

# **Draft Best Management Practices for Preventing the Spread of Invasive Species by Outdoor Recreation Activities in Wisconsin**

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## Preface

In 2002, the Wisconsin Council on Forestry – comprised of representatives of private and public forestry, timber and forest product industries, conservation organizations, forestry schools, and other interested groups – was created by state statute to advise the Governor, Legislature, Department of Natural Resources, and other State agencies on issues affecting forests in the state. In 2004, the Council sponsored the Governor’s Conference on Forestry. The 64 participants who attended these discussions, again representing a wide range of interested groups, concluded that “*invasive species may present the greatest threat to the long-term health and sustainability of Wisconsin’s forests*” and reached “*a clear consensus on the need for voluntary invasive species best management practices and a partnership-based process for creating them.*” In response, the Council created the Forest Invasives Leadership Team (FILT) to help guide these efforts and identified four areas of concern: Forestry, Recreation, Urban Forestry, and Transportation and Utility Rights-of-Way for the development of Best Management Practices.

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## Introduction

The Wisconsin Council on Forestry (WCOF) identified invasive species as the most critical issue facing Wisconsin's forests. Invasive species, including plants, insects, and diseases, can kill trees and impact forest regeneration and productivity.

In response, the WCOF initiated efforts to develop voluntary Best Management Practices (BMPs) for Invasive Species. Four BMP tracks, each with its own Advisory Committee, were created to address the issue of invasive species in Wisconsin's forests, including: Forestry BMPs, Recreation BMPs, Urban Forestry BMPs, and Transportation and Utility Rights-of-Way BMPs.

In the spring of 2007, more than 70 agencies, recreation organizations, and environmental groups were invited to participate in the development of the Recreation Best Management Practices. These participants were invited to collaboratively work together -- to identify their concerns and prioritize a set of voluntary Best Management Practices for a wide range of recreational activities.

By June of 2007, the Advisory Committee was comprised of 29 individuals with a variety of backgrounds and recreational interests. The Committee divided the BMPs into seven "Spokes:" Animal-based Recreation; Bicycle Recreation; Camping Recreation; Hunter, Trapper and Angler Recreation; Motorized Recreation; Pedestrian-based Recreation; and Land Management (currently in development). With assistance from technical teams and DNR staff, the Advisory Committee collaboratively developed voluntary Recreation BMPs.

The final product is a set of voluntary guidelines that addresses issues universal or common to all recreational activities, along with issues unique to each type of recreation activity and issues faced by managers of recreational lands.

The Best Management Practices presented in this document are intended to help prevent the introduction and further spread of invasive plants, insects, and diseases in Wisconsin's private and public lands. In addition to the specific BMPs, the document contains information to help recreational users assess the threats posed by invasive species.

The document is structured as in the following example:

- **BMP Statement: Invasive species BMPs appear in bold and are underlined. These statements describe voluntary practices that reduce the impact of invasive species.**

### Considerations:

- a. BMP Considerations are listed below the BMP Statement.
- b. BMP Considerations give more information about why the BMP is important.

- c. BMP Considerations introduce items that could be used to address the BMP; they will not apply to every species or situation, and the user does not necessarily have to follow them to address the BMP (i.e., they are optional).
- d. BMP Considerations may include details, suggestions, examples, and issues to consider about invasive species and applying the BMP.

As you read the BMPs, keep in mind that they are intended as concepts to be tailored by individual user groups for dissemination to their members and the public. Although the specific language may change, the message should remain the same.

## Best Management Practices

### Universal or Common BMPs

(BMP Prefix = "U")

#### **Best Management Practices:**

**BMP U-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

#### **Considerations:**

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Check out the Wisconsin DNR website for photos and instructions.  
<http://dnr.wi.gov/invasives>

**BMP U-2: Wear clothing and footwear that are not "seed-friendly."**

#### **Considerations:**

- a. In appropriate areas, wear low-tread footwear that doesn't hold soil, seeds, and other debris.
- b. Wear disposable shoe covers over footwear in infested areas; properly dispose of them when leaving the area.
- c. Consider dedicating a pair of shoes or boots for use only on infested properties.
- d. Wear ankle gaiters over socks and shoe laces.
- e. Avoid wearing Velcro, bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP U-3: Inspect and clean hair, clothing, footwear, and gear for soils, seeds, plant parts, or invertebrates before and after recreating.**

#### **Considerations:**

- a. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- b. Wear a hat to cover hair.
- c. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Gear is unloaded and loaded
  - Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- d. Do not clean clothing, footwear, or gear in or near waterways – it may promote the spread of invasives downstream.

**BMP U-4: Prior to moving equipment, vehicles, and trailers onto and off of an activity area, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- a. Visit a car wash or designated cleaning station; be sure to spray the undercarriage of all vehicles.
- b. Preferred locations for equipment cleaning areas are those where:
  - Equipment is unloaded and loaded.
  - Invasive species are already established.
  - Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- c. Do not clean equipment, vehicles, or trailers in or near waterways – it may promote the spread of invasives downstream.

**BMP U-5: Inspect and remove soil, plant parts, and seeds from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- a. Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- b. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- c. Do not clean animals in or near waterways – it may promote the spread of invasives downstream.

**BMP U-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- a. Place materials in a bag and send to a landfill, where possible.

- b. Materials may be composted but only if compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- c. Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.
- d. Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP U-7: Stay on designated trails, roads, and other developed areas.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Avoid trails that are wet or muddy. If wet areas are encountered, go through them rather than around, if possible.

**BMP U-8: When off trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP U-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take a photo, GPS coordinates, or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP U-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP U-11: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.

- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify species in the field to educate participants.
- e. Consider adding a component of removal and proper disposal of invasive species as part of the event.

**BMP U-12: Spread the word – help educate others about invasive species and their effects on our environment, economy, and recreational opportunities.**

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## Best Management Practices for Animal-based Activities

(BMP Prefix = “A”)

### **Introduction:**

This section covers outdoor recreation involving animals. This includes a range of activities, including any animal used as a pack or transport animal, including but not limited to: horse, llama, alpaca, and pack goat. It includes dogs used for companions, walking, hunting (land and water), mushing, skijoring, field trials, and competition. It also includes animals taken outdoors.

