

MICHIGAN CITIZENS' GUIDE TO INVASIVE PLANT DISPOSAL

INTRODUCTION

Invasive plants don't belong in our neighborhoods, parks, or recreation areas. Identifying, controlling, and removing them requires a plan of action. To make the most of your efforts and resources the plan should consider how and when to remove an invasive plant species. The plan should also include a disposal method that ensures the species will not spread to previously cleared or new areas. Some control and removal methods will break plants into pieces that can grow into a new plant. If these plant parts are handled improperly, the invasive species could further spread. Taking steps to ensure proper disposal will help prevent reestablishment of invasive species and promote native landscapes. This document provides guidance to private landowners and organizations on the proper disposal of invasive plant material and highlights Michigan laws that apply to invasive plant disposal. For the best results in invasive species removal, it's important to follow State and local guidelines and regulations.

GUIDELINES AND LAWS REGARDING INVASIVE SPECIES DISPOSAL AND MOVEMENT

Michigan has several laws regarding the disposal and movement of invasive species:

- 1 Organizations engaged in invasive species eradication or control may legally dispose of invasive species in a landfill (arrangements should be made with waste haulers prior to placing invasive species in the trash). Individuals interested in sending invasive species to a landfill may be able to coordinate with a local organization or agency engaged in landfill disposal. To find if there is a local program near you contact your regional Cooperative Invasive Species Management Area (CISMA), Stewardship Network cluster, local nature center, or university extension office.

Yard clippings may be "disposed of in a landfill or an incinerator, but only if the yard clippings are diseased or infested or are composed of invasive plants, such as garlic mustard, purple loosestrife, or spotted knapweed, that were collected through an eradication or control program, include no more than de minimis amounts of other yard clippings, and are inappropriate to compost." (Section 11521(1)(i) of Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended [NREPA])

- 2 Some invasive species pose a considerable threat to Michigan's native ecosystems. These species are illegal to transport or possess in accordance with Part 413, Transgenic and Nonnative Organisms, of the NREPA. A list of prohibited and restricted species can be found at the State of Michigan's Invasive Species website (michigan.gov/invasives). Learning to identify these species and reporting them to appropriate agencies will help protect our valuable natural resources and ecosystems. The Midwest Invasive Species Information Network (MISIN) is an excellent online resource for identification and reporting of invasive species.
- 3 According to Section 41325(1) of Part 413 of the NREPA, all boats and boat trailers must be cleared of aquatic plants before being launched or used in Michigan waters. It's the law. Additionally, all bilge water must be emptied before leaving a body of water if a boat is to be transported over land, as stated in Fisheries Order 245 (Fish Disease Control). So, remember to pull the boat plug!

METHODS OF DISPOSAL

The proper method for disposal of invasive plant material varies by the type of plant, species, and when in the plant's life cycle it was collected. Choosing the right method will ensure a safe and effective control effort. The methods described here include bagging, burning, and composting. The following information should be considered general guidance; additional research on the target species is recommended.

Plants that can regenerate from root and plant fragments or are fruiting are not suitable for composting. These plants should be bagged and transported to a landfill or facility that will incinerate the plant material.

PLANTS NOT SUITABLE FOR COMPOSTING

COMMON NAME	SCIENTIFIC NAME	PREFERRED METHOD
Spotted Knapweed	Centaurea maculosa	Bag or Burn* 
Purple Loosestrife	Lythrum salicaria	Bag or Burn* 
Japanese Knotweed	Fallopia japonica	Bag 
Giant Knotweed	Fallopia sachalinensis	Bag 
Flowering Rush	Butomus umbellatus	Bag or Burn* 
Phragmites	Phragmites australis	Bag or Burn** 

*Burning on-site is not recommended. Bag all materials and transport to an incinerator. **Burning on-site is only recommended after plants have been chemically treated and dead. Learn more about open burning at www.michigan.gov/openburning. A local permit may be required.

WOODY PLANTS, TREES, AND SHRUBS

Common invasive woody plants include buckthorn, dense shrubs such as Amur honeysuckle, and the sprawling vines of Oriental bittersweet. Many of these species produce significant amounts of fruit, so conducting removal prior to fruit/seed production and following proper disposal methods will help to prevent reestablishment and spread of these invasive woody plants. In addition to invasive woody plants, native woody plants can be affected by invasive fungi and insects such as; oak wilt on oak trees, emerald ash borer on ash trees, and hemlock woolly adelgid on hemlock trees. Infected trees must also be carefully disposed to prevent further spread of the invader.

