MIPN Control Database: A Regional Tool for Sharing Control Method Outcomes

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Burning Issues Workshop

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OVERVIEW

- What is MIPN?
  - Brief overview of recent and upcoming projects
- MIPN/UW Control Database
  - Demo
  - Case studies - we need your input!

MIDWEST INVASIVE PLANT NETWORK

- Started in 2003 to coordinate among agencies & organizations across the region
- Our mission: To reduce the impacts of invasive plants in the Midwest

MIPN.org
Midwest Invasive Plant Network

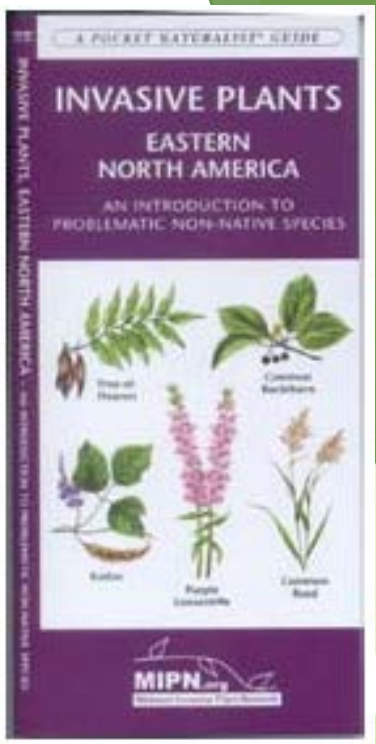
The Morton Arboretum

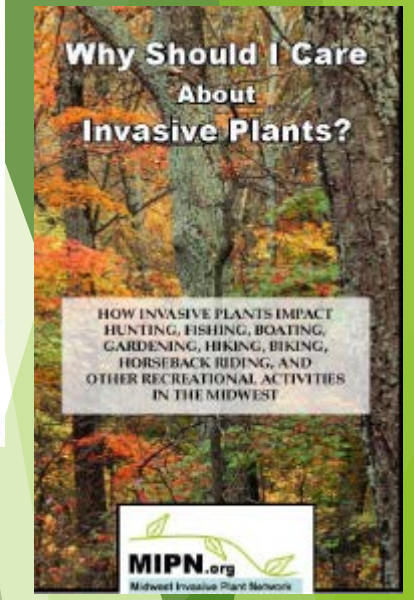
WHAT WE DO

- Spread prevention/early detection
  - Ornamental invasives in trade
    - Engaging the green industry
    - Landscape Alternatives app (training/demo available!)
    - "Plants on the Move" with botanic gardens and arboreta
  - "Keep a Lookout" info sheets

WHAT WE DO

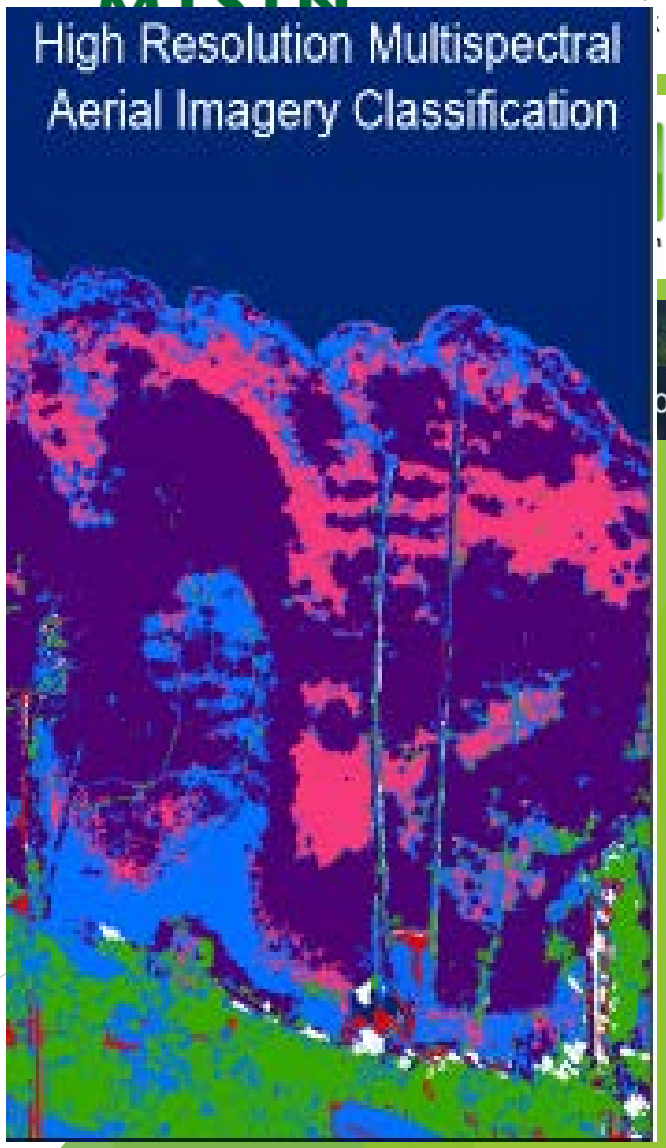
- Information Clearinghouse
  - Invasive plant control methods
    - MIPN Control Database
  - State species lists and risk assessments
- Outreach and Education
  - Publications – Invasive plant ID, “why should I care”
    - For sale via MIPN.org/Morton Arboretum Store
  - Conferences (UMISC, state conferences)
- Advocate micro-regional collaboration
  - CWMA Cookbook - (training available!)