### **Invasive species and recreational animal use:**

Invasive species are having a negative effect on the quality and accessibility of recreational lands available for many recreational activities. By definition, nonnative invasive species eliminate native plant species. As a result, they change the wildlife habitat and modify both the appearance and the utility of the landscape. As responsible recreational users, it is important to be aware of potential ways that invasive species could be transported inadvertently when traveling to or from public lands. Left unmanaged, these threats could contribute to diminished quality and quantity of outdoor recreation within the state.

### **General guidance:**

To minimize the introduction and spread of invasive species, recreationists with animals should focus on: 1) grooming of self and animal and cleaning of transport vehicles and trailers before and after visiting recreational lands; 2) staying on designated trails, 3) properly disposing of any debris or waste, and 4) reporting any infestations of invasive species.

### **Best Management Practices:**

**BMP A-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

#### Considerations:

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Pay attention to signage at infested areas and trailheads, (e.g. “*this is a picture of garlic mustard; you will see it along the west side of the trail*”).
- c. Check out the Wisconsin DNR website for photos and instructions:  
<http://dnr.wi.gov/invasives>

**BMP A-2: Wear clothing and footwear that are not “seed-friendly.”**

#### Considerations:

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.

- b. Wear shoe covers over footwear in infested areas; properly dispose of them when leaving the area.
- c. Consider dedicating a pair of shoes or boots for use only on infested properties.
- d. Wear ankle gaiters over socks and shoe laces.
- e. Avoid wearing Velcro, bulky knits (*e.g.*, wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP A-3: Inspect and clean hair, clothing, footwear, and gear for soils, seeds, plant parts, or invertebrates before and after recreating.**

Considerations:

- a. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- b. Wear a hat to cover hair.
- c. Do not clean clothing, footwear, or gear in or near waterways – it may promote the spread of invasives downstream.
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Gear is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, *i.e.* along a road, at a trail head.

**BMP A-4: Prior to moving equipment, vehicles, and trailers onto and off of an activity area, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- a. Visit a car wash or designated cleaning station; be sure to spray the undercarriage of all vehicles.
- b. Especially check bumpers, grills, and undercarriage of vehicles and trailers as these are sites for nesting insects.
- c. Preferred locations for cleaning areas are those where:
  - Invasive species are already established.
  - Equipment is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, *i.e.* along a road, at a trail head.
- d. Do not clean equipment, vehicles, or trailers in or near waterways – it may promote the spread of invasives downstream.

**BMP A-5: Inspect and remove soil, plant parts, and seeds from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- a. Fully groom your animal before and after an outing in order to protect both the public land and your home.
- b. Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- c. Do not clean clothing, footwear, gear, vehicles, or animals in or near waterways – it may promote the spread of invasives downstream.
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP A-6: Properly dispose of soil, seeds, plant parts, or invertebrates.**

Considerations:

- a. Bag and properly dispose of removed soil or plant parts.
- b. When possible and safe, burn materials with propagules.
- c. Place in compost only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- d. When chipping ash logs or brush, be sure the chip size is less than ½- inch.
- e. If disposing of invasive species in a pile, locate the pile in a location that facilitates easy monitoring and control if infestations spread from it.

**BMP A-7: Stay on designated trails, roads, and other developed areas and observe animal restraint rules.**

Considerations:

- a. Staying on designated trails, roads, and developed areas keeps you and your animal safe.
- b. Minimize soil disturbance; it may promote weed germination and establishment.
- c. Destruction of native plants favors invasive species.
- d. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- e. Avoid trails that are wet or muddy. If wet areas are encountered, go through them rather than around, if possible.

**BMP A-8: When off-trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP A-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates, or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP A-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP A-11: Follow the property guidelines for all animal waste disposal.**

Considerations:

- a. If the property does not have a proper receptacle, haul waste out and dispose of it properly.

**BMP A-12: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.
- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify invasive species in the area to educate participants.
- e. Add a component of removal and proper disposal of invasive species as part of the event.
- f. Plan events for proper times of the year to help avoid the spread of invasive species.

**BMP A-13: Spread the word – help educate others about invasive species and their effects on our environment, economy, and recreational opportunities.**

## Best Management Practices for Bicycle Activities

(BMP Prefix = “B”)

### **Introduction:**

A bicycle is a human-powered, pedal driven vehicle. There are a wide variety of bicycling-based activities. Many, but not all, are types of recreation. These recommendations apply to both recreation (for example: mountain biking or off-road biking, bicycle touring, road biking, cyclocross (cross-country bicycle racing in open, rough terrain with riders often forced to dismount and carry their bicycle), and BMX (bicycle motorcross)) and non-recreation (for example: bicycle commuting, law enforcement patrolling, and deliveries) uses of bicycles, as well as unicycles, tricycles, and quadracycles (one, three, and four wheels, respectively), which are not strictly bicycles.

### **Invasive species and bicycle recreation:**

Invasive species are having a negative effect on the quality and accessibility of recreational lands available for many recreation activities including bicycle recreation. Invasive species are eliminating native plant species, changing wildlife habitat, and modifying the appearance and utility of the landscape. Left unmanaged, these threats will contribute to a diminished quality and quantity of outdoor recreation within the state.

- Invasive plants out-compete the native vegetation in the landscape by replacing diverse plant communities with aggressive single (monoculture) species.
- Invasive plants directly affect human health and activities in many ways. Some produce painful skin burns; others have sharp spines, and thorns that can cause physical discomfort. Toxic berries can cause poisoning. Some allergies are caused by invasive species.
- Economic damage associated with invasive species’ impacts and their management is estimated to cost the U.S. \$137 billion annually. This cost includes losses in agriculture, fisheries, timber, utilities, overall land productivity, tourism, and recreation.
- Bicyclists face the possibility of losing land access due to the concern of the spreading of invasive plants.
- Invasive species take over habitat that supports native wildlife and, potentially, endangered species.
- Bicycles and their operators have the potential of unintentionally carrying invasive species from one area to another. Plant fragments, seeds, or insects may cling to gear, bicycles, and clothing.

