

INVASIVE PLANTS IN OHIO'S NATURAL HABITATS





Salt cedar



**Eurasian
water-milfoil**



Kudzu



Purple loosestrife



Leafy spurge



Salvinia

INVASIVE PLANTS ??

- ▶ what are invasive plants, where did they come from & why
- ▶ what do invasive plants impact
- ▶ what plant species are invasive in Ohio
- ▶ what controls can be used
- ▶ what alternative species can be used
- ▶ what new invasive plants are coming into Ohio
- ▶ what makes this worth the effort



INVASIVE PLANTS: What, where from, & why

Non-native, non-invasive



Dandelions may be invasive in lawns, but not in natural habitats.

Non-native, invasive



- **3,000 plant species in Ohio**
- **25% are non-native (750)**
- **< 100 species are invasive in natural habitats (3%)**

Why do they become invasive?

- **they reproduce quickly**
- **they have no natural controls**



**Native plant diversity
in Ohio's wetlands
and prairies**

These plants were introduced to Ohio purposefully, as well as by accident, from Europe and Asia:

- For agriculture, landscaping, gardening, soil stabilization, forage, medicine, herbal & culinary uses, and wildlife habitat
- Came in via solid ballast of ships
- As contaminants in imported materials



Garlic mustard



Tatarian honeysuckle

Hungarian brome



Purple loosestrife

Many Invasive Plants Were Introduced For Landscaping Purposes

A few examples -

- ✿ Glossy buckthorn
- ✿ Bush honeysuckles (3)
- ✿ Japanese honeysuckle
- ✿ Purple loosestrife
- ✿ Japanese barberry
- ✿ Periwinkle or myrtle
- ✿ Common privet
- ✿ Winged euonymus (burning-bush)
- ✿ Winter-creeper
- ✿ Chinese silvergrass (*Miscanthus*)



INVASIVE PLANTS: What do they impact

- they displace native plants & animals in all habitats
- they displace rare species
- they reduce species diversity
- they form dense monocultures
- they alter the food web
- they affect human recreation
- they impact economics, resources, & time



EXAMPLE:

“American toads suffer as much as a 50% increase in mortality when tadpoles develop in purple loosestrife versus cattail wetlands.”
(Blossey, Cornell University)



Woodlands



Lakes, ponds, streams



Grasslands



Wetlands

**Invasive plants impact
all habitats in Ohio**

**Invasive plants are
the biggest threat to
rare plants in the U.S.
(TNC report)**



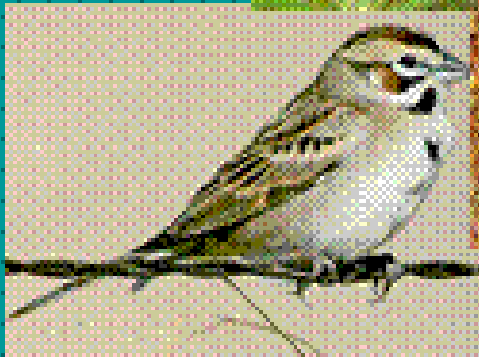
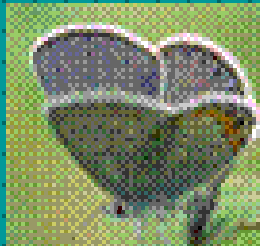
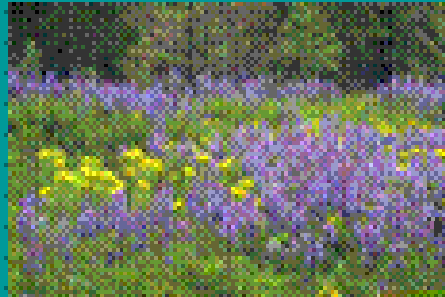
**Small white
lady's-slipper**