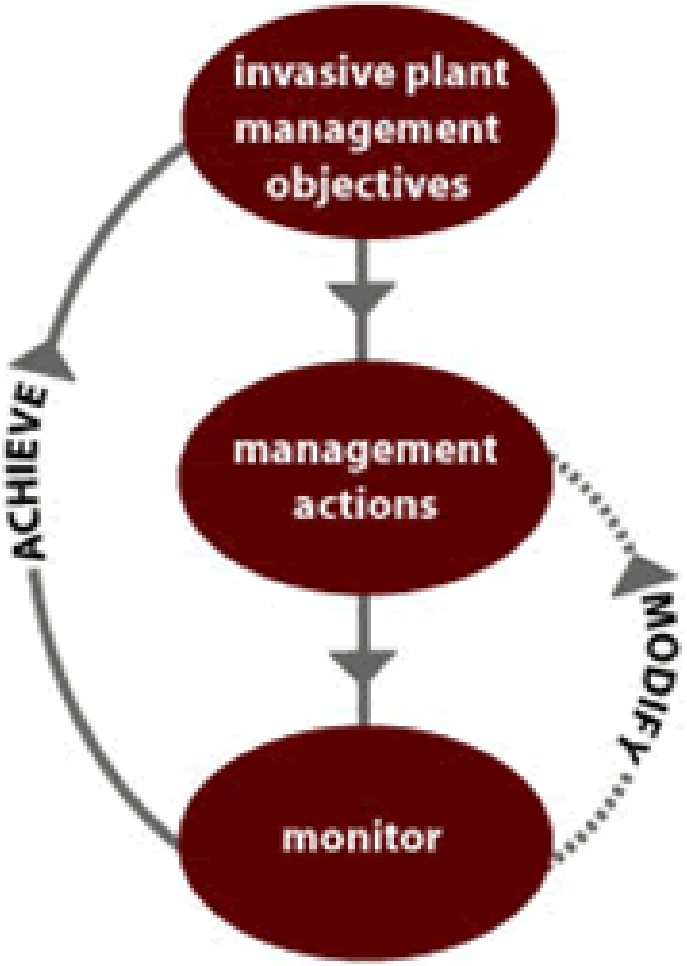
TYPES OF INVASIVE PLANT MONITORING

- Early Detection
  - Reporting via online species distribution networks
    - MISIN, EDDMapS, GLEDN
  - Enables rapid response (saves $$$)
- Control Method Effectiveness
  - Pre and post-treatment density/population size
- Control Method Non-target Impacts
  - Native plant community responses
  - Other ecological impacts
- Status and Trends



