

Invasive plants in the forest: updates, new invaders, what you can do



Japanese barberry, Wells



Shrubby honeysuckle, Windsor

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Stewardship Forester Workshops

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Dept. of Agriculture, Conservation and Forestry

Maine Natural Areas Program

Our mission – to ensure the maintenance of Maine’s natural heritage for the benefit of present and future generations.



- Keep track of natural resources
- Facilitate informed decision-making
 - Invasive plant initiatives

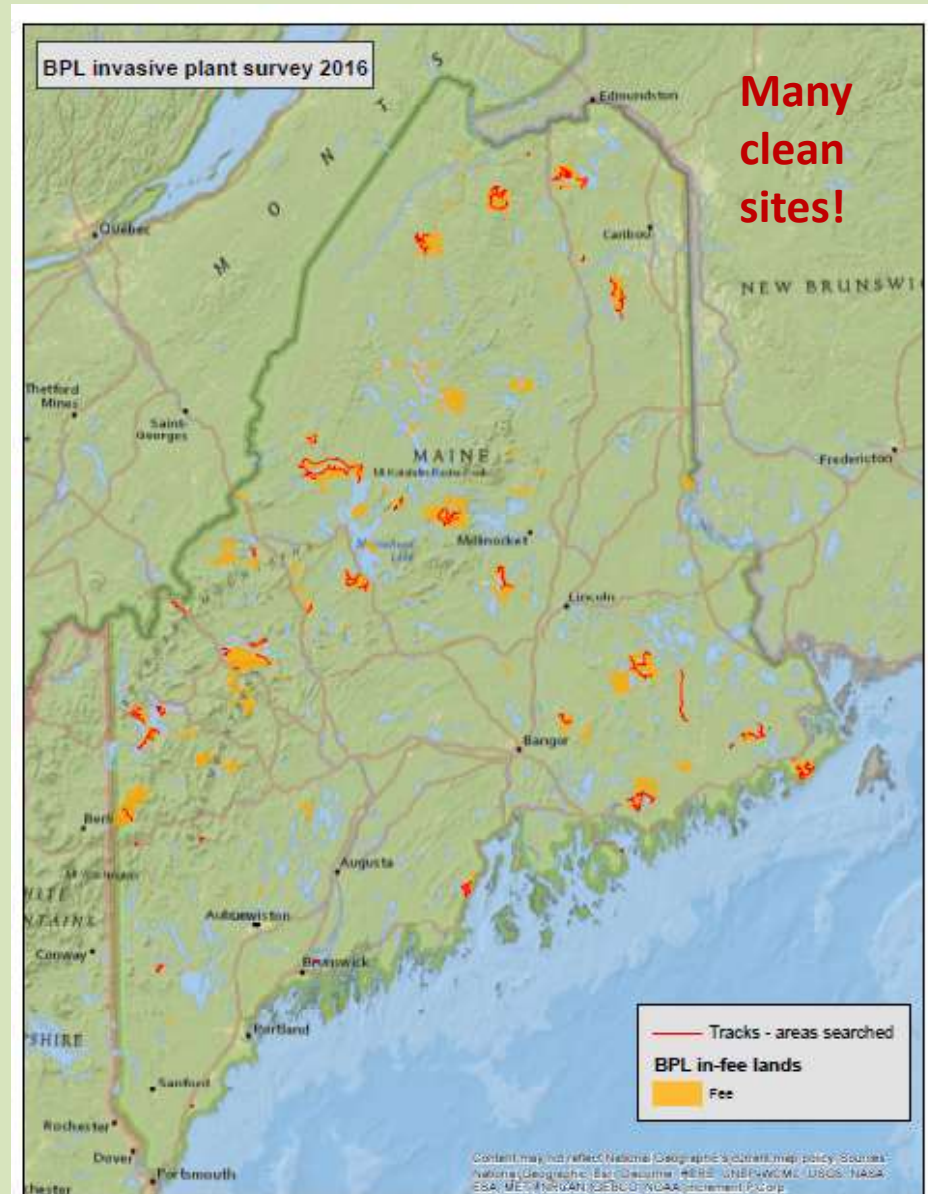


All photos courtesy of MNAP unless otherwise noted.