**Eastern & Western prairie
fringed orchids**

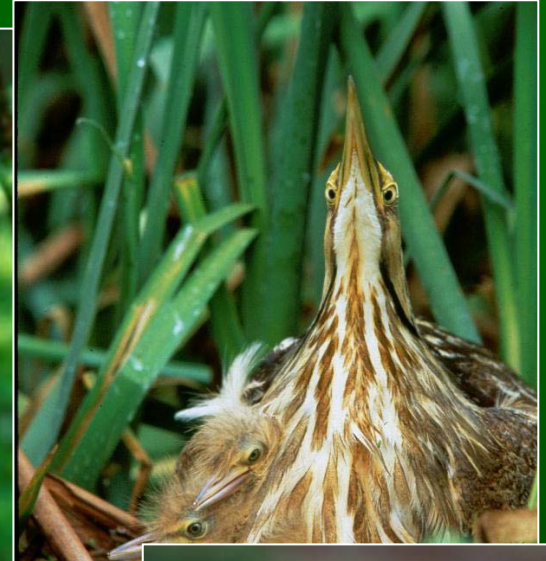
**Rare animal examples:
Least bell's vireo, Sage grouse,
Bald eagle, Karner blue butterfly,
Lark sparrow**

Oak Savannas

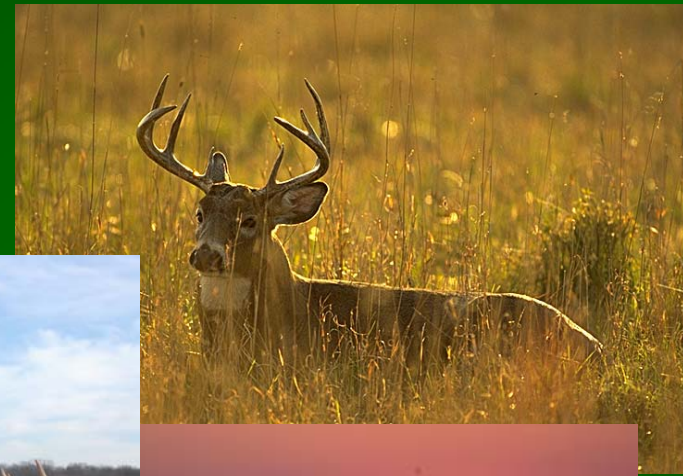


Wild lupine, Persius dusky wing,
Karner blue butterfly, Golden-winged warbler,
Lark sparrow, Blue-spotted salamander, Frosted elfin

Invasive plants reduce wildlife diversity



Invasive plants cost natural resource and recreation agencies, farmers, industry, and homeowners millions of dollars every year.



**Loss of recreation opportunities
or quality of recreation such as:
hunting
fishing
boating
hiking
wildlife observation.**



INVASIVE PLANTS: The species in Ohio

TREES



Tree-of-heaven

SHRUBS



Autumn & Russian olive



Glossy buckthorn



**Bush-honeysuckles: Amur,
Morrow, & Tatarian**



Multiflora rose

VINES



Japanese honeysuckle



Oriental bittersweet



Wintercreeper



WILDFLOWERS/FORBBS



Purple loosestrife



Narrow-leaved cattail (on left)



**Common
teasel**



Garlic mustard

Canada thistle



White and yellow sweet-clover

**Japanese knotweed
or Mexican bamboo**

GRASSES



Reed canary grass



Phragmites or
Giant reed grass

AQUATICS



Curly pondweed



Lesser naiad



Eurasian water-milfoil



INVASIVE PLANTS: Control Options

- ✧ **MANUAL** (hand-pulling or cutting, mowing, discing, plowing, soil disturbance)
- ✧ **HERBICIDE APPLICATION** (cut stump, foliar, basal bark, aerial)
- ✧ **WATER LEVEL CONTROL**
- ✧ **PRESCRIBED BURNING**
- ✧ **BIOLOGICAL CONTROL**