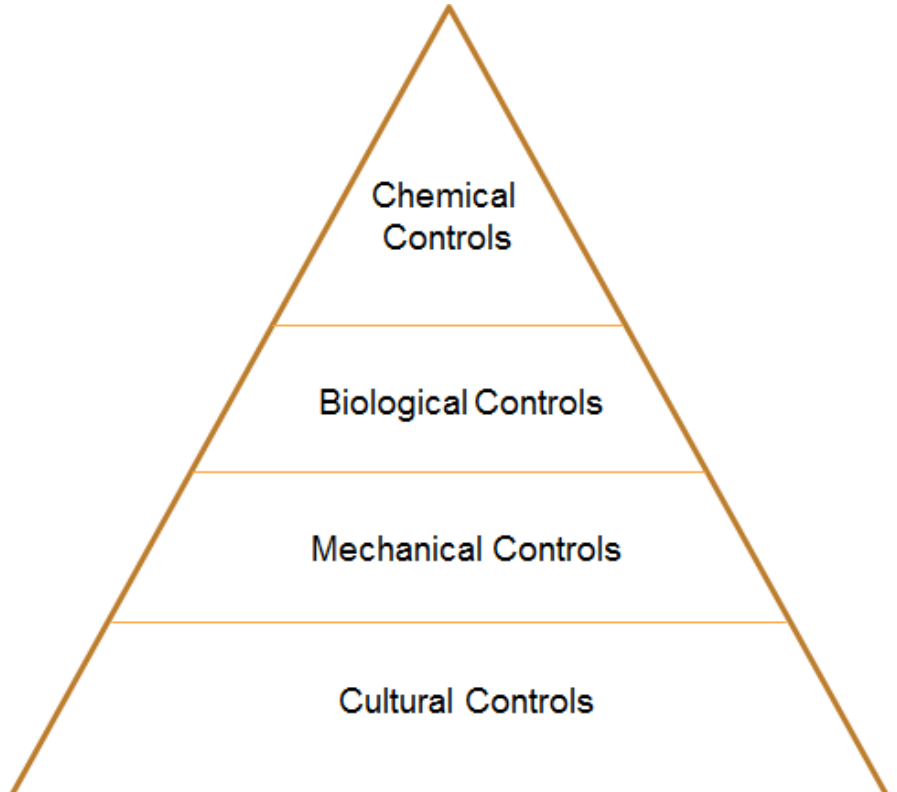
WHY MONITOR?

- Adaptive Management
  - Repeat successes
  - Avoid repeating mistakes
- Accountability
  - Funding partners
  - Stakeholders
- Outreach
  - Success stories



INVASIVE PLANT CONTROL

- The Integrated Pest Management Pyramid



CONTROL METHOD SELECTION

- Invasive plant control methods must be selected carefully based on:
  - Target species
  - Habitat type & site restrictions
  - Density of target species
  - Desired timing of treatment
  - Available resources (funding & steward expertise)
- Selection of inappropriate method → low effectiveness, wasted resources

CONTROL METHOD SELECTION

- **Problem**: Land managers often have limited access to peer-reviewed studies on control methods
- **Proposed Solution**: Develop an user-friendly, searchable database that will give managers access to compiled info on control methods
  - Custom search based on user-selected variables

DATABASE METHODOLOGY

- Secondary data compilation for 49 species
  - Entry for each species/method reviewed by four independent reviewers
    - Two species specialists
    - Two general reviewers for style/consistency
- Control methods given an effectiveness score for the year of treatment and the year following

 <50% control

 70-90% control

 50-70% control

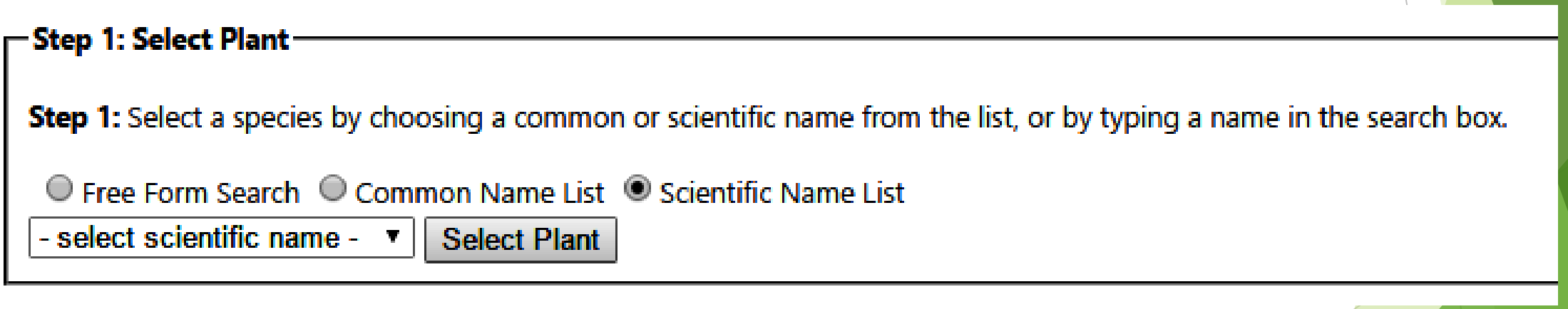
 >90% control

DATABASE LIMITATIONS

- Cannot inform if any given method is appropriate for a specific site
- Methods that take multiple years to reach full effectiveness receive relatively poor scores
  - Biological control
  - Cultural control (prescribed fire, restoration plantings)
- Does not capture effectiveness of methods used in combination

DEMO

- https://mipncontroldatabase.wisc.edu
- Only 2 steps!



