Bulletin #2534

MAINE INVASIVE PLANTS

Lesser Celandine

Ranunculus ficaria
(Buttercup Family)

Threats to Native Habitats

Lesser celandine is primarily a threat to native plants and native plant diversity in lowland woods and on flood plains. It outcompetes native plants through its extremely early seasonal growth and the development of a dense network of roots and tubers in the soil. Over time it forms extensive carpets in natural areas, crowding out native plants, especially native ephemeral (short-lived) wildflowers. The survival strategy of native ephemeral wildflowers is to grow and flower early in the spring before leaf-out of the forest canopy. By doing so, these plants receive needed sunlight and can take advantage of nutrients released from decaying material over the winter. Lesser celandine uses the same strategy, but starts growing earlier in the season and is far more aggressive in its use of space. Unfortunately, lesser celandine is still available commercially for garden plantings.

Description

Lesser celandine is a low-growing perennial herb with shiny, somewhat lustrous dark green leaves that form a rosette. Leaves are kidney to heart shaped with smooth to coarse toothed edges. Each rosette forms a single bright yellow flower that is up to one inch wide. Seeds ripen early and the entire plant dies back by early summer, but not before it has developed numerous tubers in which it has stored energy for early growth the next year. Plants may spread by seed, or by unearthed tubers that may be moved around by seasonal flooding events. Large colonies of lesser celandine can cover acres of forest floor. They are easy to spot in the spring because of the high density of bright yellow flowers on the bright green carpet of leaves. Maine's only recorded population flowered in late April and early May.

Lesser celandine (photos by Steve Oliveri, courtesy of the Pine Tree State Arboretum)

Habitat

Lesser celandine is typically found in moist, forested floodplains, and occasionally in some drier upland areas.

Distribution

Lesser celandine's native range includes parts of Europe and Asia. It was introduced to the United States as an ornamental plant and is now found throughout the northeast, west to Michigan and

Missouri. It also has naturalized in several states in the Pacific Northwest. As of 2002, it has not been reported from any natural areas in Maine, though it was observed growing as a weed in flowerbeds in Kennebec County.

Control

Mechanical: Small infestations of lesser celandine can be dug out using a hand trowel or small shovel. Effective removal of the plants from a site requires the removal of all plant parts, including underground tubers, as each tuber is capable of producing a new plant. The tubers are small and may be overlooked in the soil, so return visits should be made over the next couple of years to locate and remove stray plants.

Chemical: For larger infestations, herbicide treatment is a more practical approach. This prevents excessive soil disturbance from digging, which could lead to colonization by other invasive plants. Herbicide should be applied in the early part of the season when plants are in leaf—preferably before native nontarget species have come up. This limits the time frame for herbicide application. Make plans in advance to ensure that treatment is applied at an optimal time. An application of a 0.5 percent mixture of a glyphosate-based herbicide can be sprayed on the leaves of the plants when the temperature is expected to be above 40 degrees F, and no rain is forecast for the next 12 hours. If the target population is in a wetland, be sure to use an herbicide formulated for those conditions. Glyphosate is nonspecific herbicide and will kill lesser celandine as well as desirable vegetation that it contacts, so avoid spraying nearby native plants. Use herbicides responsibly and follow manufacturer's directions. Contact the Maine Department of Agriculture for information on restrictions that apply to the use of herbicides. Consult a licensed herbicide applicator before applying herbicides over large areas.

References:

Swearingen, J.M. "Lesser Celandine: *Ranunculus ficaria* L." *Weeds Gone Wild: Alien Plant Invaders of Natural Areas.* Plant Conservation Alliance's Alien Plant Working Group, http://www.nps.gov/plants/alien/fact/rafi1.htm (accessed May 2003).

Gleason, H.A. and A. Cronquist. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada, Second Edition.* New York: New York Botanical Garden, 1991.

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