- Disturbed soils may create favorable conditions for the establishment and spread of invasive plants.

**General guidance:**

To minimize the introduction and spread of invasive species, bicyclists should focus on:

- 1) Inspecting and cleaning bicycles, equipment, and clothing, 2) staying on established trails and routes, and 3) “Leave No Trace”: leaving as little impact on the land as possible.

**Best Management Practices:**

**BMP B-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

**Considerations:**

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive plants and insects.
- b. Pay attention to signage at infested areas and trailheads, (e.g. “*this is a picture of garlic mustard; you will see it along the west side of the trail*”).
- c. Check out the Wisconsin DNR website for photos and instructions: <http://dnr.wi.gov/invasives>

**BMP B-2: Wear clothing and footwear that are not “seed-friendly.”**

**Considerations:**

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.
- b. Wear shoe covers over footwear in infested areas; properly dispose of them when leaving the area.
- c. Dedicate a pair of shoes or boots for use only on infested properties.
- d. Wear ankle gaiters over socks and shoe laces.
- e. Avoid wearing Velcro, bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP B-3: Inspect and clean hair, clothing, footwear, and gear for soil, seeds, plant parts, or invertebrates before entering and upon leaving riding areas.**

**Considerations:**

- a. Do not clean your clothing, footwear, and gear in or near waterways to prevent spreading invasive plants downstream.
- b. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- c. Periodically check for invasive species at stops (visual inspections).
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Gear is unloaded and loaded

- Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP B-4: Prior to moving bicycles, equipment, vehicles, and trailers onto and off of an activity area, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- Visit a car wash or cleaning station; be sure to check the tires and drive chain and spray the undercarriage of all vehicles. Make this all part of a regular maintenance check.
- Preferred locations for equipment cleaning areas are those where:
  - Equipment is unloaded and loaded.
  - Invasive species are already established.
  - Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- Do not clean equipment, vehicles, or trailers in or near waterways – it may promote the spread of invasives downstream.
- Periodically check bike and gear for invasive species at stops (visual inspections).
- Insects like the gypsy moth can be transported on bicycles, equipment, vehicles, and trailers. Check for insect egg masses, pupae, and caterpillars.

**BMP B-5: Inspect and remove soil, plant parts, and seeds from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- Do not clean clothing, footwear, gear, vehicles, or animals in or near waterways – it may promote the spread of invasives downstream.
- Preferred locations for cleaning are those where:
  1. Invasive species are already established.
  2. Animals are unloaded and loaded
  3. Areas are easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP B-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- Place materials in a bag and send to a landfill, where possible.
- Materials may be composted but only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.

- d. Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP B-7: Stay on established and designated trails, roads, and other developed areas.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Do not create your own trails without landowner permission.
- e. Avoid trails that are wet or muddy. If wet areas are encountered, go through them rather than around, if possible.

**BMP B-8: When off-trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP B-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates, or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP B-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP B-11: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.
- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.

- d. Identify invasive species in the area to educate participants.
- e. Add a component of removal and proper disposal of invasive species as part of the event.
- f. Plan events for proper times of the year to help avoid the spread of invasive species.

**BMP B-12: Spread the word - help educate others, about invasive species and their effects on our environment, economy, and recreational opportunities.**

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## Best Management Practices for Camping

(BMP Prefix = "C")

### **Introduction:**

Camping is an outdoor recreational activity in which participants can get away from civilization and enjoy nature while spending one or more nights at a campsite. Camping describes a wide range of activities. Backpack campers carry their gear on their backs, while recreational vehicle campers arrive equipped with their own electricity, heat, furniture, and bathroom facilities. Camping may be a recreational activity by itself, or it can be done in conjunction with other activities, such as hiking, boating, and fishing.

Campers span a broad range of interests and preferences, and campsites are designed accordingly. Many campgrounds have facilities like fire rings, grills, bathrooms, and utilities, though not all campsites have similar levels of development. Campsites can range from a patch of dirt with a sign marking it, to a level paved pad with water and electricity. Some RV campgrounds, for instance, offer hookups where motor homes are supplied with electricity, water, and sewer services. While in the case of "dispersed camping," backpack campers simply select a site on which to camp within a designated public land area – sites are not designated in any way.

Those who seek a more rugged experience in the outdoors prefer to camp with only tents. Tent campers often use an automobile to carry equipment to a campground ("car camping"). Other vehicles used for camping include motorcycles, touring bicycles, boats, and canoes; using pack animals is also a popular alternative.

### **Invasive species and camping:**

Historically the introduction and spread of invasive species can often be linked to people who unintentionally move the pests in infested plants, wood, and other materials. Often the infestations are located within campgrounds where factors like heavy public use and the presence of firewood combine to create optimal conditions for invasive species. These invasive species are a threat to the natural communities within parks, forests, campgrounds, and public and private lands throughout the state of Wisconsin. In addition, invasive species impact the recreational opportunities available to campers.

- Invasive plants may overgrow trails, making hiking and biking difficult.
- Invasive plants often out-compete native wildflowers.
- Invasive species often lower biodiversity in natural areas, disturbing ecosystems and eliminating wildlife habitat.
- Some noxious weeds adversely affect animal and human health.

Camping activities can raise the potential threat of spreading invasive species. A camper venturing into natural areas and transporting gear may unintentionally introduce invasive species.

- Plant fragments, seeds, or insects may cling to gear, vehicles, or animals.
- Campers may trample native plants and disturb the soil, creating a favorable condition for the introduction of invasive species.
- Firewood is especially troublesome, as it is frequently moved long distances and harbors many invasive insects, fungi, and diseases.

