

Pepperweed Patrol on the Frontline of a Plant Invasion

By Cathy Coletti, Communications Coordinator

New Hampshire Coastal Program

May 27, 2009



Pepperweed leaves are alternate; one leaf grows from each point along the stem, alternating the side of the smooth stem it grows from. Pepperweed's extensive root system helps it grow rapidly. Photo by Rob Stevenson.



Pepperweed flowers in July, producing small white flowers in dense clusters. Each pepperweed flower has four spoon-shaped petals. Photo by Jennifer Forman.

Although it appears innocent enough at about waist-high with tiny white flowers in summer, the perennial pepperweed is an invasive plant that delivers a quite a punch to our environment. It's a bully on the playground, pushing other plants away to take over more territory – and its appetite for territory is never satisfied.

“People are familiar with weeds in their gardens and yards, but are not as aware of the threats posed by invasive plants because the scale is much larger,” said Kevin Lucey, Restoration Coordinator at the N.H. Department of Environmental Services New Hampshire Coastal Program. He and other resource managers worry that pepperweed could be on its way from our neighbors to the south.

The story of pepperweed in New England and in the western U.S. has been habitat destruction. Its rapid spread throughout New England didn't begin until the early 1990s; however on the West Coast, pepperweed became problematic in the 1930s and continues to cause headaches for those trying to control it there. Originally from Eurasia and northern Africa, pepperweed's seeds were accidentally brought to the U.S., most likely with a shipment of sugar beet seeds at the early part of the nineteenth century.

Pepperweed's aggressive and adaptable nature enables it to thrive in many environments, including salt marshes, wetlands, roadsides and meadows. By pushing out native plants, pepperweed creates dense stands that make poor habitat for local wildlife.

Throughout the last few decades, pepperweed has infested the Great Marsh in the Parker River National Wildlife Reserve in northern Massachusetts at over 70 locations. Only two areas of pepperweed have been discovered in New Hampshire so far, and it has not

been found in Maine. New Hampshire's salt marshes are therefore the frontline for preventing this plant from spreading further north.

Early Detection, Rapid Response

Last year the Coastal Program started the "Pepperweed Patrol" program. Realizing that more eyes in the field meant a better chance of catching it before it becomes rooted in our fragile coastline habitats, Coastal Program got the word out about pepperweed through media releases and community access TV, and asked people to report any sightings.

Additionally, trained Pepperweed Patrol volunteers and Coastal Program staff hand pulled the plants from the two known locations in New Hampshire at Odiorne State Park in Rye and at the Hampton Transfer Station in Hampton. The location in Rye was confirmed by the U.S. Fish and Wildlife Service in 2006, and the Pepperweed Patrol found the one in Hampton last July.

Once pepperweed is discovered, hand-pulling can be used to control growth, but only if it is done before it goes to seed in August. Pulling afterward only makes the problem worse by helping the seeds to spread in the wind. The plant also proliferates itself through creeping root systems, and since new plants can even sprout from mere root fragments, disposal of pulled pepperweed requires specific techniques.

This year, hand-pulling will occur again at the site in Rye, and the Hampton Transfer Station will be treated with an estuarine-approved herbicide because this pepperweed stand is too extensive to control effectively with just hand pulling.

Lucey emphasized that New Hampshire has the unique opportunity to strike back before pepperweed becomes a problem. As coordinator of the Coastal Watershed Invasive Plant Partnership, a group formed last year to combat invasive plants in the Seacoast area, Lucey and the other 11 organizations forming the Partnership can share resources and work together to address the havoc inflicted on native habitats caused by invasive plants.

"Pepperweed is one of the few examples where an invasive plant invasion has been identified early. With only two known populations in New Hampshire, if we are vigilant, it won't get out of control. Unlike past invasions, we have the past lessons learned and the regional capacity to address this," he said.

To help avoid misidentifications, the Coastal Program put together a detailed slideshow on how to identify the plant. Key features include four spoon shaped petals on the flower. Its leaves are alternate – they alternate each side they grow from up the smooth stem.

Anyone can be part of the Pepperweed Patrol; learn how to identify the plant on the Coastal Program website and report sightings at 603-559-1500. In addition to being able to identify pepperweed, a mobilization of trained volunteers could be necessary to pull any new infestations discovered this summer. Stay tuned to the website and your local newspaper for more information about when trainings will be held.

Keep an eye out. This is one bully that needs to be taught a lesson.

Pepperweed Patrol information is available online at www.des.nh.gov.

Eye on Estuaries is an educational column initiated by the Piscataqua Region Estuaries Project (PREP) about coastal watershed issues. PREP is a collaborative program involving governmental agencies, universities, nonprofit organizations, businesses and the public to protect, enhance and monitor the environmental quality of the state's coastal bays and rivers. PREP is funded in part by a grant from the U.S. Environmental Protection Agency. For details, visit www.prep.unh.edu.

###