

Developing an Early Detection and Rapid Response Program for Invasive Plants;

Linking Midwest Efforts to the U.S National EDRR System

Presented by:

Debbie Maurer, Lake County Forest Preserve District, IL



DiTomaso, Cornell Univ.



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Somerville



New Invaders Watch Program

**A Volunteer, Web-Based
Early Detection Program for
Invasive Plants
in NE Illinois and NW Indiana**

Why EDRR in the Chicago Region?

1. **Identified as an important, but missing strategy for natural area conservation the region**
2. **Core partners came together**
3. **Grant funding secured from CW**
4. **Strong volunteer base and CW Coalition to work with**



Partners are Critical!



Who is your “Volunteer” Base?

- Plants of Concern
- Citizens for Conservation
- Save the Dunes
- Bull Creek Watershed Group
- The Nature Conservancy, Indiana
- The Nature Conservancy, Illinois
- Shirley Heinz Environmental Fund
- The Land Conservancy of McHenry County
- Liberty Prairie Conservancy



VOLUNTEER GROUPS



NGO'S, LAND TRUSTS



ARBORETUM



FEDERAL AGENCIES



STATE AGENCIES



**FOREST PRESERVES
CONSERVATION DISTRICTS
COUNTY AGENCIES**



COUNTY PARKS



PRIVATE BUSINESS

- The Morton Arboretum
- Natural Resource Conservation District
- US Forest Service
- National Park Service
- US Geological Survey
- US Fish and Wildlife Service, IN
- Indiana Department of Natural Resources
- Illinois Department of Natural Resources
- Forest Preserve District of DuPage
- McHenry County Conservation District
- Lake County Forest Preserve District, IL
- Forest Preserve District of Will County
- Forest Preserve District Cook County
- Kendall County Forest Preserve District
- McHenry County Conservation District
- Kane County Forest Preserve District
- McHenry County Division of Transportation
- Lake County Stormwater Management Commission, IL
- Lake County Soil and Water Conservation District, IL
- Lake County Parks, IN
- Palatine Park District
- Highland Park District
- Downers Grove Park District
- Valparaiso Department of Parks
- Tallgrass Restoration, LLC
- Liberty Prairie Restorations
- Bloom Consultants
- Land Resources Management Group



**Train the
Trainer**



**400 + Trained
146 signed up on
the website**

Selection of Target Plant Species

1. Gather information about potential target species:

- Work from lists generated in your or adjacent states
- Review herbarium records of potential target species
- Review regional EDRR species lists
- Review species identified as problematic in other regions of similar climate, habitat etc.