**General guidance:**

To minimize the introduction and spread of invasive species, campers should 1) inspect and clean vehicles and gear, 2) minimize disturbance of natural environments, and 3) purchase or use local firewood, rather than transporting it. By reducing opportunities for invasive “hitchhikers” and staying on established campsites and trails, campers can do their part to keep recreational lands healthy.

**Best Management Practices:**

**BMP C-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

Considerations:

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Pay attention to signage at infested areas and trailheads, (e.g. “this is a picture of garlic mustard; you will see it along the west side of the trail”).
- c. Check out the Wisconsin DNR website for photos and instructions.  
<http://dnr.wi.gov/invasives>

**BMP C-2: Wear clothing and footwear that are not “seed-friendly.”**

Considerations:

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.
- b. Wear shoe covers over footwear in infested areas; properly dispose of them when leaving the area.
- c. Consider dedicating a pair of shoes or boots for use only on infested properties.
- d. Wear ankle gaiters over socks and shoe laces.
- e. Avoid wearing Velcro, bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP C-3: Inspect and clean hair, clothing, footwear, and gear for soils, seeds, plant parts, or invertebrates before and after recreating.**

Considerations:

- a. Use a broom or stiff brush to clean tents, tarps, shoes, and vehicles; shake out sleeping bags and clothes.
- b. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- c. Wear a hat to cover hair.

- d. Do not clean clothing, footwear, or gear in or near waterways – it may promote the spread of invasives downstream.
- e. Refrain from washing any garments within the campsite.
- f. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Gear is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP C-4: Prior to moving equipment, vehicles, and trailers onto and off of an activity area, spray, scrape or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- a. Visit a car wash or cleaning station; be sure to spray the undercarriage of all vehicles.
- b. Preferred locations for equipment cleaning areas are those where:
  - Equipment is unloaded and loaded.
  - Invasive species are already established.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- c. Do not clean vehicles or trailers in or near waterways – it may promote the spread of invasives downstream.

**BMP C-5: Inspect and remove soil, plant parts, and seeds, from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- a. Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- b. Do not clean clothing, footwear, gear, vehicles, or animals in or near waterways – it may promote the spread of invasives downstream.
- c. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP C-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- a. Place materials in a bag and send it to a landfill, where possible.
- b. Materials may be composted but only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- c. Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.

- d. Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP C-7: Stay on designated camping areas, tent pads, roads, and trails.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Avoid trails that are wet or muddy. If wet areas are encountered, go through them.
- e. Avoid poorly located campsites that encourage erosion and degrade the soil and surrounding vegetation.
- f. Travel and set up camp on durable surfaces.

**BMP C-8: When off-trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP C-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates, or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP C-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP C-11: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.

- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify invasive species in the area to educate participants.
- e. Add a component of removal and proper disposal of invasive species as part of the event.
- f. Plan events for proper times of the year to help avoid the spread of invasive species.

**BMP C-12: Spread the word – help educate others about invasive species and their effects on our environment, economy, and recreational opportunities.**

**BMP C-13: Do not transport firewood.**

Considerations:

- a. Ideally, purchase firewood from within the campground where you are staying, as that wood is often cut on-site and sold by non-profit groups who reinvest earnings in the property.
- b. Private vendors often have firewood available for sale just outside of the property as well; for firewood availability at your destination, contact the property directly.
- c. When buying firewood, make sure you receive pieces that are dry and have either no bark or bark that is loose (a sign that the wood is very dry). Not only will this reduce the threat of spreading invasive species, but your fire will be easier to start.
- d. Leave fallen branches and bark where they have fallen - do not transport them to your campsite.
- e. Do not cut living trees for firewood.
- f. Burn all firewood. Do not leave any unused wood behind, and do not take it with you to another destination.

Firewood has the potential to spread many destructive invasive species, both known and as yet, unknown. Confirmed threats include: emerald ash borer, butternut canker, white pine blister rust, and oak wilt.

Firewood is often stored unused for long periods of time and is handled by people generally not trained to notice signs of invasive pests. Once established in new areas, invasive forest pests can quickly kill trees in forests, parks, communities, and campgrounds.

**BMP C-14: Unless gathering natural foods or other permitted material, don't pick plants.**

Considerations:

- a. Picking plants is prohibited on many public lands.
- b. While many invasive plants have attractive blooms, discarded flower or seed heads can spread weed seeds.
- c. When processing gathered materials, remove invasive plants and dispose of them properly.
- d. Some invasive plants may cause skin and eye irritation.

Edible fruits and nuts may be gathered in state parks for your own use. Remember though, there are many poisonous plants that can be harmful or even fatal when eaten. Be certain of your identification before you eat anything you have gathered. Remember to properly dispose of all non-desirable plant material.

**Despite their appeal for ornamental purposes, avoid picking plants such as teasel and bittersweet since this provides opportunities to spread these species through discarded plant parts and seeds.**

**BMP C-15: Follow guidelines for bringing animals into recreational areas.**

Considerations:

- a. Be careful when choosing the location to tie your animal within the campsite; consider their access to vegetation and ability to cause soil disturbance, (for example, digging holes).
- b. Animal owners are responsible for proper removal and disposal of their animals' waste products; dispose of animal waste in trash receptacles.
- c. Camping with an animal puts it in strange surroundings; your animal will be more secure and less prone to wander if kept in the camping unit at night.

## Best Management Practices for Hunters, Trappers, and Anglers

(BMP Prefix = “HTA”)

### **Introduction:**

Hunting is an outdoor recreational activity that can be described as pursuing and harvesting wild game with firearm or archery equipment. In Wisconsin, hunting opportunities are generally divided into big game (deer or bear) and small game (squirrel, rabbit, ruffed grouse, turkey, waterfowl, and some furbearers). Hunters use a variety of techniques in their pursuit of game. These techniques include but are not limited to: stand hunting, still hunting, driving of game, waiting near a bait site, calling, and the use of dogs to locate, track, or retrieve game. Hunters often travel many miles across the state or even from other states to get to their favorite hunting locations. They may also walk long distances, often through a variety of habitats, in pursuit of their intended quarry. Hunters, if they are not careful, can unintentionally spread invasive species.

