



## Managing Terrestrial Invasive Plants

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**Goal:** Control exotic invasive plants to preserve natural communities, protect state-listed rare species, and restore significant cultural landscapes.

### Guidelines:

#### Impact of Invasive Plants

- Non-native invasive plants are a significant threat to biodiversity on land managed by DCR.
- Invasive plant species are able to grow and reproduce quickly throughout a natural area, disrupting habitats for native plants and food sources for animals dependent on them.
- The Massachusetts Invasive Plant Advisory Group (MIPAG) has identified 33 “invasive” and 29 “likely invasive” plants that have spread into natural or minimally managed plant communities in Massachusetts. <http://www.newfs.org/docs/docs/MIPAG040105.pdf>
- Invasive plant species can displace native plants through competition, change the physical and chemical composition of the sites they occupy, and alter ecological processes and habitat characteristics that are essential to native flora and fauna.
- Invasive plants frequently colonize disturbed soils where native habitats have been altered and competition from native plants has been diminished.



Japanese Barberry (*Berberis thunbergii*)

#### Principles for Managing Invasive Plants

- The most cost-effective method of invasive plant control is to avoid introducing invasive plant propagules to a site.
- It is best to eradicate colonizing populations immediately upon detection before they become fully established or disperse to other locations.
- Once invasive species have become established and expand their coverage, control is substantially more difficult and expensive to implement successfully.
- Encourage volunteer groups to monitor and control invasive plant infestations.

#### Prevention

- Vehicles and equipment used in different sites should be visually inspected and washed if soil or plant materials are observed.
- Monitor properties annually for potential introductions, especially near boundaries and disturbed areas (e.g., roadsides, trailheads). Eliminate new infestations using mechanical methods.
- Do not chip and mulch invasive plants.

#### Guidelines for Prioritization of Invasive Plant Management

- Inventory properties to identify invasive species population sizes and locations.

- Prioritize populations for management based on significance of the resource, aggressiveness of the species, and potential for long-term control.
- Obtain applicable permits before managing invasive plant species near state-listed species habitat or wetland resource areas (see MESA and WPA BMPs).
- Implement control and document your successes or failures.

### Mechanical Control Methods

- Hand pulling is a good way to deal with young plants and small populations. Use a weeder, trowel, spade or weed wrench to remove the entire plant and root system.
- Cutting or mowing can be a good option when invasive plants are found in large monocultures or when their root systems are extensive. Know the plant's reproductive cycle to inform when you cut or mow.
- Some invasive species (e.g., Goutweed) have extensive root systems where a small fragment of root can start a new plant. For these species, remove all above-ground vegetation and cover the entire site with layers of black plastic held in place with stones. Depending on the species, the plastic needs to remain in place for 1 to 4 growing seasons.
- Bag and dispose of invasive plants at a licensed landfill or incinerator. Do not dispose of invasive plant materials in Priority Habitat or natural areas.

### Chemical Control Methods

- Chemical treatments should only be used when another approach will not be effective.
- Herbicides must be applied by a licensed applicator on DCR properties. To request herbicide treatments, contact: [Nancy.Putnam@state.ma.us](mailto:Nancy.Putnam@state.ma.us) or [Mathew.Thurlow@state.ma.us](mailto:Mathew.Thurlow@state.ma.us)
- For woody stemmed species, herbicide can be applied to the cut surface immediately after cutting.
- On large infestations, backpack sprayers can be used to spray plant leaves during the growing season. Foliar applications are more likely to adversely affect non-target species.

### Other Techniques for Managing Invasive Plants

- For large infestations, federally approved biological control agents may be an option to control invasive plants. Ecology Program approval is required prior to the release of biological control agents.
- Prescribed fire or burning can be used to reduce populations of certain woody invasives. The Bureau of Fire Control must approve burn plans for DCR properties.

### Resources

- Massachusetts Invasive Plant Advisory Group (MIPAG) provides guidance for invasive plant management. <http://www.massnrc.org/mipag/docs/GuidanceInvPlantMgmtMIPAG.pdf>
- Landowner's Guide to Invasive Plant Management. [http://www.thetrustees.org/assets/documents/what-we-care-about/WISP\\_Invasives\\_Management.pdf](http://www.thetrustees.org/assets/documents/what-we-care-about/WISP_Invasives_Management.pdf)
- Invasive Plant Atlas of New England (IPANE) tracks invasive plants throughout New England and contains useful information on the identification of invasive plants. [www.ipane.org](http://www.ipane.org)
- Native Plant Conservation Initiative's Alien Plant Working Group provides invasive plant fact sheets. [www.nps.gov/plants/alien/](http://www.nps.gov/plants/alien/)
- Invasive Plants of the Eastern United States: Identification and Control covers identification characteristics and control options for invasive plant species. <http://www.invasive.org/eastern/>
- Species Management Summaries, prepared by The Nature Conservancy, contain information about invasive plant species management. <http://wiki.bugwood.org/Invasipedia>