- What's new
- Early Detection and Early Management species
- Tools, strategies, voluntary BMPs

Mapping and prioritization on BPL lands

- ~400,000+ acres assessed to date, ~300,000 in 2016
- Prioritized management recommendations
- Contractor treated ~6 sites, more to come



Research project with MDOT

- Map invasive plants, document native and non-native plants
- Pollinator use study 2017
- Training for DOT applicators
- Potential restoration opportunities



In progress: Advisory List, Field Guide

ADVISORY LIST

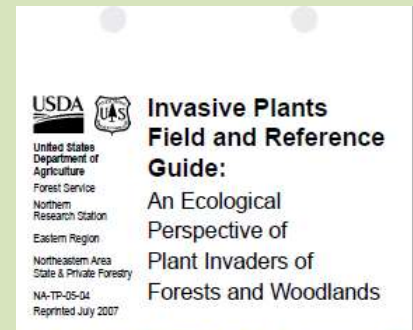
- Non-regulatory list maintained by MNAP
- Review by TIPSAC
- Invasiveness ranking
- Status in Maine
- Habit, life cycle
- Habitats threatened

INVASIVE PLANT ID AND CONTROL FIELD GUIDE MNAP, MWO, others

“Pocket” sized

Laminated

Essential ID
and control
info



USDA NRCS CIG project

Knox, Lincoln, Kennebec counties

- Farms and woodlots
- Landowners: critical in EDRR, early management
- Field survey, maps & management recommendations
- 20 properties, ~2,600 acres
- Refer to EQIP competitive funding



Prevention – do not sell list

Lead: DACF Bureau of
Agriculture, Division of
Animal and Plant Health
Gary Fish and colleagues

Search “Invasive Plants
Horticulture Maine” to learn
more

33 Invasive Plants Prohibited from Sale in Maine What you need to Know



In January 2017 changes were adopted to CMR 01-001 Chapter 273: Criteria for Listing Invasive Terrestrial Plants. These changes make it illegal to sell, import, export, buy or intentionally propagate for sale the 33 plant species listed below.

<i>Acer ginnala</i> (sugar maple)	<i>Hesperis matronalis</i> (dame's rocket)
<i>Acer platanoides</i> (Norway maple)	<i>Impatiens glandulifera</i> (ornamental jewelweed)
<i>Aegopodium podagraria</i> (bishop's weed)	<i>Iris pseudacorus</i> (yellow iris)
<i>Ailanthus altissima</i> (tree of heaven)	<i>Ligustrum vulgare</i> (common privet)
<i>Alliaria petiolata</i> (garlic mustard)	<i>Lonicera japonica</i> (Japanese honeysuckle)
<i>Amorpha fruticosa</i> (false indigo bush)	<i>Lonicera maackii</i> (amur or bush honeysuckle)
<i>Ampelopsis glandulosa</i> (porcelain berry)	<i>Lonicera morrowii</i> (Morrow's honeysuckle)
<i>Artemisia vulgaris</i> (common mugwort)	<i>Lonicera tatarica</i> (Tatarian honeysuckle)
<i>Berberis thunbergii</i> (Japanese barberry)	<i>Lythrum salicaria</i> (purple loosestrife)
<i>Berberis vulgaris</i> (common barberry)	<i>Microstegium vimineum</i> (Japanese stilt grass)
<i>Celastrus orbiculatus</i> (Asiatic bittersweet)	<i>Paulownia tomentosa</i> (paulownia, princess tree)
<i>Elaeagnus umbellata</i> (Autumn olive)	<i>Persicaria perfoliata</i> (mile-a-minute)
<i>Euonymus alatus</i> (winged euonymus)	<i>Phellodendron amurense</i> (amur cork tree)
<i>Euphorbia cyparissias</i> (cypress spurge)	<i>Populus alba</i> (white cottonwood)
<i>Fallopia baldachuanica</i> (Chinese bindweed)	<i>Robinia pseudoacacia</i> (black locust)
<i>Fallopia japonica</i> (Japanese knotweed)	<i>Rosa multiflora</i> (multiflora rose)
<i>Frangula alnus</i> (glossy buckthorn)	

Quick Facts

- Businesses selling plants have until **January 1, 2018** to sell any remaining plants.
- The ban includes the listed species and all cultivars, varieties and hybrids.
- Variances may be applied for and granted for scientific research and for varieties, cultivars or hybrids that have been shown to not be invasive through peer reviewed scientific research.
- The invasive plant rule and included prohibited plant list will be reviewed every 5 years.

