

Lake Wise Info Sheet



Shoreland Best Management Practices for Lake-friendly Living

Benefits

- Water Quality
- Wildlife Habitat
- Visual Appeal
- Low Cost
- Protection & Resiliency

Related Info Sheets:

Lakeshore Buffers
Restore Native Plants
Natural Plant Communities
Bioengineering
Lake-friendly Yard Maintenance



See NYS DEC for more information

MANAGING INVASIVE PLANTS

Methods to minimize shoreland invasive species



VTinvasives.org

Garlic mustard is toxic to other plants and each plant can produce about 600, up to 7,900 seeds! Prevent flowers going to seed - pull root or cut for large areas.

5 Steps for Successful Invasive Plant Management



See more in-depth guidance at NYIS.info

Description

Invasive species are non-native plants, animals, algae, fungi, or pathogens that threaten and often outcompete native species and undermine the function and integrity of an ecosystem. They are typically a result of human degraded environments and introduction. Limiting the growth or eradicating invasive species is critical to protecting the survival and diversity of native plant species, which are the foundation for ecosystem health, wildlife habitat, water quality protection, and aesthetic and recreational value.

Applicability

Invasive plants along lakeshores pose a significant threat to lakeshore habitats. They tend to spread along waterways and it is very important for lakeshore landowners to be able to identify, prevent, contain, and eradicate invasive species. There are a variety of management methods that are dependent on the species, location, and extent of the infestation. Landowners that manage invasive species timely and properly help to protect their land, lake, and community.

1. Prevention

Avoid disturbance and degradation to natural areas. Do not use fill from a location where invasive species are found. Do not take ornamental plants from friends or neighbors that are invasive (e.g., Bishop's Weed is an invasive garden perennial that is also called Snow-on-the-mountain) or have invasive plant material in the soil (e.g., areas that have a lot of Garlic Mustard nearby tend to have seeds in the soil). Clean tools, machinery, boots, and clothes after working in areas with invasive species. These are primary ways invasives are spread.



National Park Service

Invasive seeds can spread by shoes - clean shoes in place.

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DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION



Common invasive plant species along New York lakeshores

Photos: VTinvasives.org
& Wikimedia Commons



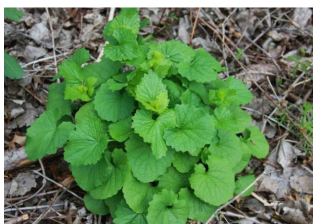
Common Buckthorn, *Rhamnus cathartica*

- woody shrub/small tree
- harmful to birds, wildlife; seeds contain a laxative
- creates dense thickets



Japanese Knotweed, *Reynoutria japonica*

- herbaceous perennial
- dense thickets take over
- harmful to fish, wildlife
- causes bank erosion



Garlic Mustard, *Alliaria petiolata*

- herbaceous perennial
- toxin inhibits other plants
- forms dense stands
- edible shoot and leaves



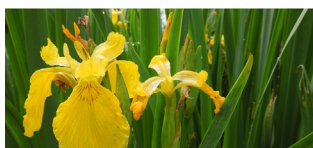
Honeysuckle shrubs, *Lonicera morrowi,* *maackii, tatarica, x bella*

- berries harmful to birds
- hollow pith differentiates from native honeysuckles



Goutweed/Bishop's Weed, *Aegopodium podagraria*

- creeping herb. perennial
- blocks native plants, trees
- root fragments resprout
- do not plant in gardens!



Yellow Iris, *Iris pseudacorus*

- blooms yellow early spring
- colonies invade wet areas

2. Early detection

Learn to identify common invasive species and promptly eradicate new invasions before they can spread. Your chances of eradicating or controlling an invasive plant are far greater the sooner you detect it and make a systematic effort to remove it.

There are a variety of invasive plants found along lakeshores; you can view invasive species common to your area at your local **PRISM (Partnerships for Regional Invasive Species Management)**. You can also use a plant identification app on your phone like **Seek from iNaturalist** where you can add your observation to 'NY iMapInvasives'. Check out NYiMapInvasives.org

3. Assess the situation

Identify the invasive species, the locations and extent, and how established they are. Identify nearby areas that could be vulnerable to invasion, such as a new planting, area of erosion, compaction, or other area with disturbed soil. It can be helpful to print or hand draw a map of your property to mark areas of invasive species and describe the population. Ask yourself: What types of species are present? Is the area small or large? Are they scattered, growing in clumps, or a dense monoculture? Mark nearby areas of importance such as native plant communities, water bodies, wildlife paths, and drinking water sources. Keep the map for reference and to record progress.

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Common Reed, *Phragmites australis*

- herbaceous perennial grass
- colonizes wet areas via rhizomes
- exudes toxins, kills other plants
- causes higher fish mortality rates



Wild *Poison* Parsnip, *Pastinaca sativa*

- herbaceous biennial/perennial
- phototoxic sap causes burns, blisters, rash!



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4. Develop a long-term treatment plan

Treatment of invasive plants is sometimes a process that takes place over years. Writing a simple management plan that outlines the invasive treatment using a timeline is helpful. Make sure the amount of work you plan is realistic to accomplish each season. If you need help, you could try to engage your neighbors or the local lake association to help with a volunteer removal effort.

It is recommended to hire a **New York State Certified Pesticide Technician or Applicator** to manage large infestations, invasives growing near water bodies, in sensitive areas, or in areas that involve a diversity of invasive plant species, especially if using herbicides.