2. Determine need for formal risk assessment.

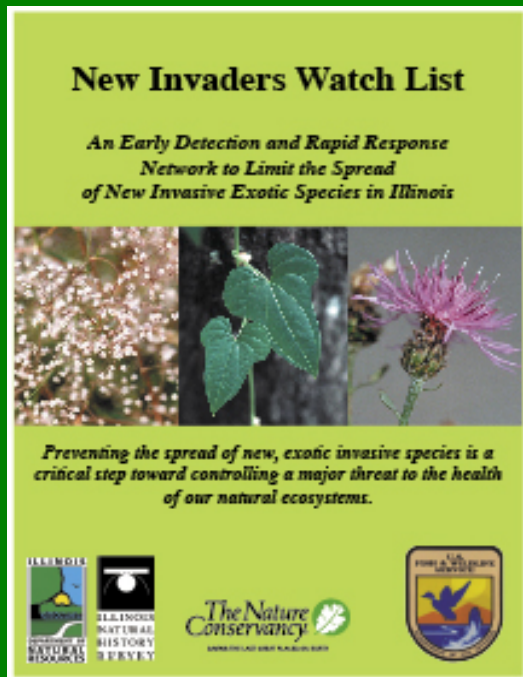
3. Solicit input from experts

4. Consider your target audience for training – e.g., ease of ID



Develop Identification and Data Collection Tools for Participants

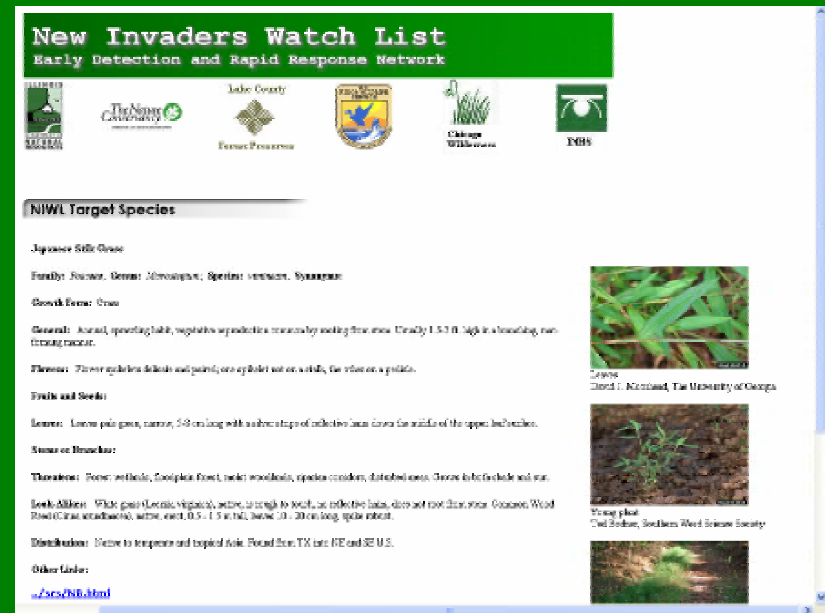
Target Species ID Card Set (or some type of brochure)
Standard data collection protocol, including vouchering
Data Dictionary
Vouchering instructions



Do you Need a Website or Database?

A central location for program information, updates, data storage.

- Volunteer sign-up
- Additional Species information
- Training Opportunities
- New Sightings
- Online reporting form w/ instructions
- Developing a mapping module



<http://ewrr.inhs.uiuc.edu/newinvaders/home.aspx>

Species ID Information

* Common Name:

Spotted Knapweed

Scientific Name:

Centaurea maculosa

Genus:

Centaurea

Species:

maculosa

Date Seen:

7/25/2006

Species Location Information

Place Name / Town Name (as in 5 mi or km NE Palos Park)

Independence Grove

* State:

IL

* County:

Lake

Principle Meridian:

Township:

Range:

Section:

QrtSection:

- Select -

QrtQrtSection:

- Select -

Latitude:

42.3152

Longitude:

87.9531

Datum:

1927

Other Datum:

How did you determine your location?

Topozone.co

Other technique to determine your location:

Walking directions to location / Best access:

Main entrance road to north pavilion, head NW
to prairie plantings around lake.

Location landmarks (roadways, buildings, lakes, etc.)

Online Reporting

Land Ownership Information: (Do not enter private property without permission)

If you can't find public land owner on the list, please provide us, in 'Other Land Owner', the name of the land owner, address, and email. Also provide 'Other Public Land Name' that coincides with this new land owner. Spell out words fully.

Land Owner Type:

County

Public Land Owner:

Lake County Forest Preserve District

Other Land Owner:

Public Land Name:

Independence Grove

Other Land Name:

Status of Occurrence

Area Affected / Gross area of infestation: (ft² or m²)

Value: 217800

Unit: square feet

Distribution of Plant Population:

few scattered plants

Plant Growth Stage:

☒ In flower ☒ Seedlings ☐ Vegetative reproduction occurring
☐ In fruit ☐ Seeds present ☐ Dormant/Dead

Site Information

Community Type(s):

Other

Other Community Type:

Prairie plantings

Verification System – Quality Control vs Volume Reporting

- Require donator to submit vouchers or photos
- Professional botanists verify collections
- Field visit by verifier or local botanist may be required



Leafy spurge



Flowering spurge



or



Vouchers, Photograph, and Sketches

Vouchers Provided: Yes

If Yes, how do you plan to voucher specimens?