FOR MORE INFORMATION:
MAINE DEPARTMENT OF AGRICULTURE,
CONSERVATION AND FORESTRY
DIVISION OF ANIMAL AND PLANT HEALTH
28 STATE HOUSE STATION
AUGUSTA, ME 04333
207-287-3891
HORTICULTURE@MAINE.GOV
WWW.MAINE.GOV/IGDET

Early Detection and Early Management species: learn and watch out for them

1. Black swallowwort
2. Japanese honeysuckle
3. Japanese stiltgrass
4. Mile-a-minute vine
5. Ornamental jewelweed
6. Porcelainberry



Black swallowwort & pale swallowwort

Cynanchum louiseae & *C. rossicum*

- Perennial, herbaceous vine
- Leaves opposite, somewhat leathery, 2-4" long
- Found mostly in open areas, edges
- Small (<1"), star-shaped flowers
- Yellow leaves in fall
- Along coast
Kittery to
~Damariscotta



Black swallowwort & pale swallowwort *Cynanchum louiseae* & *C. rossicum*

- Milkweed-like pods with wind-blown seeds in late summer
- Climbs and over-tops vegetation



Japanese honeysuckle

Lonicera japonica

- Woody vine that climbs or creeps
- Leaves opposite, oval-ish, tapering at tip, 1-2" long
- Hollow pith on larger vines
- Brown, shaggy bark
- Known @ isolated locations York Co.



Japanese honeysuckle

Lonicera japonica

- Tubular, irregular white-yellow flowers
- Round, black fruits in late summer
- Known from isolated locations in York Co.



Photo courtesy of John M. Randall, The Nature Conservancy

Japanese stiltgrass

Microstegium vimineum

- Closest location:
NH - hitchhiker
- Understory annual
grass
- Shade-tolerant
- Forms thick carpet
- Thatch build-up
smothers natives



Japanese stiltgrass

Microstegium vimineum

- Leaves alternate along stem
- Silver hairs along middle of leaf looks like “line,” distinctive
- Leaves 2-3” long, ~1/2” wide



David J. Moorhead, University of Georgia, Bugwood.org

UGA2308019



Chuck Barger, University of Georgia, Bugwood.org

UGA2308028

Mile-a-minute weed (*Persicaria perfoliata*)

- Closest location:
NH - hitchhiker
- Herbaceous,
annual vine
- Triangular leaf
shape
- Climbs up and also
sprawls on top of
other plants



Leslie Mehrhoff, Univ. of CT, Bugwood.org

Mile-a-minute weed (*Persicaria perfoliata*)

- Small thorns
- Alternate leaves with round ocrea at nodes
- Ripe fruit is blue
- Up to 6" growth per day!



Ornamental jewelweed (*Impatiens glandulifera*)

- Herbaceous annual
- 3-6' tall
- Wet areas, ditches, edges of streams and rivers
- ~2" pink flowers
- Major threat to riverside habitats
- Somewhat shade tolerant
- Mid-coast, isolated inland locations



Ornamental jewelweed (*Impatiens glandulifera*)



- Opposite/whorled, toothed leaves
- Hollow stem

Porcelainberry
(*Ampelopsis
brevipedunculata*)

- Present in Maine in plantings
- Perennial, woody vine
- Alternate, lobed, toothed leaves
- Funny-colored fruits with raised dots



Porcelainberry
(*Ampelopsis
brevipedunculata*)

- Sprawls or climbs shrubs, small trees
- Somewhat shade tolerant



Review: common invasive plants in the forest

1. Japanese barberry
2. Shrubby honeysuckles
3. Asiatic bittersweet
4. Common buckthorn
5. Glossy buckthorn
6. Autumn olive
7. Multiflora rose
8. Norway maple
9. Burning bush

~Garlic mustard

[Japanese knotweed]

[Common reed, aka *Phragmites*]



Tools: Website for invasive plant ID & control













The screenshot shows the website for the Maine Department of Agriculture, Conservation and Forestry. The header includes the Maine.gov logo, navigation links for Agencies, Online Services, and Help, and a search bar. The main navigation menu includes About DACF, Animals & Plants, Forest, Geology, Recreation, Farming, Planning, Licensing & Regulations, and Bureaus & Programs. The breadcrumb trail reads: DACF Home → Bureaus & Programs → Maine Natural Areas Program → Communities, Plants, and Animals → Invasive Plants → Photo Gallery.

