

The background of the slide is a soft, teal-colored landscape. It features a calm body of water in the foreground, reflecting the surrounding environment. In the middle ground, there are dark, silhouetted mountains and a line of trees. The background is filled with more distant, hazy mountain ranges. The overall atmosphere is serene and misty, with a monochromatic teal color palette.

Invasive Plants

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Overview

- Native vs Invasive vs Non-native
- What are Invasive plants?
- Invasive plant ID
- Control methods

Native vs non-native vs invasive

- More than 2,200 plants have been documented in Massachusetts.
- 725 of them are non-natives that are considered naturalized (established).
- 72 plant species have been categorized by the Massachusetts Invasive Plant Advisory Group (MIPAG) as "Invasive," "Likely Invasive," or "Potentially Invasive."
- Nearly all of these invasive species have been banned for importation, propagation and sale in Massachusetts by the MA Department of Agricultural Resources.



What are Invasive plants?

- Invasive species are non-native plants that disrupt native plant ecosystems.
- They do real damage to the ecosystem where they have been introduced.
- They establish away from the diseases and predators that helped to keep them in check in their home environments.
- They are so aggressive that they quickly out-compete native species and significantly alter ecosystem relationships.
- Their dominance reduces biodiversity—threatening or eliminating local plant and animal species.
- Often, they spread extensively enough to form “monocultures,” areas where they literally are the only plant growing.

Invasive Plant ID

- It is important to properly ID plants prior to working on them.
- Different species require different management techniques.
- Improper ID can lead to mismanagement during treatment and/or removal , this can cause more harm.

Japanese knotweed

- Japanese knotweed is native to eastern Asia.
- It was introduced to North America in the late 19th century as an ornamental plant and, crucially, for erosion control along roadways, rivers, and embankments.
- While initially prized for its fast growth and deep, dense root systems that can stabilize soil, it soon escaped cultivation to become one of the most destructive invasive species.
- It can grow in a wide range of habitats including riparian areas, wetlands, roadsides, ditches, and fence lines.
- It forms dense thickets of bamboo-like vegetation that aggressively outcompetes native plants and negatively impacts wetland and riparian areas.
- This invasive plant has hollow, smooth, purple to green colored stems.
- Knotweed can grow to over 10 feet in height.
- Growth rates are generally 3 to 4 inches per day during the summer.



Japanese knotweed control

- The primary objective in controlling Japanese knotweed is eliminating the rhizome system. Rhizomes are creeping underground stems that give rise to new shoots and roots.
- There are two phases of knotweed management: initial control and maintenance. The control phase for knotweed takes at least two seasons and consists of either two applications of herbicide or a cutting with a follow up of herbicide.
- Late season application of herbicide in the control phase is especially effective because this is when the foliage is sending sugars produced through photosynthesis to the roots and rhizomes.
- Cutting alone is not as effective; sites must be visited multiple times during the growing season over many years.
- Cutting prior to an herbicide application can be very helpful. Cut in June and wait at least eight weeks after cutting to treat the resprouting plants with herbicide.

Asiatic bittersweet

- Introduced to the United States in the 1860s from East Asia.
- Chokes out desirable native plants by smothering them with its dense foliage and strangling stems and trunks.
- In some areas, it forms nearly continuous blankets along entire stretches of woodlands.
- Single vines can reach 60 feet in length, though it will only grow as high as the vegetation it is climbing.
- As a perennial vine, it puts on yearly growth and can reach diameters of over 10 inches.



Asiatic bittersweet control

- Attacking the root system is the only way to kill the vine,.
- However freeing surrounding trees and other vegetation from the weight of the aerial stems by cutting them at ground level is typically the first step in controlling the vine.
- Cut as low to the ground as you can, then make another cut as high up the tree as you can.
- The most practical method to injure the root system of is to treat the regrowth following cutting with a foliar herbicide application.

Garlic Mustard

- An herbaceous member of the mustard family (Brassicaceae) brought over by early European settlers.
- First documented in New York in 1868, it was used as a source of food and medicine.
- This plant's biennial life cycle consists of a ground-level, or "basal," year and a reproductive, or "bolt," year.
- Garlic mustard's vigorous reproduction has enabled it to spread from coast to coast, where it blankets habitats.
- Is allelopathic, releasing chemicals (specifically glucosinolates and flavonoids like sinigrin) into the soil—to inhibit the growth of native plants and beneficial mycorrhizal fungi.
- A prolific seeder it forms dense monocultures, leaving little room for native plants.



Garlic Mustard Control

- Garlic mustard has a taproot, and unlike some invasive herbaceous perennials, it does not regenerate from root fragments.
- This is one of the few invasive plant species that can be controlled manually by pulling.
- Manual operations that completely remove shoot tissue will prevent regrowth.
- Ideally, plants should be pulled before flowers
- It is best practice to bag and remove pulled plants from the site, as even early pulling treatments probably include some plants that have, or will develop, viable seed.

Questions?

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