☒ Digital Images

Type of Voucher: ☐ Insect in alcohol or dry

☐ Herbarium Sheet

If you provide image(s), please complete the information below. If you provide specimen, please send your vouchers to:

New Invader Watch List

c/o Dr. R. Edward Dewalt, Illinois Natural History Survey

1816 South Oak Street

Champaign, Illinois 61820

Upload Image(s):

Note: To delete image(s), please select 'Check to Delete' checkbox(es), then click the 'Update' button below to update your information.

Note: To update image(s), please just browse for new image(s);
Please remember to update image's credit and description for the new image, then click the 'Update' button below to update your information.

Important: You can choose either one of the two options above.

Check to Delete

☐

[Click here to view image](#)

Image Credit1:

Debbie Maurer

Description1:

Flowers and buds after flowering.

File 1:

Check to Delete

☐

[Click here to view image](#)

Image Credit2:

Debbie Maurer

Close up of flower

Rapid Response Network

A network of land owners, managers and licensed, trained volunteers that can help eradicate or contain new populations or that can assist private landowners, Townships, Municipalities, and Highway Departments in control efforts.

Automated alert system for new verified reports



Grant Funds over 4 years

(does not include in kind match)

• Project Coordination	-	\$27,000
• Travel (training)	-	\$3000
• Cameras, plant presses, GPS units, herbicides, and handouts for training	-	\$20,000
• Website, database, mapping, Response network, automated Verification system development and enhancement	-	\$43,000 (includes 2 more years of funding)
• ID Card printing*	-	\$5000 (\$2/set to print)

*We will add five new species this fall

Successes

Giant hogweed nipped in the bud

Two of the noxious plants discovered in Lake Forest

In Fresh Discoveries
Noxious plants are on the rise in Lake Forest. The county's first Giant Hogweed was discovered in the Lake Forest area. The plant is a member of the Umbelliferae family, which includes the toxic Poison Ivy and Poison Oak. It is a tall, leafy plant with a thick, woody stem. The leaves are large and deeply lobed. The plant is known for its ability to cause severe skin irritation and blistering. It is a serious threat to the environment and human health.



A Red-footed fall plant hogweed plant located in Lake Forest contains the toxic chemical, phototoxic. That will irritate and burn the skin. The plant is a member of the Umbelliferae family, which includes the toxic Poison Ivy and Poison Oak. It is a tall, leafy plant with a thick, woody stem. The leaves are large and deeply lobed. The plant is known for its ability to cause severe skin irritation and blistering. It is a serious threat to the environment and human health.



White drag from the stem of a Japanese Knotweed plant.

Top right: A Red-footed fall plant hogweed plant located in Lake Forest contains the toxic chemical, phototoxic. That will irritate and burn the skin. The plant is a member of the Umbelliferae family, which includes the toxic Poison Ivy and Poison Oak. It is a tall, leafy plant with a thick, woody stem. The leaves are large and deeply lobed. The plant is known for its ability to cause severe skin irritation and blistering. It is a serious threat to the environment and human health.

Have You Heard About Leafy Spurge?



Leafy Spurge (*Euphorbia esula*) is a serious pest in the grasslands of the Great Plains and is a threat to the upper Midwest, including Illinois. In Montana, the Dakotas and Wyoming alone, leafy spurge costs tax payers more than \$144 million a year in production losses, control expenses and other impacts. **Leafy spurge, a long-lived perennial plant, produces a milky sap that is poisonous to horses and livestock, causing blistering and sores in the mouth and throat when consumed. The sap can also irritate human skin.** Leafy spurge grows in open, sunny places, tolerating damp to dry soils. It spreads in pastures, turf grass, prairies, savannas, and along roadsides. Although relatively uncommon in Lake and McHenry Counties, **leafy spurge is beginning to spread this area.** It reproduces by seeds and roots (including root fragments) and seed lingering in the soil can germinate for several years. Leafy spurge is easily spread by people through contaminated hay or feed, mowing (when seed is present or roots are fragmented), and in soils, gravel or other material excavated from areas where leafy spurge grows. Early detection of small populations will reduce the spread of leafy spurge in our area – and the need for costly control measures in the future.