Manual methods



Hand-cutting



Hand-pulling;
digging



Bulldozing; soil disturbance



Discing cattails

Herbicide application

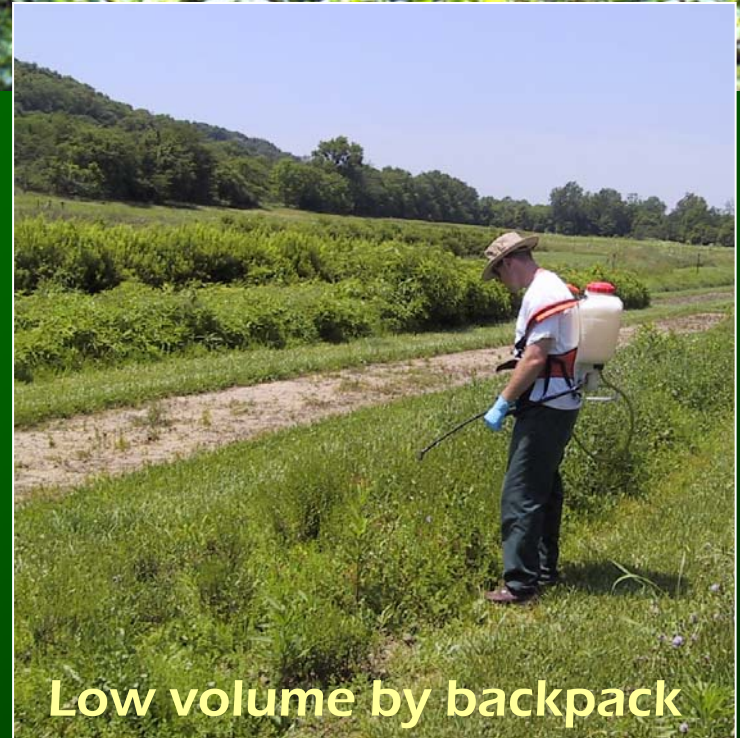
High volume spraying



Basal bark application



High volume by ATV



Low volume by backpack

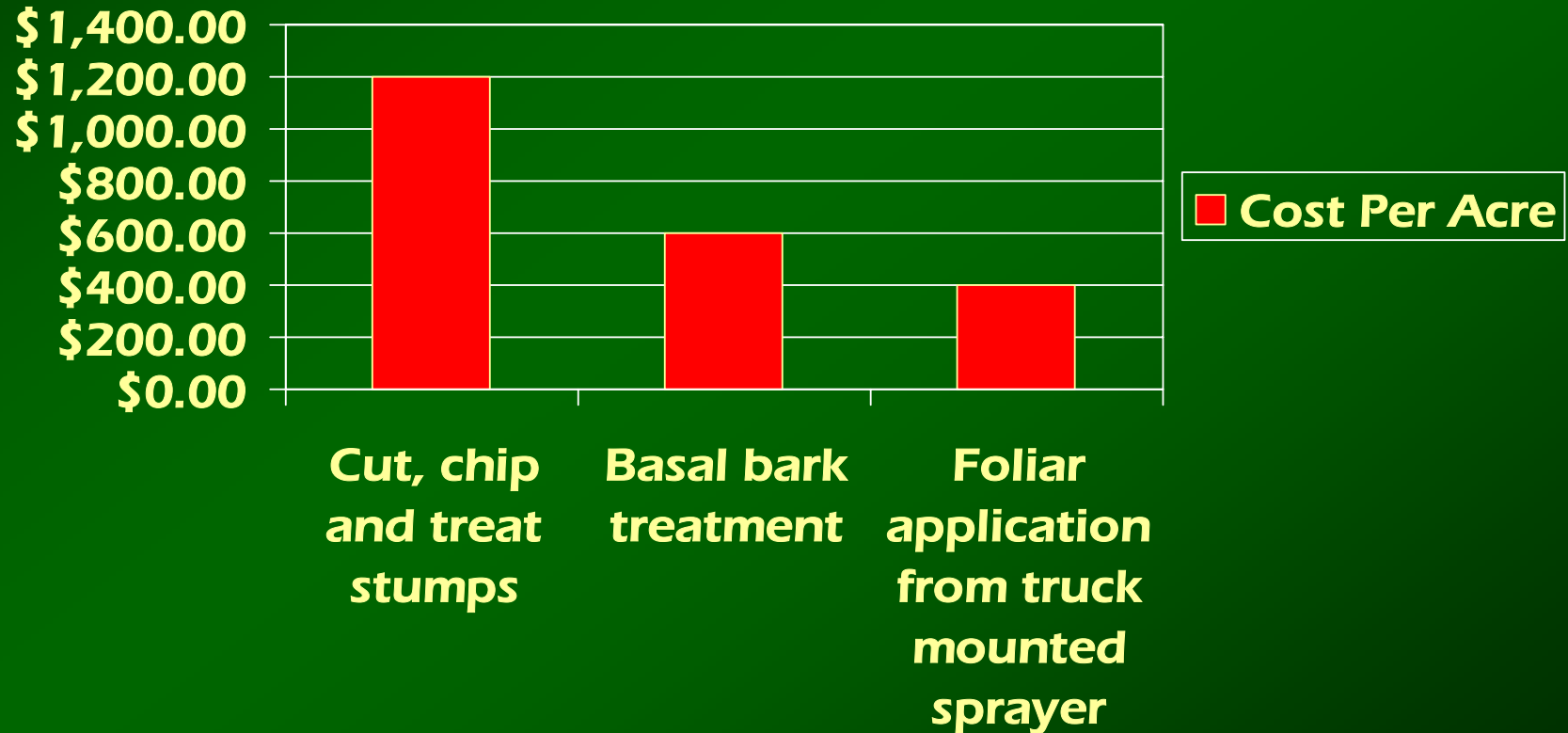


**Spraying herbicide
by helicopter at
Killbuck Marsh
Wildlife Area**

Costs of Herbicide Control Methods



Bush honeysuckle control in HCPD





**Water level
controls at
Big Island
Wildlife Area**



Prescribed burning

Ohio now has a Certified
Prescribed Fire Manager
Program to encourage the
responsible use of
prescribed burning





What you do as a burn manager may impact all burn managers in Ohio.

Take every burn seriously, plan carefully, and be a responsible burn manager.





Purple loosestrife



**Biological control:
Using the species'
natural controls**



Collecting, rearing, and releasing *Galerucella* beetles in Ohio wetlands:

**1,435,000 beetles
have been released
at 30 sites during 1994-2005
by the Division of Wildlife**