Trapping is an outdoor recreational activity that can be described as placing traps with the intent of capturing a species of animal for harvest or relocation. In Wisconsin, trappers primarily target what are considered fur-bearing animals. Trapping opportunities include but are not limited to: beaver, muskrat, otter, mink, fox, coyote, or fisher. Trappers use a wide variety of traps in their pursuit of fur-bearing animals. Traps include but are not limited to: leg or foot hold traps, body grip traps, live traps, and snares. Sites where trappers place traps to capture animals are commonly known as “sets.” These sets can be divided into wet and dry sets depending on what type of habitat the target species primarily uses. Wet sets are placed in water with the intention of catching a specific species that is found in or near aquatic habitats. Dry sets are placed with the intention of catching species utilizing upland habitats. Trappers often move traps from one location to another throughout the season to target different populations. By moving traps to different locations, trappers (if they are not careful) may potentially spread invasive species.

Fishing is an outdoor recreational activity that can be described as attempting to catch fish typically through the use of rod and reel (hook and line). Fishing is often done either through the use of some sort of boat, wading in shallow water, or from the shoreline or bank. Wading and shoreline or bank anglers often walk some distance on the upland areas adjacent to the water body they intend to fish in. This movement along the shoreline may unintentionally spread invasive species.

### **Invasive species and hunters, trappers and anglers:**

Invasive species are rapidly spreading to many new areas across Wisconsin. These species can become established in parks, forests, lakes, rivers, and fields and damage the quality of the natural habitat.

- Invasive species can reduce the quality of or eliminate valuable game habitat through aggressive competition.
- Invasive species can choke lakes and waterways and make them impassable.

- Invasive species can overgrow trails making passage difficult.
- Some invasive species can adversely affect human health.

Since hunters, trappers, and anglers often take their gear with them to a variety of locations, they can unintentionally transport invasive species.

**General guidance:**

To reduce the possibility of spreading invasive species, hunters, trappers, and anglers should focus on:

- a. Inspecting and cleaning vehicles, equipment, tools, and clothing
- b. Minimizing disturbance of soil and natural environments
- c. Staying on designated trails with motorized vehicles

By reducing opportunities for invasives to find their way into new areas, hunters, trappers, and anglers can do their part in keeping recreational lands healthy and productive.

**Best Management Practices:**

**BMP HTA-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

Considerations:

- a. Study guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Pay attention to signage at infested areas and trailheads (e.g. “this is a picture of garlic mustard; you will see it along the west side of the trail”).
- c. Check out the Wisconsin DNR website for photos and instructions.  
<http://dnr.wi.gov/invasives>

**BMP HTA-2: Wear clothing and footwear that are not “seed friendly.”**

Considerations:

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.
- b. Consider dedicating a pair of shoes or boots for use only on infested properties.
- c. Wear ankle gaiters over socks and shoe laces.
- d. Avoid wearing bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that may carry seeds.

**BMP HTA-3: Inspect and clean hair, clothing, footwear, and gear for soil, seeds, plant parts, and invertebrates, before and after recreating.**

Considerations:

- a. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- b. Wear a hat to cover hair.

- c. Do not clean clothing, footwear, or gear in or near waterways – it may promote the spread of invasives downstream.
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Gear is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP HTA-4: Prior to moving equipment, vehicles or trailers onto or off of an activity area, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- a. Visit a car wash or cleaning station; be sure to spray the undercarriage of all vehicles.
- b. Do not clean equipment, vehicles, or trailers in or near waterways – it may promote the spread of invasives downstream. Traps should be rinsed free of mud, dirt, and debris when removing them from the location of a set.
- c. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Equipment is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP HTA-5: Inspect and remove soil, plant parts, and seeds from the coat and feet of animals (i.e. hunting dogs) before and after recreating.**

Considerations:

- a. Carry a grooming brush, shedding blade, small scissors, etc. to help remove invasive seeds from animals.
- b. Do not clean animals in or near waterways – it may promote the spread of invasives downstream.
- c. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP HTA-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- a. Place materials in a bag and send to landfill, where possible.
- b. Materials may be composted but only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- c. Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.
- d. Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP HTA-7: Stay on designated trails, roads, and other developed areas with motorized vehicles.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Avoid trails that are wet or muddy. If wet areas are encountered, go through them rather than around, if possible.

**BMP HTA-8: When off trail, avoid areas that appear to be infested with invasive species; “When in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.
- c. Minimize soil disturbance if traveling off-trail and on stream banks; disturbed soils can create favorable conditions for the establishment and spread of invasive plants.

**BMP HTA-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates; or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP HTA-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP HTA-11: Dispose of unused live bait (worms) in garbage container.**

Considerations:

- a. If you use earthworms as fishing bait, throw any unused earthworms in the trash, not in the water or on the land (it is illegal to knowingly introduce any exotic species!).
- b. Do not transport leaves, mulch, compost, or soil from one place to another unless you are confident that there are no earthworms or their cocoons present.

All bait worms are not native to Wisconsin and can cause serious damage to forest ecosystems.

**BMP HTA-12: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.
- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify invasive species in the area to educate participants.
- e. Add a component of removal and proper disposal of invasive species as part of the event.
- f. Plan events for proper times of the year to help avoid the spread of invasive species.

**BMP HTA-13: Spread the word – help educate others about invasive species and their effects on our environment, economy, and recreational opportunities.**

## Best Management Practices for Motorized Activities

(BMP Prefix = “M”)

### **Introduction:**

Motorized terrestrial recreation refers to the use of snowmobiles, all-terrain vehicles, 4x4 trucks, jeeps, side-by-side utility terrain vehicles, off-highway motorcycles, amphibious machines, golf carts, dune buggies, and all other off-road motorized vehicles used in a nature-based setting. This form of recreation is broadly participated in by individuals, groups, and families. The motorized vehicle recreation sector includes a variety of users including those who are principally interested in the pleasure and thrill of operating the machines, those who use the machines as an integral part of an outdoor recreation experience such as sightseeing and wildlife viewing, and those who use the machines as transportation for their recreation activities such as hunting, camping, trapping, photography, etc. Motorized recreation can be especially beneficial for those who have physical limitations.

