garlic mustard

(lower right-hand photo on front cover)

Identification

- first-year plants, emerge in early spring, appear as a rosette of green leaves close to the ground, remain green through the winter, are up to 4" tall
- second year plants grow a flowering stem that can be 2 - 4' tall
- flowering stems have triangular, large toothed alternate leaves
- crushed leaves emit a garlic-like odor
- flowers: small, white, each with 4 petals in the shape of a cross, grow in clusters at the end of stems, bloom May to June
- fruit: linear, 4-sided, almost rounded silique (pod) from 1 - 2½" long containing a single row of seeds, become brown as the seeds mature

Habitat

- full shade to full sun
- upland and flood plain forests, yards, on streambanks, and along roadsides
- can not tolerate acidic soils

Reproduction/spread

- a single plant can produce thousands of seeds
- seeds viable up to 5 years
- an infestation can double in size in 4 years
- seeds are disbursed by humans and wildlife

Origin

Garlic mustard is native to Europe and was likely introduced to the U.S. for herbal and medicinal purposes. It was first recorded on Long Island, NY in 1868.

Problem

- begins growth in early spring before native species emerge
- research has found that total perennial cover declines by 33-46% in garlic mustard-dominated stands
- rarely browsed by herbivores & has few natural enemies in U.S.
- phytotoxins in the root tissue may suppress adjacent plants

Controls

Management goal: prevent seed production until the seed bank is exhausted, likely to take several growing seasons

CONTROLS for these invasives vary according to the location and density of the stand. For more information, check the following websites:

Hand pulling for small populations, ensure the entire root is removed, if silique present, bag plant before removal

Mowing/cutting for large populations, cut flowering plants to ground level, should be done in late spring, results in 99% adult plant mortality

Fire should only be used when several consecutive burns are possible, low intensity burns do not reduce stands

Herbicide when mechanical control is not feasible, glyphosate foliar spray (Roundup) is 93% effective in reducing stands of garlic mustard.

Lake Champlain Basin Program

This publication was made possible by a grant from the Lake Champlain Basin Program

Au Sable River Association
P.O. Box 217
Elizabethtown, NY 12932

Non-profit organizaiton
U.S. postage
PAID
Elizabethtown, NY
Permit No. 6

Stop The Invaders

the top 4 invasive plants in the Au Sable River & Boquet River watersheds

The term "invasive plant" is used to describe plants that aggressively compete with & displace locally adapted native plant communities.

The best way to control invasive plants is to prevent them from becoming established. Be sure that any fill that you are moving and using is free of seeds and plant parts.

purple loosestrife

Identification

2 - 10 feet tall, usually 4-5 feet tall

spikes of densely-clustered pink to purple flowers

flowers have 5 to 7 petals

blooms late June to early September

leaves opposite or in whorls of three, lance shaped, smooth edged

stiff, square stem, which may be

Habitat

semi-aquatic species that grows in habitats that are wet or moist for at least part of the year

common in wet meadows, freshwater marshes, on river banks, and the edges of ponds and lakes

prefers full sun, but can survive in 50% shaded environments

Reproduction/ spread

a single stalk can produce 300,000 seeds and densities as high as 80,000 stalks per acre have been recorded

seeds can remain viable even after 20 months of submergence in water.

seed set begins in mid-to-late July and continues through late summer

pieces of roots and stems are capable of generating new plants

seeds and plant pieces are disbursed by water, wind, wildlife, and humans

lacks natural enemies in U.S.

dry seed head

Origin

A native of Eurasia, purple loosestrife was introduced into the northeastern U.S. and Canada in the early 1800's.

"But it is so beautiful...why is it a problem?"

quickly crowds out most native vegetation

creates a monoculture that provides little food or shelter for native wildlife

can destroy marshes and moist meadows and choke waterways

creeping onto crop and pastureland

Japanese knotweed

Identification

fast growing large, dense clumps

height 3 - 10 feet

stout, hollow stems, green to reddish brown with bamboo like appearance

leaves: alternate, leathery, oval to heart shaped, 4-6 inches long, 3-4 inches wide, narrowing to a

point at the tip

flowers: small (1/8 inch), creamy white to greenish white, grow in plume like branched clusters

bloom from August to September

female plants produce small (1/10 inch) 3-sided, black-brown, shiny seeds

stems die back in winter, but often remain standing, new

The problem

grows quickly and aggressively

dense stands crowd out native vegetation

vigorous rhizomes form a deep mat

large colonies exist in monocultures, reducing diversity and altering the natural habitat

difficult to remove

thickets can completely clog small waterways

during winter dormancy, the dead, standing biomas is a fire hazard

Habitat

occurs in a wide variety of habitats, soil types, and moisture conditions

can tolerate a variety of adverse conditions including full shade, high temperatures, high salinity, and drought

most common along roadsides and steambanks, but is also found along utility rights-of-way, wooded edges, and openings

grows poorly under full forest canopies.

Reproduction/spread

"It is one of the most common invasive plants along roads & streams in the Adirondacks"--NYS Invasive Plant Council

spreads primarily by its extensive rhizomes

fragments readily give rise to new plants

along streambanks, clumps of plants break off and take hold in new places

can spread by seed

Origin

Native to eastern Asia, this plant was brought to the U.S. as an ornamental in the late 19th century.

common reed

Habitat

sunny wetland habitats

can live in both fresh and salt water habitats

grows along riverbanks, lakeshores, the borders of wetland areas, ditches, can form floating mats in deeper water

Identification

tall perennial wetland grass ranging in height from 3 - 18 feet

woody, hollow, jointed stalk

leaves, flat, elongated, smooth, 1/2 -2 inches wide near base, tapering to a point at the end, gray-green during growing season

flowers, July - September, purple-brown plumes

turns brown in fall and leaves drop off, leaving only the plume topped shoot

Reproduction/spread

spreads rapidly through prolific seeds and root rhizomes

pieces of roots are capable of generating new plants

seeds and root pieces are disbursed by water, wind, wildlife, and humans

Origin

Is it an introduced species? Evidence of common reed has been found in 3,000 year old peat cores extracted from Connecticut salt marshes. Evidence shows that common reed has been aggressively spreading over the past half century. It is strongly suspected that a non-native, aggressive strain of the species was carried to North America in the early 20th century. Studies have shown that the invasive common reed is genetically different from natural populations of this species.

Problem

quickly displaces beneficial native species such as cattails and native wetland orchids

becomes the sole dominant plant, monocultures as large as 7,000 acres have been documented

provides little food or shelter for wildlife