INVASIVE SPECIES: Alternative Species

NON-NATIVE SPECIES

Bush honeysuckles (3)

Purple loosestrife

Phragmites,
Reed canary grass

Wintercreeper,
Oriental bittersweet,
Japanese honeysuckle

Japanese barberry,
Burning bush, Privet

NATIVE SPECIES

Serviceberry, Chokeberry,
Hawthorn, Witch-hazel

Spiked blazing-star, Blue vervain,
Joe-pye-weed, Obedient plant

Bluejoint grass, Indian grass,
Prairie cord grass

Trumpet honeysuckle,
Virginia creeper, Virgin's bower

Viburnum sp., Dogwood,
Inkberry, Highbush blueberry



Purple loosestrife...

OR



Spiked blazing-star

NEW INVASIVE PLANTS COMING INTO OHIO: The Watch List



Leafy spurge

Just a few examples... see the handout

Chinese silvergrass, *Miscanthus sinensis*

Kudzu, *Pueraria lobata*

Mile-a-minute vine, *Polygonum perfoliatum*

Japanese stilt-grass, *Microstegium vimineum*

Spotted knapweed, *Centaurea maculosa*

Leafy spurge, *Euphorbia esula*

Nodding thistle, *Carduus nutans*

Porcelain-berry, *Ampleopsis brevipedunculata*

WHY IS IT WORTH THE EFFORT?