### **Invasive species and motorized recreation:**

Invasive species are having a negative effect on the quality and accessibility of recreational lands available for many recreation activities including all forms of motorized terrestrial recreation. Invasive species are eliminating native plant species, changing wildlife habitat, and modifying the appearance and utility of the landscape. Left unmanaged, these threats will contribute to a diminished quality and quantity of outdoor recreation within the state.

- Invasive plants out-compete the native vegetation in the landscape by replacing diverse plant communities with aggressive single (monoculture) species.
- Invasive plants can directly affect human health and activities in many ways. Some produce painful skin burns, while others have sharp spines and thorns that can cause physical discomfort. Toxic berries can cause poisoning. Some allergies are caused by invasive species.
- Economic damage associated with invasive species' impacts and their management is estimated to cost the U.S. \$137 billion annually. This cost includes losses in agriculture, fisheries, timber, utilities, overall land productivity, tourism, and recreation.
- Motorized recreationists face the possibility of losing land access due to the concern of the spreading of invasive plants.
- Invasive species take over habitat that supports native wildlife and, potentially, endangered species.

- Vehicles, operators, and passengers have the potential of unintentionally carrying invasive species from one area to another. Plant fragments, seeds, or insects may cling to gear, vehicles, and clothing.
- Disturbed soils may create favorable conditions for the establishment and spread of invasive plants.

**General guidance:**

To minimize the introduction and spread of invasive species, motorized recreational users should focus on:

- 1) Inspecting and cleaning vehicles, equipment, and clothing, 2) staying on established trails and routes, and 3) treading lightly and leaving as little impact on the land as possible.

**Best Management Practices:**

**BMP M-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

Considerations:

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Pay attention to signage at infested areas and trailheads, (e.g. “this is a picture of garlic mustard; you will see it along the west side of the trail”).
- c. Check out the Wisconsin DNR website for photos and instructions.  
<http://dnr.wi.gov/invasives>

**BMP M-2: Wear clothing and footwear that are not “seed-friendly.”**

Considerations:

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.
- b. Dedicate a pair of shoes or boots for use only on infested properties.
- c. Avoid wearing Velcro, bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP M-3: Inspect and clean hair, clothing, footwear, and gear for soils, seeds, plant parts, or invertebrates before and after recreating.**

Considerations:

- a. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- b. Insects like the gypsy moth can move around on motorized vehicles; check for insect egg masses, pupae, and caterpillars of invasive species.
- c. Do not clean clothing, footwear, or gear in or near waterways – it may promote the spread of invasives downstream.
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.

- Gear is unloaded and loaded.
- Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP M-4: Prior to moving equipment, vehicles, and trailers onto and off of an activity area, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- Visit a car wash or cleaning station; be sure to spray the undercarriage of all vehicles.
- Preferred locations for equipment cleaning areas are those where:
  - Invasive species are already established.
  - Equipment is unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- Do not clean equipment, vehicles, or trailers in or near waterways – it may promote the spread of invasives downstream.

**BMP M-5: Inspect and remove soil, plant parts, and seeds from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- Do not clean animals in or near waterways – it may promote the spread of invasives downstream.
- Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP M-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- Place materials in a bag and send to landfill, where possible.
- Materials may be composted but only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.
- Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP M-7: Stay on designated trails, roads, and other developed areas.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Do not create your own trails on public lands.
- e. If wet areas are encountered on established trails, go through them rather than around, if possible.

**BMP M-8: When off-trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP M-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates, or map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP M-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP M-11: Minimize soil displacement from the tread and soil degradation outside the tread; disturbed soils may create favorable conditions for the establishment and spread of invasive plants.**

Considerations:

- a. Avoid sudden stops and quick directional changes with acceleration or braking.
- b. By staying on the trail, there is little or no compaction or impact outside the tread.
- c. In the winter, ride only when there is adequate snow cover and when the trail is firm or frozen.

**BMP M-12: When feasible, incorporate invasive species prevention into planning for special events.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.
- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify species in the field to educate participants.
- e. Consider adding a component of removal and proper disposal of invasive species as part of the event.

**BMP M-13: Spread the word – help educate others about invasive species and their effects on the environment, economy, and recreational opportunities.**

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## Best Management Practices for Pedestrian-based Activities

(BMP Prefix = “P”)

### **Introduction:**

The category of “pedestrian recreation” encompasses a range of outdoor recreational activities in which participants travel on foot (or using a device to assist with foot travel) from one place to another. Travel may take place on or off trail and occurs mostly as a single-day event (i.e. would not involve camping).

Examples of pedestrian recreation include walking, sightseeing, hiking, backpacking, and running, sometimes using assistive devices like wheelchairs, walkers, and strollers. Other activities include wildlife watching, photography, and picnicking. Pursuits like rock climbing, caving, and gathering of natural foods and other materials, as well as winter sports like cross-country skiing and snowshoeing are also pedestrian forms of recreation.

Participants in these recreational activities are as varied and diverse as their interests. Some hikers, for instance, prefer hard-surfaced trails, while others seek out more rustic and “wild” experiences. Nature photographers and wildlife watchers may travel miles from developed areas, or may find that “perfect shot” along a boardwalk or nature trail. Each recreational user has a unique comfort level and base of experience that will determine the type of opportunities sought by that individual. So, best management practices targeting these user groups must allow for flexibility and diversity of experiences.