DATABASE SPECIES

amur honeysuckle
Asian bittersweet
autumn olive
Bell's honeysuckle
bird's-foot trefoil
black locust
black swallowwort
border privet
bull thistle
Canada thistle
common buckthorn
common privet
common tansy
common teasel
creeping bellflower
crown vetch
cut-leaved teasel
dame's rocket
European marsh thistle
field bindweed
garlic mustard
glossy buckthorn
hill mustard
hybrid cattail
Japanese barberry
Japanese hedge parsley
Japanese honeysuckle
Japanese hop
Japanese knotweed
Japanese stiltgrass
leafy spurge
Morrow's honeysuckle
multiflora rose
musk thistle
narrow-leaved cattail
plumeless thistle
poison hemlock
purple loosestrife
quackgrass
Russian olive
sericea lespedeza
spotted knapweed
spreading hedge parsley
tatarian honeysuckle
tree-of-heaven
white sweetclover
wild chervil
wild parsnip
yellow sweetclover

Step 2: Select Search Parameters

Step 2: Select search parameter(s) of interest. If no parameters are selected all control methods will be displayed. For effectiveness ratings, methods that meet or exceed the criteria selected will be displayed.

Under the Search Results you will find

- Plant Identification information – information on species identification, including photographs and a current distribution map.
- Ecological Threats – threats posed to natural ecosystems by this species.
- Case Studies – Detailed success (and failures) on how to control specific species contributed by experienced personnel.
- Non-chemical and chemical control methods that fit the selected search criteria. **Please note you are responsible for using pesticides in accordance with the label directions and state and federal laws.** Herbicide availability and registered uses vary from state to state. Contact your state department of agriculture for information on the correct use and licensing required for any pesticide application.

You may reset the search criteria or the species you have selected at any time by selecting the corresponding links on the right hand side of the page.

Are you a novice?:
- ○ Yes
- ○ No

Habitat Type:
- ☐ Aquatic
- ☐ Forest
- ☐ Pasture/CRP
- ☐ Prairie
- ☐ Right of Way
- ☐ Riparian/Wetland

Seasons:
- ☐ Winter
- ☐ Spring
- ☐ Summer
- ☐ Fall

Effectiveness (in season):
☆ ☆ ☆ ☆

Effectiveness (year after treatment):
☆ ☆ ☆ ☆

Search Control Methods

Non-Chemical controls

New (Type)	Description
Type - Mowing **User Type** - Novice **Effectiveness** - in season ★★☆☆ year after treatment ★☆☆☆	Mowing removes above ground growth of established plants and prevents additional seed production, but rarely kills plants as established plants persist even after mowing for many years. Due to prolific resprouting, pairing mowing with another technique (such as foliar spray of herbicide) increases effectiveness. If seeds are present when mowing, avoid movement off-site unless material can be transported without spreading fruit to other locations.
Type - Prescribed burning **User Type** - Professional **Effectiveness** - in season ★★★☆ year after treatment ★☆☆☆	Spring burns can kill germinating seedlings and suppress above ground growth of established plants, depending on fire intensity. After the fire, established plants will quickly resprout; this management method is not recommended unless integrated with other techniques. A hand-held propane torch can be effective for treating seedlings.

Chemical controls

New (Type)	Ingredients	Directions
Type - Foliar **User Type** - Professional **Effectiveness** - in season ★★★☆ year after treatment ★★★★	**Active Ingredient (A.I.):** imazapyr **Common product name:** Arsenal; Stalker (Aquatic: Habitat; Imazapyr 2sl)	**Rate** - (broadcast) 64 - 96 fl oz/A (1 - 1.5 lb a.e./A) (spot) 2 - 4% (0.04 - 0.08 lb a.e./gal) **Timing** - Apply when target species is actively growing and fully leafed out. **Caution** - Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground as imazapyr is not selective and can remain in the soil for several months to over a year depending on application rate. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants.
Type - Foliar **User Type** - Novice **Effectiveness** - in season ★★★☆ year after treatment ★★☆☆	**Active Ingredient (A.I.):** triclopyr **Common product name:** Garlon 4; Element 4 (Aquatic: Garlon 3A; Element 3A)	**Rate** - (broadcast) 128 - 256 fl oz/A (4 - 8 lb a.e./A) (spot) 1 - 2% (0.04 - 0.08 lb a.e./gal) **Timing** - Apply when target species is actively growing and fully leafed out. **Caution** - Use product labeled for aquatic use if potential exists for solution to contact surface waters. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided as even minute quantities of the spray may cause severe injury to plants.