DISPOSAL FOR WOODY PLANTS

METHOD	PRE-FLOWERING	POST-FLOWERING
 Compost	Allow plant matter to dry completely and chip or compost on site.	Not recommended for compost as fruits may create new plants.
 Bag	Once material is fully dried, double bag all plant parts, including all fruiting bodies and remove to landfill or incinerator where possible.	Double bag materials once fully dried and remove to landfill or incinerator.
 Burn	Materials can be gathered and burned on site, or bagged and removed to a facility that will incinerate. If burned on site a local permit may be required. Trees infected with invasive pests may be cut up for firewood if it is burned locally. Firewood may not be moved to certain parts of the state. www.dontmovefirewood.org	Dried and bagged material may be transported to a commercial incinerator when possible.

HERBACEOUS (NON-WOODY) PLANTS

Japanese knotweed and garlic mustard are examples of herbaceous, or non-woody, plants. Many invasive herbaceous plants can resprout from plant parts or produce viable seeds even after being pulled from the ground. Controlling the spread of these plants requires concerted effort to remove the entire plant and properly dispose of the invasive plant material.

Some plants, such as giant hogweed, have sap which may cause severe skin reactions in some people. Wear protective clothing including gloves and safety glasses when handling these plants and wash hands and exposed skin, clothing, and equipment thoroughly after handling these plants. Prior to conducting any burning activities, determine if the smoke will create lung irritants.

DISPOSAL FOR HERBACEOUS PLANTS

METHOD	ALL STAGES
 Compost	Nonwoody plants should not be composted unless it is known that the species will not resprout and removal is completed prior to fruiting or flowering. Many seeds remain viable after composting.
 Bag	Double bag all plant material and allow to decompose in sunlight for several days before removing waste to a landfill or incinerator.
 Burn	It is not recommended that plant materials be burned on site. Many plants in this category are resistant to fire and require a commercial grade incinerator in order to properly destroy all plant parts. Double bag all materials and transport to a local municipal facility that will incinerate.

AQUATIC PLANTS

Many aquatic plants reach streams, rivers, lakes, and wetlands through poor disposal techniques and unintentional transportation on boats, trailers, and in bilge water. Species in this category include Phragmites, European frogbit, and Eurasian watermilfoil. Aquatic plants from aquariums and water gardens should never be disposed of in the natural environment. Proper disposal methods should be utilized for removal and eradication of invasive species as well as for disposal of unwanted aquarium and garden plants.

DISPOSAL FOR AQUATIC PLANTS

METHOD	ALL STAGES
 Compost	Freeze or dry small quantities of plant matter for at least 24 hours. Plants may then be composted on site by burying or covering with plastic. Ensure that soil is not later used in or around water bodies, wetlands or wet environments as plant fragments or seeds may grow. Aquatic plants that have the ability to produce viable seed or overwinter and grow from plant fragments should never be composted such as purple loosestrife or phragmites. Check the Michigan Natural Features Inventory (MNFI) Aquatic Invasive Species Identification Guide (mnfi.anr.msu.edu/invasive-species/aquaticsfieldguide.cfm) for information on individual species.
 Bag	Double bag plants and transport to a local landfill.
 Burn	Plant materials may be burned on site away from water bodies or transported to a local facility that will incinerate the waste. A local permit may be required if the material is burned onsite. <i>NOTE: Phragmites should only be burned onsite following herbicide treatment, as burning live plants may encourage rhizome growth or seed germination.</i>

RESOURCES

The Stewardship Network: www.stewardshipnetwork.net

Michigan Invasive Species Coalition: www.michiganinvasives.org/cwma

Michigan Natural Features Inventory: mnfi.anr.msu.edu

DEQ Listing of Local Nature Centers: www.michigan.gov/deq (search “nature centers”)

Midwest Invasive Species Information Network (MISIN): www.misin.msu.edu

MSU Extension: msue.anr.msu.edu

Information on disposal facilities: www.michigan.gov/deqwaste (“Solid Waste Programs” under the “Solid Waste” tab)

Species identification, Michigan laws, and local resources: www.michigan.gov/invasives

Information on open burning: www.michigan.gov/openburning

Don't Move Firewood (Michigan): dontmovefirewood.org/map/michigan

LEGISLATION

Michigan law, Part 115. Solid Waste Management, of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended [NREPA]: legislature.mi.gov

NREPA Part 413. Transgenic and Nonnative Organisms: legislature.mi.gov

Fisheries Order 245: www.michigan.gov/documents/dnr/FO245.16_Fish_Disease_Control_514872_7.pdf



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