### **Invasive species and pedestrian recreation:**

Throughout Wisconsin, invasive species are making recreational on and off trail travel increasingly difficult:

- Invasive plants may overgrow trails and forested areas, making walking, hiking, and other travel difficult.
- Many invasive plants adversely affect human health. Some plants have prickly stems and thorns that cut exposed skin, while others produce chemicals that can cause severe skin burns and eye irritations.
- Invasive plants often out-compete native wildflowers and other plants, eliminating photographic and wildlife viewing opportunities.
- Invasive species often lower biodiversity of natural areas, resulting in less healthy ecosystems, loss of wildlife habitat, and reduced quality of recreational experiences.

By definition, people engaged in pedestrian forms of recreation are moving from one place to another, so the potential for spreading invasive species always exists. When people leave established trails and enter natural habitats, this potential increases as the resulting disturbance may favor invasive species:

- Pedestrians may damage native plants and disturb soils, creating favorable conditions for growth of invasive plants.
- Plant fragments, seeds, or insects may cling to gear or clothing, especially if pedestrians travel from an infested area to a non-infested area.

**General guidance:**

To minimize the introduction and spread of invasive species, pedestrians should focus on: 1) inspecting and cleaning clothing, footwear, and gear, 2) minimizing disturbance of natural environments by staying on trails and in developed areas when possible, and 3) staying out of heavily infested areas. Becoming familiar with the most common invasive species is critical so that all recreational users can learn to stay out of these “hot spots.”

**Best Management Practices:**

**BMP P-1: Learn to recognize invasive species common to the areas where you enjoy outdoor recreational activities.**

Considerations:

- a. Read guides, brochures, and pamphlets produced by government agencies or other weed management groups on invasive species.
- b. Pay attention to signage at infested areas and trailheads (e.g. “this is a picture of garlic mustard; you will see it along the west side of the trail”).
- c. Check out the Wisconsin DNR website for photos and instructions. <http://dnr.wi.gov/invasives>.

**BMP P-2: Wear clothing and footwear that are not “seed-friendly.”**

Considerations:

- a. In appropriate areas, wear low-tread footwear that doesn’t hold soil, seeds, and other debris.
- b. Wear shoe covers over footwear in infested areas; properly dispose of them when leaving the area.
- c. Dedicate a pair of shoes or boots for use only on infested properties.
- d. Wear ankle gaiters over socks and shoe laces.
- e. Avoid wearing Velcro, bulky knits (e.g., wool, fleece), pants with cuffs, and other fabrics or clothing styles that can carry seeds.

**BMP P-3: Inspect and clean hair, clothing, footwear, and gear for soils, seeds, plant parts, or invertebrates before and after recreating.**

Considerations:

- a. Carry a wire brush and small screwdriver to help remove soil, plant parts, seeds, and insects; use boot brushes and other removal devices when provided.
- b. Wear a hat to cover hair.
- c. Do not clean clothing, footwear, or gear in or near waterways; it may promote the spread of invasives downstream.
- d. Preferred locations for cleaning are those where:
  - Invasive species are already established.

- Gear is unloaded and loaded.
- Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP P-4: Prior to moving equipment such as strollers, wheelchairs, etc. onto and off of an activity areas, spray, scrape, or brush soil and debris from exterior surfaces, to the extent practical, to minimize the risk of transporting soils, seeds, plant parts, or invertebrates.**

Considerations:

- a. If traveling to the site via vehicle, visit a car wash or cleaning station; be sure to spray the undercarriage.
- b. Preferred locations for equipment cleaning areas are those where:
  - Equipment is unloaded and loaded.
  - Invasive species are already established.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.
- c. Do not clean equipment in or near waterways; it may promote the spread of invasive species downstream.

**BMP P-5: Inspect and remove soil, plant parts, and seeds, from the coat and feet of animals and their clothing/gear before and after recreating.**

Considerations:

- a. Carry a grooming brush, shedding blade, small scissors, hoof knife, etc. to help remove invasive seeds from animals.
- b. Do not clean clothing, footwear, gear, vehicles, or animals in or near waterways – it may promote the spread of invasives downstream.
- c. Preferred locations for cleaning are those where:
  - Invasive species are already established.
  - Animals are unloaded and loaded.
  - Areas can be easily monitored for new infestations due to the cleaning activity, i.e. along a road, at a trail head.

**BMP P-6: Properly dispose of soil, seeds, plant parts, or invertebrates found during inspection and cleaning.**

Considerations:

- a. Place materials in a bag and send it to a landfill, where possible.
- b. Materials may be composted but only if the compost pile reaches very high temperatures and the finished compost can be monitored for weed emergence.
- c. Materials may be disposed of in piles; locate the pile in an area that facilitates easy monitoring and control if infestations spread from it.
- d. Materials may be burned; locate the burn pile in an area that facilitates easy monitoring and control if infestations spread from it.

**BMP P-7: Stay on designated trails, roads, and other developed areas.**

Considerations:

- a. Minimize soil disturbance; it may promote weed germination and establishment.
- b. Destruction of native plants favors invasive species.
- c. By venturing into uninfested areas, you may introduce invasive species by carrying plant fragments or seeds.
- d. Avoid trails that are wet or muddy. If wet areas are encountered, go through them rather than around, if possible.

**BMP P-8: When off-trail, avoid areas that appear to be infested with invasive species; “when in doubt, stay out!”**

Considerations:

- a. The chances of transporting seeds, plant fragments, and other debris increase in areas of heavy infestation.
- b. Direct contact with some invasive species can affect human and animal health, including skin and eye irritation.

**BMP P-9: Report infestations of invasive species to the appropriate land manager or property owner.**

Considerations:

- a. Provide as exact a location as possible; take photos, GPS coordinates, map the infestation.
- b. Use diplomacy if contacting a private landowner.

**BMP P-10: Volunteer to help control invasive species.**

Considerations:

- a. Contact public and private landowners, agencies, and nonprofit organizations to find out about volunteer opportunities.

**BMP P-11: Unless gathering natural foods or other permitted material, don’t pick plants.**

Considerations:

- a. Picking plants is prohibited on many public lands.
- b. While many invasive plants have attractive blooms, discarded flower or seed heads can spread weed seeds.
- c. When processing gathered materials, remove invasive plants and dispose of them properly.
- d. Some invasive plants may cause skin and eye irritation.