Maine Natural Areas Program

Invasive Plant Photo Gallery

[View Gallery by Scientific Name](#)

Thumbnail photos of some of Maine's invasive plant species. Fact sheets, more photos, links to identification videos, and links to videos about control measures available at each species' page. For a complete list, see our [Maine Invasive Plant Fact Sheets in list view](#).

			
Asiatic Bittersweet	Autumn Olive	Black Swallowwort	Burning Bush
			
Common Buckthorn	Common Reed	Garlic Mustard	Glossy Buckthorn
			
Japanese Barberry	Japanese Honeysuckle	Japanese Knotweed	Multiflora Rose

Search for “Invasive Plant Photo Gallery Maine”

(Also have fact sheets for many additional species)

iMapInvasives online mapping tool



- Centralized statewide repository
- Site assessment:
what, where, how much?
- Landscape context:
what plants already infest the area?
- Record and monitor treatments

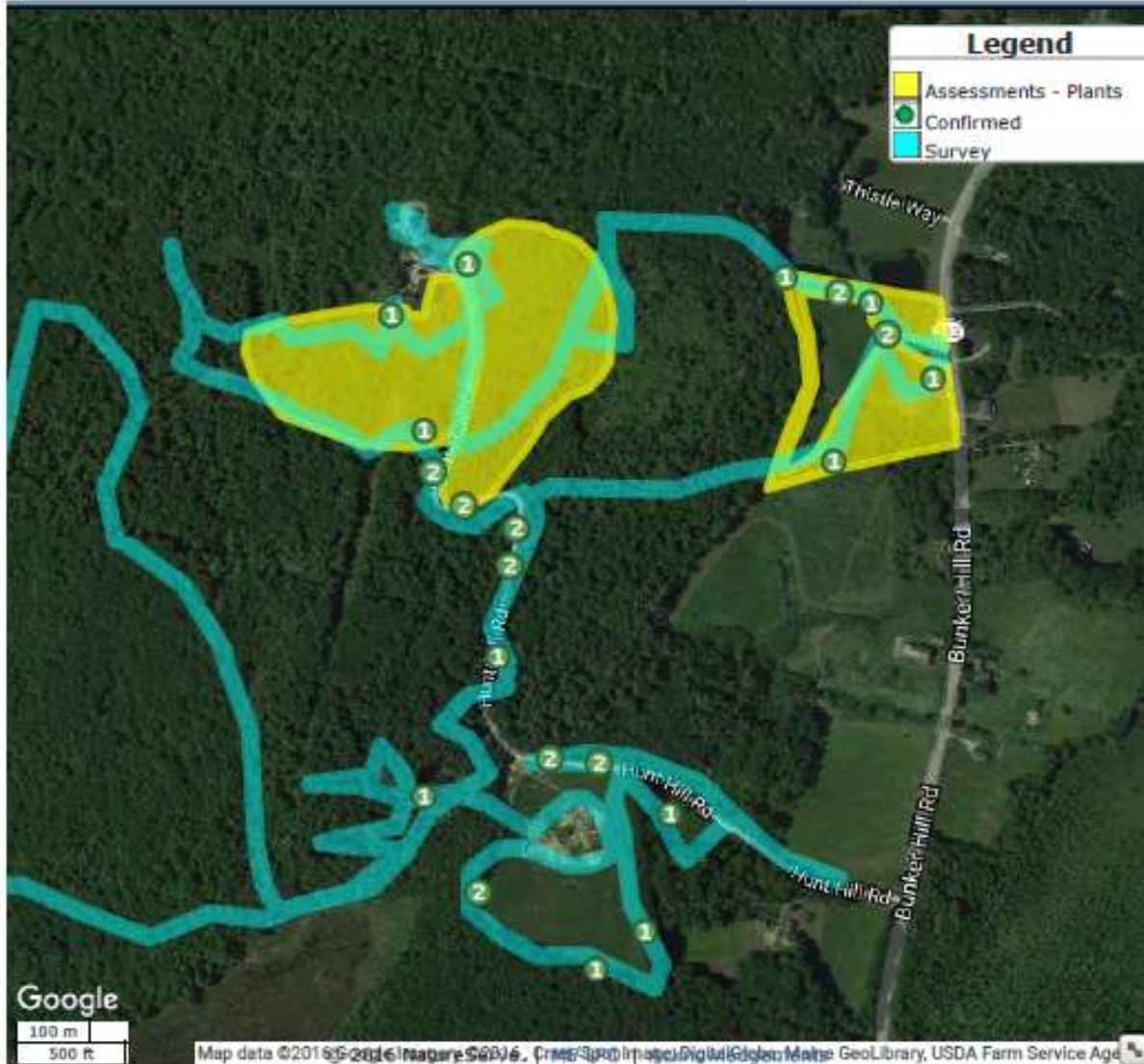
Search “Maine iMapInvasives” to request an account