Identification: Leafy spurge grows from April to October. Flowering from early May to late June, the flat-topped cluster of yellowish-green flowers is easily identified. Seed begins to develop in early July. Leafy spurge has numerous narrow, smooth leaves along the stem, and grows up to 24 inches. Plants turn orange in October before winter die-back. Generally, there are several non-flowering plants scattered around patches of flowering leafy spurge. Control is possible, but requires several years of mowing, herbiciding, and/or grazing. Your local Cooperative Weed Management Area can help you develop an effective control plan.



Leafy spurge flower head



Flower with seed capsule



Milky sap (D. Engen, Univ. WI-Madison)



Red color

If you find Leafy spurge in your area, please let us know!
In McHenry County, IL call 815-675-2386 x 321
In Lake County, IL Call 847-968-3295

Thank You for helping prevent the spread of Leafy spurge!

Prepared by the Lake and McHenry County Cooperative Weed Management Area
For more information on Leafy spurge, visit: <http://www.team.ars.usda.gov/or>
<http://www.mda.state.mn.us/weedcontrol/leafyspurge.html>

This fact sheet was printed with eco-friendly vegetable based ink on 100% post-consumer recycled paper.

Printed April 2007

- County record for Giant Hogweed reported through the program
- Japanese Knotweed populations identified and controlled in Lake Michigan ravines
- Formed Lake and McHenry County CWMA
- County DOT's control leafy spurge in Lake and McHenry Counties
- Lespedeza cuneata identified and controlled in State Natural Area
- Increased awareness, over 400 volunteer citizens and staff trained and over 14 agencies are a part of the Rapid Response network
- Local consultants are requesting training

Challenges not yet overcome....

- How to include more private landowners and address control needs.
- How do you measure participation (when you are looking for species that are uncommon, how many reports can you expect even with 100% participation?)
- Long-term funding
- Need broader regional assistance with program coordination efforts (e.g., Maintaining communication with a large number of volunteers)

A National Early Detection and Rapid Response System for Invasive Plants in the United States

Conceptual Design



Crupina vulgaris infestation (foreground and inset)
Photos by C. Roché

Federal Interagency
Committee for the Management of
Noxious and Exotic Weeds

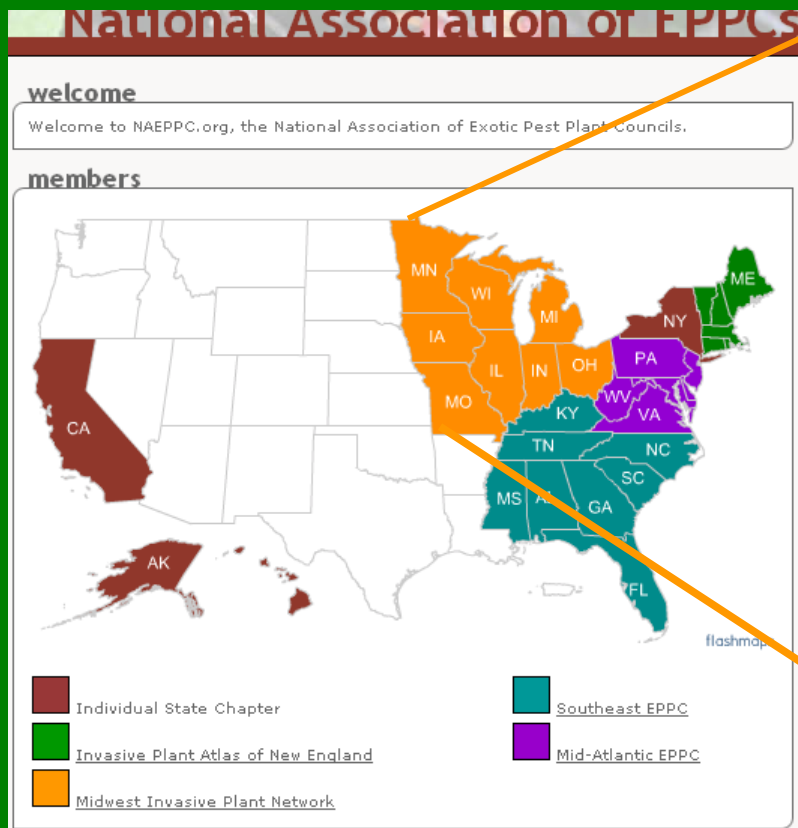
Washington, DC
September 2003

How does a local effort like NIWP fit into a broader framework for EDRR in the US?