DATABASE CASE STUDY FEATURE

- Database designed to integrate case study feedback
  - New methods
  - What works, what doesn't
  - Improve nuance – multi-year treatments, treatment combos, etc.
- Case studies are reviewed by MIPN/UW for quality/completeness

Search Results

Elaeagnus umbellata (autumn olive)

Plant Identification information >

Display Ecological Threats >

< Hide Case Studies

Add new user Case Study

Case Studies

No case studies are entered for selected plant.

Add Case Study

Case studies allow you to share your personal experience with managing specific species. Please include detailed instructions that will allow a reader to replicate your methods from the description. All case studies will be reviewed by MIPN staff and displayed on the website if sufficient information is provided.

Who - Please list your name, contact information and associated organizations or companies if applicable.

Name

Email

What - Please tell us what treatment you used and when you applied it. Be as specific as possible as your attention to detail will allow other to more readily emulate your success or avoid your failure. No matter what kind of treatment you applied include infestation size, date/season of application, and stage of plant growth. If mowing or cutting a plant include to what height you mowed/cut. If using a chemical method include active ingredient, product name, and application rate.

Treatment Description

Where - Please include the location and habitat type where the treatment took place.

Habitat Type

Effectiveness - How effective was the given treatment? If possible, please report the percent control (i.e. what percent of the infestation was controlled by this method?). Include information on control in subsequent years, if available. Information about the state of the treated population from subsequent years is especially important when dealing with perennial species.

Effectiveness

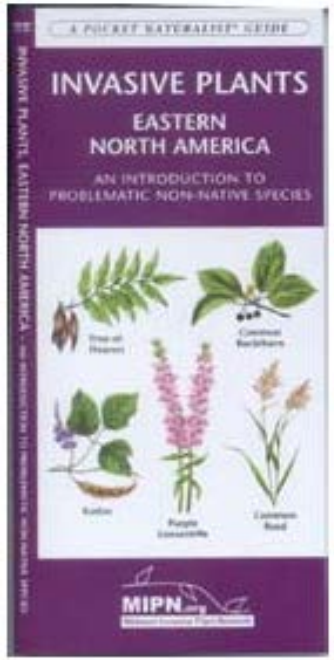
Submit Personal Case Study | Cancel

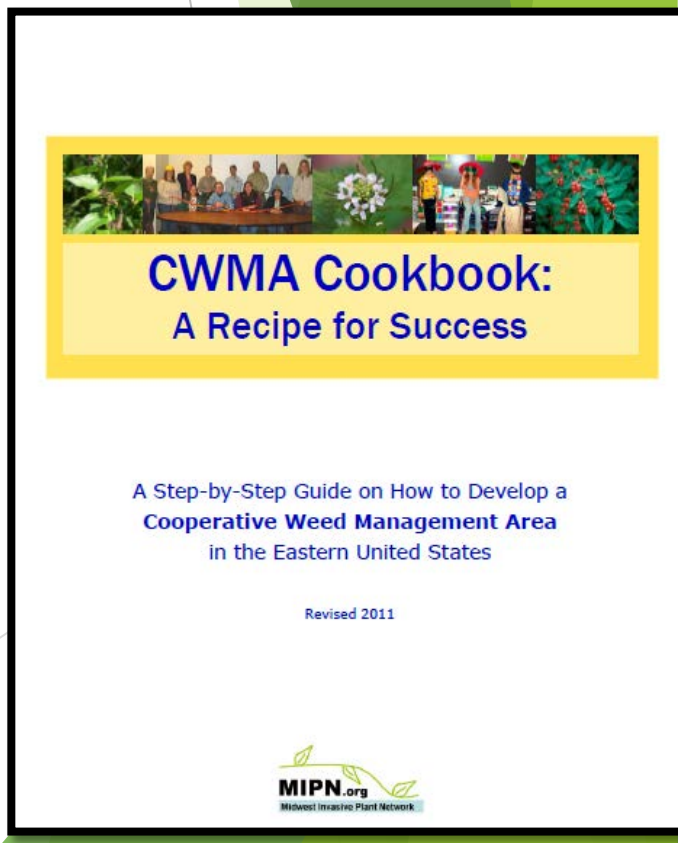
WHAT'S NEXT FOR THE DATABASE?

- Add species
  - Phragmites
  - Reed canary grass
  - Yellow toadflax
  - Burning bush
  - Callery pear
- Sustainable funding for hosting and maintenance

OTHER MIPN MONITORING WORK?

- Cooperative Weed Management Area Training
  - Adaptive management
  - Demonstrating success and improvements to funders
  - Keeping stakeholders motivated
  - Telling a story to the public
- CWMA Training available!
- Invasive plant ID assistance
  - Free “keep a look out” sheets
  - Field guides for sale





QUESTIONS?

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