Map 4 - Morrow's honeysuckle

Approximate areas of infestation shown in yellow
assessment polygons and green observation points. Survey
routes appear in blue.

Lonicera morrowii



Two types of prioritization strategies

Plant-based:

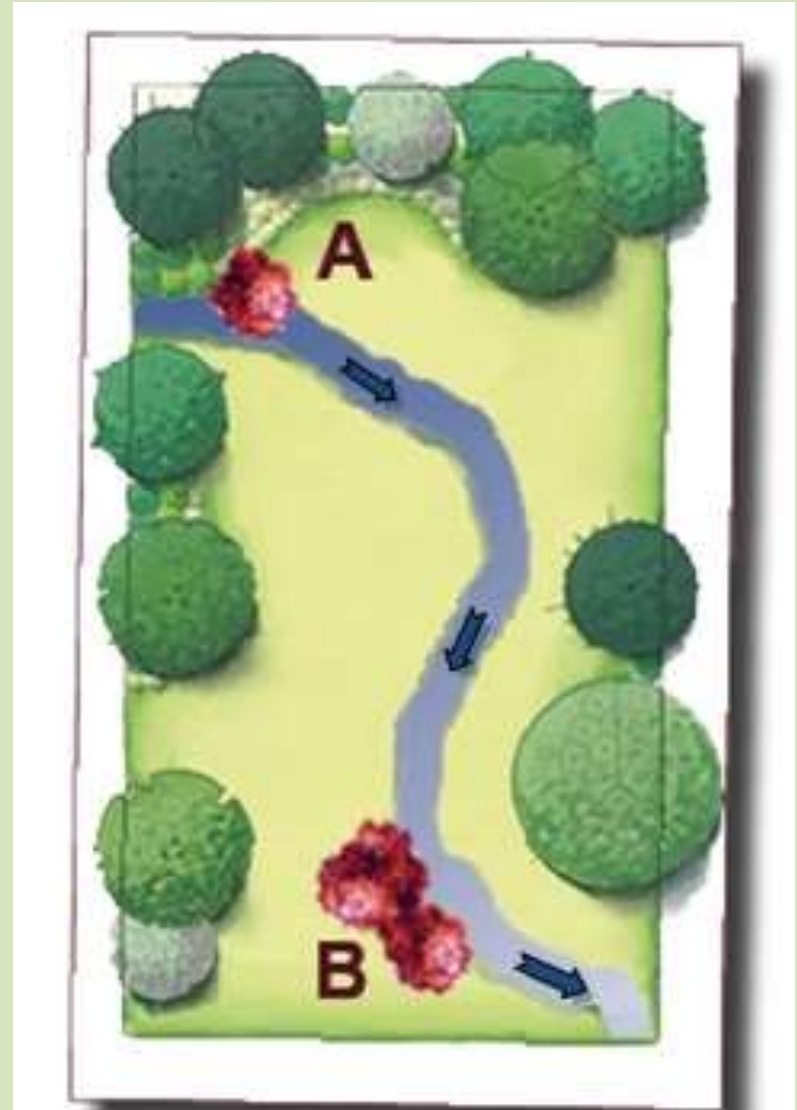
- Early detection and management
- Unacceptable impacts
- Start upstream (sometimes)
- *Ideally, implement across ownership boundaries*

Site-based:

- Outliers first
- Protect priority habitats
- Start upstream
- Early detection and management

