



MAPPING & MANAGING INVASIVE PLANTS

Citizen scientists use online tools before tackling the tangles.

NANCY OLMSTEAD

Jeff Stann was itching to do something. The invasive plant situation in Harpswell was a thorn in his side (sometimes literally, in the case of thorny multiflora rose [*Rosa multiflora*] bushes). While walking the trails and driving the roads in his community, Stann was saddened to see the tangles of climbing Asiatic bittersweet vines (*Celastrus orbiculatus*) choking the trees, the dense thickets of shrubby honeysuckle (*Lonicera morrowii* and *L. tatarica*) crowding out the native shrubs, and the walls of Japanese knotweed (*Fallopia japonica*) encroaching on the road edges. He knew native plants would provide better wildlife habitat and more biodiversity than these invaders.

Stann and his friends were volunteers with the Harpswell Invasive Plant Partnership (HIPP), and began organizing to do something in their town. Documenting the locations and severity of invasive plant infestations was the first step toward managing them, but HIPP volunteers needed a centralized way to record their mapping efforts. Fortunately for Harpswell, the right tool appeared at the right time. Stann researched online and came across *iMapInvasives* (*iMap*), an online system for mapping and monitoring invasive species that is supported by the Maine Natural Areas Program (MNAP) within the state's Department of Agriculture, Conservation and Forestry. The rest, as they say, is history.

Mapping Invasive Plants

Across the state, Mainers are stepping up to curb the impacts of invasive plants. These nonnative plants aggressively penetrate natural areas and crowd out native plants, impacting insects and the songbirds that depend on them, other wildlife, and even soil microbial communities. Beyond weeds, invasive plants can be found not just on the side of the road but also in Maine's beautiful and beneficial natural habitats—the majestic floodplain forests fringing our big rivers, the salt marshes in the quiet estuaries, the sugarbush blazing orange and red in the fall. Managing invasive plants to reduce their extent and spread supports our native plants and wildlife.

iMap provides a database backbone to support “citizen scientists and natural resource professionals” in their work on invasive plants. In fact, most Maine *iMap* users are focused on invasive plants, but all types of invasive species can be tracked. And *iMap* is not unique to Maine—it has so far been adopted by eight U.S. states and one Canadian province, and more are sure to join.

iMap users record detailed information about invasive plant populations, providing not only a very specific site-level mapping capability but also a powerful tool for understanding species' distributions statewide. For example, while it wasn't news to anyone that multiflora rose and Japanese knotweed were present in Harpswell, the HIPP volunteers were the first to document ornamental jewel-

weed (*Impatiens glandulifera*) and garlic mustard (*Alliaria petiolata*) in their area.

This information—which is now publicly available in *iMap* county-level distribution maps—has improved our statewide understanding of the extent of invasion by these species. Land trusts, conservation commissions, landowners, and homeowners have better knowledge about which invasive plants are knocking on their doorsteps, thanks to HIPP volunteers and many other *iMap* citizen scientists who contribute data from their properties, from public lands, or, with landowner permission, from private land.

Using *iMap*, 18 HIPP volunteers surveyed three Harpswell Heritage Land Trust properties, two Town of Harpswell properties, and 28 miles of road edges in 2015. *iMap* allowed each volunteer to see the work of the entire group, and project leaders could generate reports for each site. These reports and maps will be invaluable as the group plans the next step of treating select populations, and *iMap* will also help them keep track of management efforts.

Taking Action Throughout the State

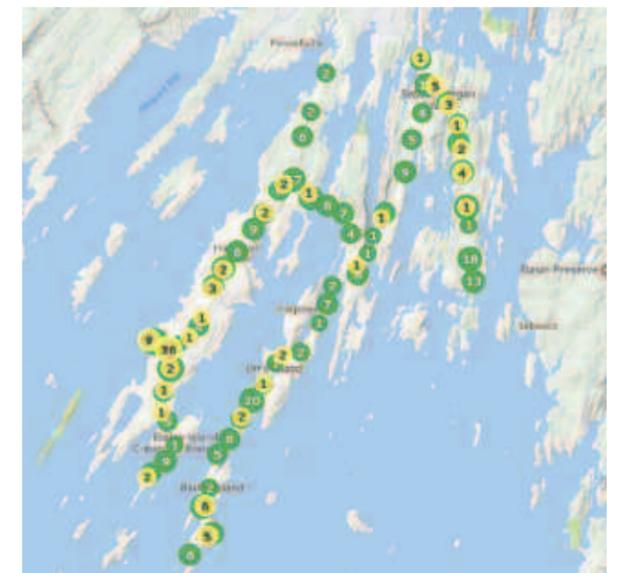
Many nonnative plants are brought to Maine, on purpose or accidentally, but only a fraction of those become naturalized (able to establish and persist without human assistance) here. And only a fraction of those naturalized plants are invasive. We are fortunate that Maine's low population density and undeveloped North Woods mean parts of our state are less infested with invasive plants.

Nevertheless, the efforts of citizens and professionals are needed throughout the state to ensure that areas not currently infested with invasive plants can be kept clean, and that efforts to identify and manage invaded areas are monitored and followed-up on.

By facilitating *iMap* for Maine, MNAP is providing a method for everyone to document invasive plant presence and management. MNAP is doing this on state lands and helping professionals use *iMap* to manage infestations on

Facing page top: Asiatic bittersweet vines weighing down trees in coastal Maine. Photo courtesy of Maine Natural Areas Program.

Above: HIPP volunteers cutting back Asiatic bittersweet along Harpswell's Giant's Stairs trail. Photo courtesy of Harpswell Invasive Plant Partnership.



Invasive plants mapped in Harpswell by HIPP volunteers. *iMapInvasives*: an online data system supporting strategic invasive species management. © 2017, NatureServe. Available at <http://www.imapinvasives.org>. (Date accessed: February 22, 2017.)

their own land. Input from citizen scientists around the state will be crucial to help us better understand what invasive plants occur where, so all of us can think strategically about which tangles to wade into.

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To learn more about *iMap*, visit www.imapinvasives.org.
For Maine-specific county distribution maps,
visit <http://login.imapinvasives.org/meimi/map/>