animal invaders, too — are causing havoc in waterbodies around the world. Too often, they find their way into places where there is no natural means to keep their growth in check. Fast-growing invasives are much more destructive than the weeds in our yards and gardens. They can quickly ruin the quality of a waterbody and the value of the property around it, transforming a once-beautiful pond into little more than a stagnant swamp.

Water Guardians

In New Hampshire, concerned citizens volunteer their time to hold the line against these brazen invaders, monitoring the waters and fighting the spread of species that have already found their way here. Next time you take your boat to your local lake or pond, be ready to greet your friendly “Lake Host” and get a quick checkup. They are

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Regular water monitoring by volunteers helps keep invasive species out of local waterbodies.

NH's Most (Un)Wanted

The Department of Environmental Services has identified the “Frightful Fourteen” aquatic invasives that could take hold in New Hampshire. Seven of the 14 are known to already occur in the state:

- **Variable milfoil** (*Myriophyllum heterophyllum*)
- **Eurasian milfoil** (*Myriophyllum spicatum*)
- **Fanwort** (*Caboma caroliniana*)
- **Brazilian elodea** (*Egeria densa*)
- **Common reed** (*Phragmites australis*)
- **Purple loosestrife** (*Lythrum salicaria*)
- **Water chestnut** (*Trapa natans*)

A number of plants may resemble exotic species. Bladderwort, water weed (elodea), coontail, water marigold, and others can easily be confused with exotic species like milfoil and fanwort. The look-alikes have distinctive variations, however. Volunteers use weed identification sheets to help distinguish between similar types of plants.

1" | 2" | 3" | 4" | 5" | 6" | 7"

In two weeks' time, variable milfoil can grow up to 14 inches.

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Many invasive water plants, like variable milfoil (above), can grow up to an inch per day in summer heat, light, and nutrient conditions.

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our first line of defense against unwanted aquatic species. Some 400 Lake Hosts, working through the New Hampshire Lakes Association, under a grant from the N.H. Department of Environmental Services, have been trained to look carefully at aquatic recreational gear like boats, personal watercraft, diving gear and tackle boxes for plants and animals that may be attempting to “hitchhike” from some other waterbody. Last summer, the Lake Hosts, stationed at boat launches, conducted courtesy inspections on some 31,000 boats at more than 50 waterbodies throughout New Hampshire, helping to educate boaters about aquatic weeds while preventing new introductions.

Amy Smagula, who coordinates the Lake Host program for New Hampshire’s Department of Environmental Services, credits the volunteers with 16 “saves” in 2004. Smagula says that “without the Lake Hosts staffing access sites on various waterbodies across the state, we could potentially have 16 new infested waterbodies in 2005. This program has become an integral component of our milfoil prevention efforts. Now, programs from other states are calling New Hampshire to find out how the program is run, and how they can set up similar programs in their own states to protect their waters.”

Eyes on the Lake

The Lake Hosts aren’t the only ones on guard. A N.H. Department of Environmental Services program, Weed Watchers, trains volunteers to monitor lakes and ponds for aquatic species, and report new or suspicious plants. About 400 people now keep an eye on nearly 200 local waterbodies, collecting data on the location and abundance of plants through regular inspections.

The information the Weed Watchers gather

Amy Smagula is a limnologist with the N.H. Department of Environmental Services where she coordinates the Exotic Species and Clean Lakes programs.

Liza Poinier is the editor of N.H. Wildlife Journal and an information officer with N.H. Fish and Game.

Keep 'em Out!

How do you know if you've got invasive plants or animals on your boat or trailer? What should you do?

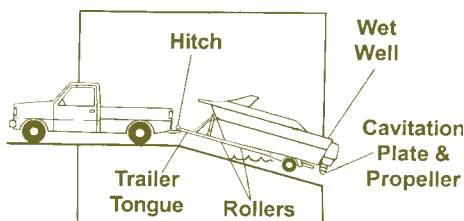
INSPECT your equipment before you launch into, fish, dive, or paddle on a waterbody.

LOOK on the boat hull, trailer, wheel wells, trailer tongue, anchor in the boat, fishing gear, and anything else that was in contact with the water for any plant or animal material.

REMOVE all materials (plant or animal) from any equipment that has been in contact with any infested waterbody. Hand-removal of organisms usually is sufficient. Dispose of plant or animal material away from the waterbody. *Don't throw it back in the water!*

WASH AND DRY all equipment before using it again, including draining and flushing your engine cooling system and live wells, buoyancy control device from diving equipment, and bait buckets.

Please remove all aquatic plants from these potential transport areas.

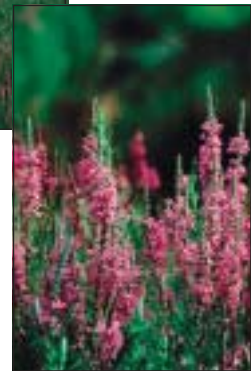


will provide a running history of the plant life in various lakes, and increases the likelihood that actions can be taken immediately if an invasive plant enters a lake. Thus far, several infestations have been caught in the early stages, allowing biologists and managers to control the plants before they spread to large areas of the waterbody. "Lake residents are the eyes and ears of their waterbodies," Smagula said. "They can quickly point out and report areas where they notice new plant growths."

The Department of Environmental Services has only 4 limnologists (freshwater scientists) on staff, who are tasked with inspecting the 950 lakes and ponds in New Hampshire. That equates to each lake being inspected for plants only about once every 15 years. The Weed Watcher program fills in the gaps, guaranteeing that someone will be looking at the participating lakes at least once a summer, and as much as monthly from May through September.

The Weed Watchers pay special attention to boat launch areas, which present likely ports of entry and good habitat for invasive plants because of high use; and areas with more organic lake bottoms, which offer higher nutrient levels and the opportunity for the plants to thrive. One of the invasive water plants they're hoping to *not* see is hydrilla — currently lurking near our borders in Massachusetts and Maine, just waiting to hitch a ride in. The volunteers are also alert to the appearance of unwanted aquatic animals, like zebra mussels, which can clog water intake pipes, foul

RANDY WESTBROOKS, U.S. GEOLOGICAL SURVEY



BERND BLOSSEY, CORNELL UNIVERSITY

boat engines, and corrode boat hulls. At present, Vermont and Connecticut are the only New England states that have documented infestations of zebra mussels, but the species could be inadvertently introduced to New Hampshire waters by an infested boat, or an angler who releases water from a contaminated live well.

The only chance that we have to protect our waterbodies is to prevent new infestations. Smagula cautions that once they arrive, aquatic nuisance species are virtually impossible to get rid of. "Typically, once something gets a foothold in a waterbody, it is there to stay, to the detriment of the native species that once formed a healthy ecosystem," she said. "So our focus is, and will be, to keep invasive species out, protecting native species and maintaining the ecological, recreational and aesthetic values of our waters in New Hampshire."



Above: Purple loosestrife runs wild in wetlands throughout the state, threatening the survival of native species. Bottom left: Keep your boat clean, and help keep this nasty invader — hydrilla — out of New Hampshire waters.

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Get Involved

Want to help keep invasive species out of your local waterbody? Consider volunteering for the Lake Host or Weed Watcher program. Contact Amy Smagula at asmagula@des.state.nh.us or (603) 271-2248. For more information, visit www.des.nh.gov/wmb/exoticspecies or www.nhfg.net/Fishing/aquatic_nuisance.htm. For more information on what you can do to help prevent the spread of invasive aquatic plants and animals, visit www.ProtectYourWaters.net.