Randy Westbrooks – US
Geological Survey

National Early Detection and Rapid Response System for Invasive Plants; Key Elements

Regional Invasive Plant Councils / Atlases (Volunteer Training, Data Archival and Synthesis)



MIPN Quarterly Newsletter
Midwest Invasive Plant Network, www.mipn.org Spring 2007 Volume 2, Issue 2

June is Invasive Species Awareness Month

The governors of Wisconsin and Indiana have both declared June as Invasive Species Awareness Month in their states.

Wisconsin is holding its third annual Invasive Species Awareness Month, and is sponsoring a wide range of events, including a field class on woodland invaders, boat washing demonstrations, work parties, and a native plant sale. The Wisconsin Council on Invasive Species also sponsored an invasive species poster contest for grade school kids, receiving over 600 entries. For more information on events in Wisconsin and to read about this year's winners of the Invader Crusader Awards, visit <http://invasivespecies.wi.gov/awareness/index.asp>.

In Indiana, workdays and public lectures have been scheduled to increase awareness about invasive species in the state. Organizers will be drawing attention to problems created by the emerald ash borer, Japanese stilt grass, and hydrilla, among other species. For more information on Indiana's second annual Invasive Species Awareness Month, see www.nature.org/indiana.

WANTED
INVASERS OF THE FOREST
EXOTIC HONEYSUCKLE
A submission to Wisconsin's invasive species poster contest by Kane Poole.

REWARD
The knowledge that you won't have to plimride the HONEYSUCKLE BUSH again!

Nature Conservancy Scientists Help Meijer Shoppers Pick Better Plants This Spring
contributed by Chip Sutton, The Nature Conservancy

Meijer and The Nature Conservancy have entered into a new partnership aimed at reducing the sale of invasive plant species in the Midwest.

Meijer will donate \$450,000 over the next three years for stewardship work to reduce invasive plants and help save Lake Michigan shoreline, part of the world's largest freshwater dune system. Additionally, Meijer will educate consumers in their Garden Centers next spring in their five-state region (Michigan, Illinois, Indiana, Kentucky and Ohio) on recommended non-invasive species chosen by Nature Conservancy scientists, and has removed two species known to be invasive from their inventory, Norway maple and Lombardy poplar.

Shoppers will find 16 percent of Meijer's plants, trees and shrubs with a special icon created by a Nature Conservancy volunteer indicating that scientists designated them as "recommended non-invasive" plants. Meijer

Continued on Page 2.

MIPN EDRR and Data Management Committee

- Tracking existing and new EDRR programs
- Increasing awareness of data collection protocols and encouraging a standard
- Increasing awareness of EDRR plant species in the Midwest – 2006 flyer
- Exploring opportunities for regional data sharing and management –



Regional Invasive Plant Councils – Interagency Coordination

State Invasive Species Councils (**Interagency Coordination** for Invasive Species),

State EDRR Coordinating Committees*

Target Species List

Training Workshops

State ID Coordinator and

Designated Botanists and Herbaria

Vouchering

Rapid Assessments (New Species)

EDRR Volunteer Detection Network – Detection and Reporting of New Invaders

***Proposed State EDRR Committee Composition** - Volunteer Network
Coordinator, ID & Vouchering (Botanist), Rapid Assessment and Control
Recommendations (Federal and State Weed Scientists), Outreach and Education
Coordinator, Public & Private Conservation Lands Liaison, Federal Regulatory Issues
(APHIS), State Regulatory Issues, Terrestrial Weeds (State Dept. of Ag), Aquatic
Weeds (State DNR)

Midwest State/Province Level Invasive Plant Working Groups

**Minnesota Invasive Species
Advisory Council**

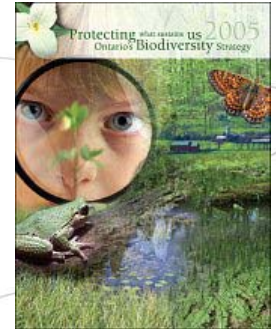
**Wisconsin Council on
Invasive Species**

*Invasive
Plants
Association of
Wisconsin*

?