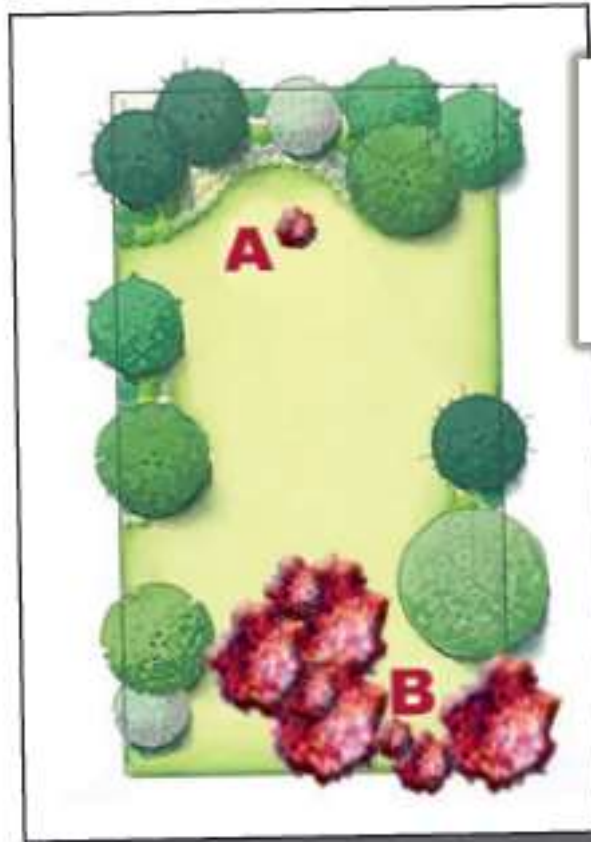
Plant-based prioritization strategies

- Start upstream: manage population A before population B
- For riparian species dispersed by seeds or fragments



Site-based prioritization strategies

- Outliers first
 - And/or, target species at low abundance



Strategy: Start with Small Populations, or Deal With “Spot Fires”

Starting with small populations is more likely to result in early success.

Could use multipronged approach: eradicate outliers, suppress “source population”

Site-based prioritization strategies

- Protect priority habitats
 - high-quality or rare wildlife habitats
 - most valuable timber stands
 - riparian corridors & wetland networks



Good Forestry in the Granite State

Chapter on Invasive Plants

Good Forestry in the Granite State:

Recommended Voluntary Forest Management Practices for New Hampshire

[Home](#) | [About the guide](#) | [Allowed uses](#)

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5.2 INVASIVE PLANTS

BACKGROUND

Invasive plants can pose a threat to forest ecosystems and forest productivity. Foresters, landowners, and loggers can play important roles in slowing the spread of invasive species.

Invasive plants are non-native species that invade natural communities and develop self-sustaining populations. The start of many infestations is often tied to a disturbance, and once established, the invasive species spread into undisturbed landscapes. They out-compete native species, disrupting ecological processes, and cause a loss of economic value or output. The economic impacts, sometimes hard to discern directly, often result from the environmental impacts.

The N.H. Invasive Species Law (RSA 430:52 and N.H. Administrative Rules AGR 3800) defines an invasive species as "an alien species whose introduction causes or is likely to cause economic or environmental harm or harm to human health." These species come in a variety of forms, including trees, vines, shrubs, grasses, terrestrial herbaceous and aquatic.

Table 3800.1 New Hampshire Prohibited Invasive Species List from N.H. Administrative Rules AGR 3800

Scientific Name	Common Name
<i>Acer platanoides</i>	Norway maple
<i>Ailanthus altissima</i>	tree of heaven
<i>Alliaria petiolata</i>	garlic mustard

<http://extension.unh.edu/goodforestry/>

Useful BMPs

BMPs when preparing FMPs

Document, map, explain

- Document locations of invasive plants
- Create maps to illustrate the situation
- Take landowner to see the problem
- Explain the threat to forest regeneration
- Plan to address invasive plants before the harvest whenever possible

BMPs during operations

Do no harm

- Ask for clean equipment
- Avoid moving equipment from infested to uninfested areas
- Operate in invasive-free areas *first*; operate from least infested to more infested
- Locate trails, roads, and landings in clean areas
- Limit soil disturbance to that needed to achieve silvicultural objectives

BMPs during close-out and after

Prevent new introductions, monitor

- Use seed mixes free of non-natives
- Monitor sites where fill, seed, or mulch was used, and major roads and landings
- Monitor harvest area for 3-5 years
- Additional control efforts as needed to achieve goals



THANK YOU! QUESTIONS?

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