Despite their appeal for ornamental purposes, avoid picking plants such as teasel and bittersweet since this provides opportunities to spread these species through discarded plant parts and seeds.

**BMP P-12: When feasible, incorporate invasive species prevention into planning for special events such as cross-country races, organized hikes/walks, ski events, and other occasions.**

Considerations:

- a. Place cleaning stations at entrance and exit points.
- b. Plan travel routes to avoid areas of heavy infestation.
- c. Provide participants with informational brochures and other educational materials related to invasive species prevention.
- d. Identify species in the field to educate participants.
- e. Consider time of year (e.g. before invasive species go to seed) in planning events.

**BMP P-13: Spread the word – help educate others about invasive species and their effects on our environment, economy, and recreational opportunities.**

**Best Management Practices for Land Management**

*(BMP Prefix = "LM")*

**Currently in development**

DRAFT

## Best Management Practices for Recreation

### Glossary

<b>4WD</b>	Four-wheel drive
<b>4x4</b>	Four-wheel drive vehicle
<b>Angler</b>	A person who fishes
<b>Aquatic invasives</b>	Invasive species that is found in water.
<b>ATB</b>	All-terrain bicycle. See 'Mountain Bicycle.'
<b>ATV</b>	All-terrain vehicle
<b>Best Management Practices (BMPs)</b>	Practical and economically achievable (do we really want to say this?) practices for preventing or reducing the introduction and spread of invasive species.
<b>Biological Control</b>	Management of an invasive species population of one organism by the use of another.
<b>Control</b>	Containment or eradication of an invasive species population.
<b>Eradication</b>	Elimination of an invasive species from a specific country? or area.
<b>Established</b>	An introduced invasive species, present in a country or area, multiplying or expected to continue to occupy the area. (Isn't time a factor here?)
<b>Exotic</b>	From another country; not native to the place where found.
<b>Firebreak</b>	Naturally occurring or human-made barrier to the spread of fire.
<b>Geocaching</b>	An outdoor treasure-hunting game in which the participants use a Global Positioning System (GPS) receiver or other navigational techniques to hide and seek containers anywhere in the world.
<b>Indigenous</b>	Native to a particular area, not introduced. (see 'native')
<b>Infestation</b>	An established population of invasive species that is reproducing and spreading.
<b>Introduction</b>	Entry and establishment of a pest.
<b>Invasive species</b>	A non-indigenous species whose introduction does or is likely to cause economic or environmental harm or harm to human health.
<b>Management</b>	The utilization of any procedure or combination of procedures designed to suppress or contain invasive species populations at a level to protect natural resources.
<b>Mountain Bicycle</b>	A mountain bike or mountain bicycle [abbreviated MTB or ATB (All Terrain Bicycle)] is a bicycle designed for off-road biking, either on dirt trails or other unpaved environments.
<b>MTB</b>	See 'Mountain Bicycle.'
<b>Mulch</b>	A natural or artificial layer of plant residue or other materials covering the land surface that conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes temperature fluctuations.
<b>Mushing</b>	The use of one or more dogs to pull a sled on snow.
<b>Native</b>	Present in a certain area from other than human causes or influences. (see indigenous)
<b>OHV</b>	Off-highway vehicle
<b>Pathway</b>	Any means that allows the entry or spread of an invasive species.
<b>Personal watercraft</b>	A motorized water vessel less than 15 feet in length designed to be operated by a person sitting, standing, or kneeling on it rather than within the confines of a hull.

<b>Pest</b>	Any living stage of an insect, mite, nematode, slug, snail, or other invertebrate animal injurious to plants, plant products, animals, and humans; any bacteria, fungi, other parasitic plants, or reproductive parts thereof, viruses, phytoplasmas, protozoans, or infectious substances which cause disease in or damage to plants or plant products; any host upon which a plant pest is dependent for the completion of all or a portion of its lifecycle.
<b>Prescribed burning</b>	Skillful application of fire to natural fuels that allows confinement of the fire to a predetermined area and at the same time produces certain planned benefits.
<b>Propagule</b>	Any reproductive structure or part of an invasive species that can grow independently of its parent source. In plants, this may be a fruit, seed, bud, tuber, root, stem with rooting structures, or shoot. In forest pests, this may be an egg, larva, pupa, or adult. In forest pathogens, this may be a spore, mycelial fragment (similar to root), or a fruiting body.
<b>Recreationists</b>	Individuals who take part in outdoor recreational activities.
<b>Road bicycle</b>	A bicycle designed for use primarily on paved roads.
<b>RV</b>	Recreational vehicle
<b>Segway™</b>	A self-balancing personal transportation device with two wheels; can operate in any level pedestrian environment.
<b>Skijor</b>	A winter sport where a person wearing skis is pulled over the snow by a dog or dogs.
<b>Survey</b>	A methodical procedure, conducted over a defined period of time, to determine the characteristics of an invasive species population, or to determine which species occur in an area.
<b>Terrestrial invasives</b>	Invasive species that is found on land.
<b>Touring bicycle</b>	A bicycle designed to handle touring, distinctive in its sturdier wheels, wider tires, and in its ability to carry gear on racks.
<b>Trailhead</b>	The point at which a path starts. Recreational trail users typically begin excursions at trailheads and may review kiosks with maps and other information on display, if available.
<b>Treatment</b>	Officially authorized procedure for killing or removing plant pests or rendering them infertile.
<b>UTV</b>	Utility terrain vehicle.
<b>Vehicle access</b>	An entry point to a recreational trail or area for motorized vehicles.
<b>Wildlife food plot</b>	A planted area set aside to act as a food source for wildlife. Food plots generally consist of but are not limited to legumes or forage grasses.
<b>Wildlife opening</b>	An opening in a forest that provides wildlife with a variety of food and cover sources that are close together and easily available. May be food plots, natural herbaceous or brushy cover, fire breaks, roads, or utility rights-of-way.