**Ontario Invasive
Plant Council**



**Illinois Invasive
Plant Council**



**New! Indiana
Invasive
Plant Taskforce**



Statewide Early Detection Programs in The Midwest

Single Species Focus

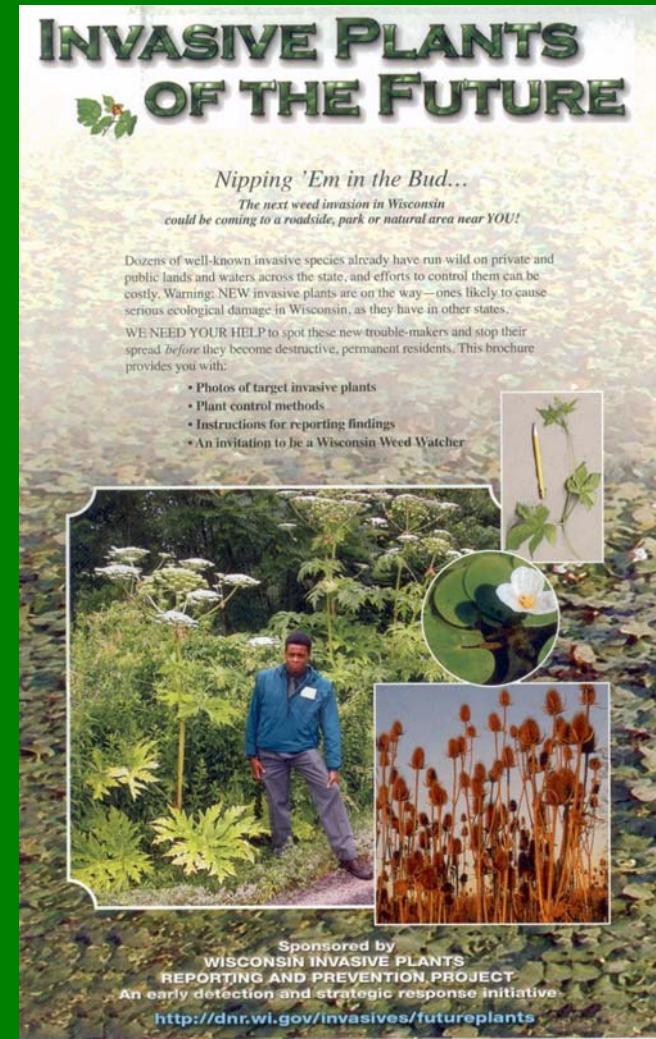
- Illinois Kudzu Eradication Program
- Indiana Kudzu Eradication Program

Multi-species Focus

- Plants of the Future – Wisconsin

Other programs not statewide:

- Garlic Mustard – Northern MI
- New Invaders Watch Program – NE Illinois / NW Indiana
- Invaders – MBot Gateway Region