Do your research. Select the management control technique(s) that minimizes harm, maximizes efficacy, and matches the species, extent of infestation, maintenance capacity, and budget.

Methods of invasive plant removal

Manual/mechanical control includes hand-pulling, digging, weeding, cutting, girdling, suffocating, solarizing, and use of large machinery. It is important to do these methods correctly and at the right growth stage. It often requires regular and repeated treatments until all viable plant fragments are removed and seed banks are exhausted. Mechanical removal with large machinery is only appropriate for some scenarios due to the disturbance caused to soils, but can be very effective at removing shallow rooted invasive species. Follow up with site restoration and treatments for any remaining invasive regrowth.

Chemical control includes herbicides (type of pesticide) applied with direct spray (foliar or basal), wiping (wicks, rollers, brush), and direct stem injection to eliminate an invasive population. Herbicides should be used as a last resort and are often combined with other methods. Glyphosate is a systemic herbicide that acts by interrupting the photosynthetic processes of plants. It is non-selective, meaning it kills all plants it contacts. Select the appropriate form of application and dilute properly to avoid damage to non-target plants. It is required to adhere to certain standards of operation when applying herbicides in New York State; seek professional guidance and follow the **State and Adirondack Park regulations for applying herbicides** (see next page).

Other control methods include **burning, prescribed grazing, and biological control**. Flame weeding can be done with a propane spot burner to kill individual or small groups of invasive plants. Prescribed grazing employs livestock to graze invasive species in appropriate areas when the invasive is palatable and there is no significant risk of damage to native species. Biological control, or biocontrol, utilizes organisms to weaken, kill, or stop seed production of a targeted invasive plant. Biological controls require extensive research and all biocontrol efforts are regulated by the **USDA APHIS and NYS (NYISRI)**.

Removed plant material needs to be dealt with properly so that it does not resprout, often requiring it to be burned or bagged and disposed of in the trash. Generally, invasive plant material should not be put in compost piles or in the woods unless it is rendered inert from solarizing or suffocating in trash bags for a sufficient time.

See APIPP's Invasive Species Best Management Practices Manual.

5. Follow through

The secret to successful treatment of invasive species is sticking to your plan and adapting treatments when things don't go as planned. Keep notes about each treatment and track your progress.



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Permit Requirements for Invasive Plant Management Practices

NYS DEC Jurisdiction:

- 💧 Pesticides must be used under proper conditions to prevent contamination of fish, wildlife, waters adjacent to the area of use and other entities. **See further regulations for the use of pesticides.**
- 💧 **Aquatic Pesticide Permit:** A permit is required to purchase and use an aquatic pesticide on surface waters for the control of invasive species emerging from standing water and for aquatic invasive species.
- 💧 **Environmental Permit:** A permit is required to manage invasive species, including pesticide applications, in wetlands and their adjacent areas.
- 💧 Management of terrestrial invasive species on DEC Administered Land, e.g., Forest Preserve, must be approved by NYS DEC.

Adirondack Park Agency (APA) Jurisdiction:

- 💧 A permit may be required for hand or mechanical pulling of aquatic vegetation and aquatic invasive species. **See APA Selective Harvesting of Aquatic Plants.**
- 💧 A permit may be required for cutting within the setback of a navigable body of water. **See APA Shoreline Restrictions.**
- 💧 **Freshwater Wetlands Act:** A permit is required to manage invasive species in or near wetlands and for the application of pesticides within 100 feet of wetlands. **See APA Citizen's Guide for more information.**

Herbicides, a last resort

Hire a **Certified Pesticide Applicator or Technician** for help, especially if **applying within 100 feet of water bodies or wetlands**. You need to be certified to apply herbicides on surface waters, in or near wetlands, on public lands, and on other people's land. You also need to be certified or have a permit to apply restricted use pesticides, such as pesticides that are labeled for aquatic use.

Before you purchase or apply herbicide, be informed. Improperly used herbicides can cause both short and long-term **health and environmental problems**. Select the most effective and appropriate herbicide for the targeted species that is **least harmful** to other species nearby. Use only **aquatic formulations** within 10 feet of water to protect fish, amphibians, and other aquatic life, such as an aquatic glyphosate herbicide formula that is mixed with a water-safe surfactant (e.g., Rodeo). Do not apply soil-active herbicides **within 50 feet of a drinking water well** or other water source.

The label on a pesticide container is the law. It is important to **follow directions carefully** for transport, storage, mixing, application, and disposal. Wear proper **PPE**, be careful, wash up afterwards. **More is not better.** Herbicides are most effective when used with the least number of applications and most targeted applications possible. It can take time to see results. Wait 2-3 weeks before re-application.

Apply only during **optimum times of year** (e.g., for foliar-applied herbicides on woody plants, apply only from midsummer to early fall and not later than one month prior to frost date), during the most effective **plant growth stages** (e.g., cut and drip when Japanese Knotweed is flowering), and ideal **weather conditions** (e.g., typically avoid application during very hot, rainy, windy days or during drought).

More information

- 🌸 NYS DEC Nuisance & Invasive Species
- 🌸 New York Invasive Species Information, NYIS.info
- 🌸 Adirondack Park Invasive Plant Program (APIPP)
- 🌸 NY DEC Pesticide Applicator/Technician Certification



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