Do we want solid stands of kudzu, purple loosestrife, garlic mustard, Phragmites, and lesser celandine to replace our native diverse vegetation?

Do we want to maintain, conserve, and restore our native vegetation for future generations?



A RESTORATION EXAMPLE

Dense bush honeysuckle
in a woodland at a
Hamilton County Park



Removal of Amur honeysuckle: chain saw and stump treatment



The spring after honeysuckle removal



Benefits of the Honeysuckle Removal Project: A few examples from the park district

- ▶ Increased plant diversity in the woods
- ▶ Increased growth of mature trees
- ▶ Promotes plant diversity which provides habitat for more wildlife species
- ▶ Increases safety and aesthetic appeal by opening up views
- ▶ Provides a higher quality experience for hikers, bikers, birdwatchers, golfers, boaters, anglers, and other park visitors



IMPORTANCE OF MONITORING:

Rate of invasion in natural habitats
Effectiveness of control techniques



Education: Public programs, publications, signs, media, schools, OIPC.



KENTUCKY'S Least Wanted Plant

Promoting alternatives to invasive landscape plants

2001

Least Wanted!

Purple loosestrife
Lythrum salicaria



ria. Purple loosestrife has rapidly become one of the most damaging invasive plants. The small seeds of Purple loosestrife spread by wind or water to disturbed soil in wetlands or along stream edges. Once Purple loosestrife is established it spreads rapidly displacing the native vegetation. We are requesting the help of nursery owners, landscapers and gardeners to stop the spread of this species in gardens. Several alternatives are presented below.

Good Native Alternatives

Great blue lobelia
Lobelia spicata

This striking plant is native to moist, shaded woods, however, it can tolerate full sun in a garden. The plant grows 1-5 feet tall and produces spikes of bluish lavender flowers throughout the month of September. White-flowered individuals of this species are sometimes found. Blue lobelia is easily propagated by division or seed.



zing star
Iris spicata

ative to Purple loosestrife flowers in the and can reach heights zing star grows in wet, it it adapts easily to soil conditions. The zing star attract a wide rines. Some excellent cultivars include 'Kobold', 'Floristan White', and 'Floristan Violet'.



Obedient plant
Physostegia virginiana

Obedient plant is a reliable late summer bloomer for the perennial border. Obedient plant was named because the flowers can be twisted on the stem and remain as arranged. Best in full sun, the plant also will perform admirably in light shade. 'Vivid', 'Variegata', and 'Miss Manners' are excellent cultivar selections.





THE OHIO INVASIVE PLANTS COUNCIL

Formed in February 2005

Replaced the Ohio Invasive Plant
Working Group of 2001-2004

Mission:

The Ohio Invasive Plants Council participates in statewide efforts to address the threats of invasive species to Ohio's ecosystems and economy by providing leadership and promoting stewardship, education, research, and information exchange.



Purposes of The Ohio Invasive Plants Council:

1. Raise public awareness
2. Facilitate exchange of information
3. Provide forums to discuss issues related to invasive species
4. Serve as an educational, advisory, & technical support
5. Coordinate activities & information exchange
6. Develop & maintain a list of invasive plant species
7. Develop & maintain a list of non-invasive, alternatives
8. Promote actions to prevent future introductions
9. Carry on additional activities related to furthering the above purposes.



WHAT YOU CAN DO TO HELP

- ⇒ Spread the word about invasive species
- ⇒ Volunteer to help control invasives
- ⇒ Plant native, non-invasive plants
- ⇒ Be on the lookout for new populations
- ⇒ Be careful not to transport invasive species
- ⇒ Discourage the use of invasive plants
- ⇒ Get involved in the Ohio Invasive Plants Council (2005)