Regional Invasive Plant Councils – Interagency Coordination

State Invasive Plant Councils – Interagency Coordination

Cooperative Weed Management Areas and Task Forces

Rapid Response on-the-ground Weed Control and Eradication Efforts

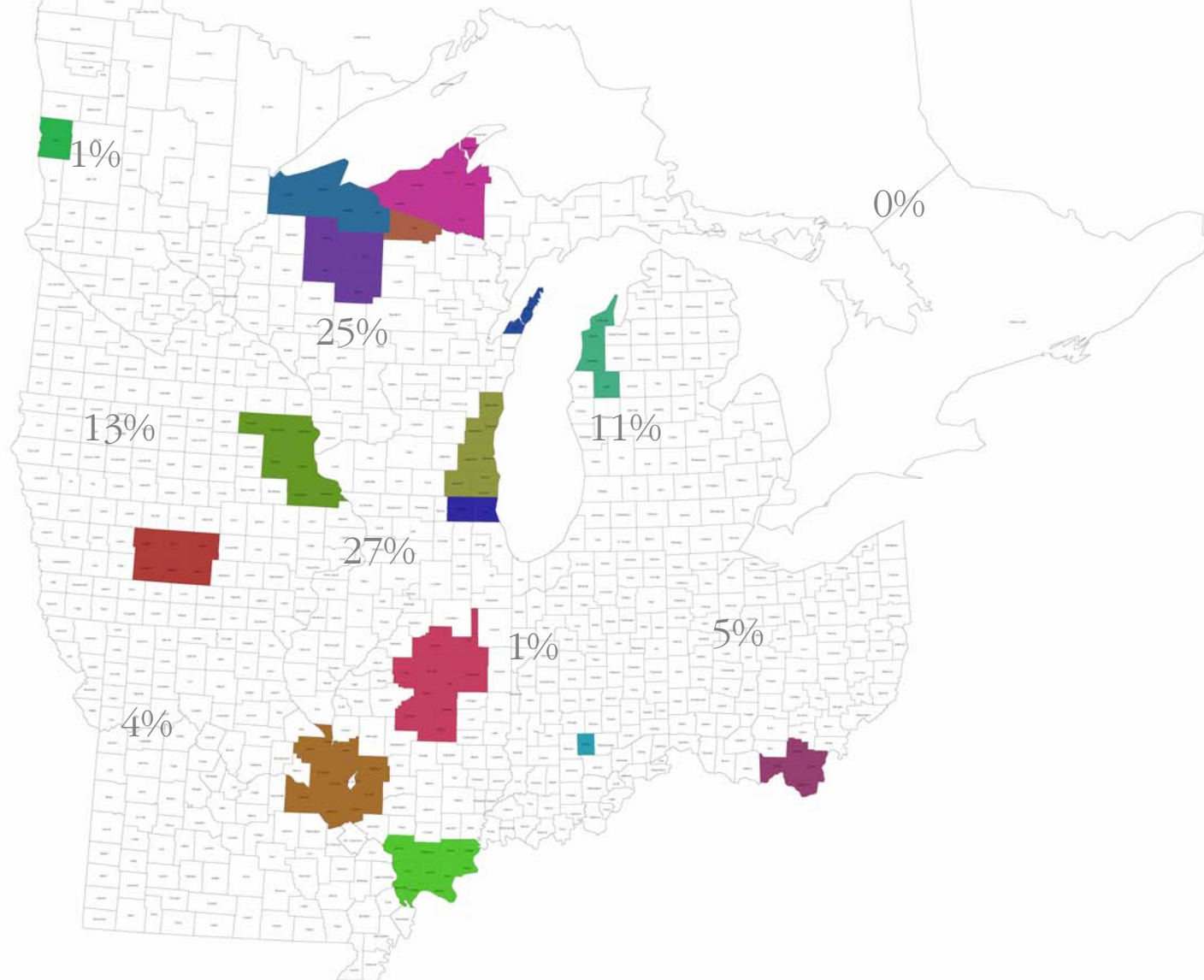
Cooperative Weed Management Areas

Multi-Species Focus; Including EDRR Target Species

Invasive Plant Task Forces

Species Specific Focus

Cooperative Weed Management Areas in the Midwest



A Possible Future for IL ...

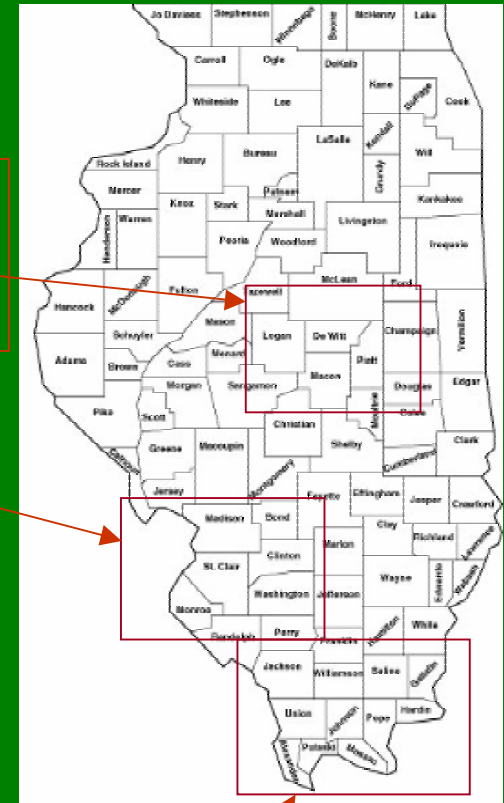
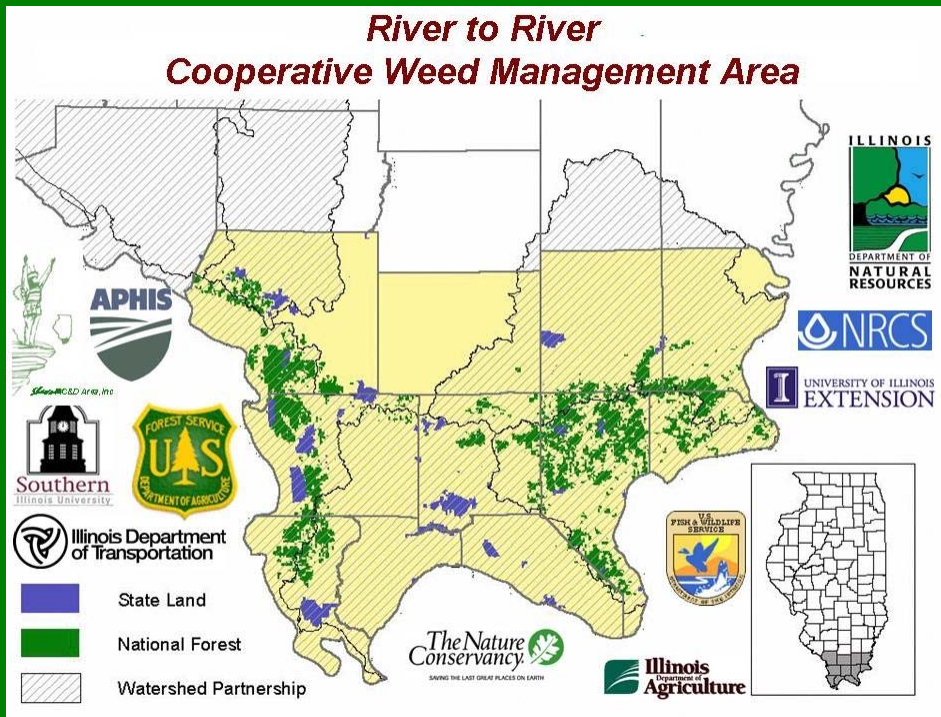
NIWP Working with CWMA'S to develop a state-wide EDRR Program in Illinois

Develop a New Invaders Tool Box to guide and assist other CWMA's / Watershed groups in developing their own New Invaders Program, while utilizing the established resources of the CW New Invaders Watch Program

Sangamon Watershed CWMA

Gateway CWMA (IL & MO)

River to River CWMA



Regional Coordination – Midwest Invasive Plant Network: work to establish a method to share data and provide guidance on EDRR species for the Midwest.



State Councils – Encourage councils to form in states that do not have councils, encourage participation, action by councils and communication among state councils.



State EDRR Committees – Not yet addressed.

May help guide the development of EDRR programs within states and provide guidance for statewide or local EDRR program development (experts for species selection, location to store data, etc.)

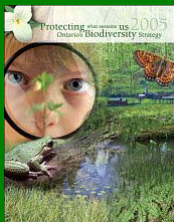
Wisconsin Council on Invasive Species

Minnesota Invasive Species Advisory Council

EDRR Volunteer Programs – Encourage development of EDRR Programs utilizing resources from MIPN (data sharing), State Councils and Committees and existing programs.



Illinois Invasive Plant Council



Indiana Invasive Plant Taskforce



CWMA's and Taskforces – Encourage continued growth and geographic coverage, EDRR programs can provide a focus for CWMA's