

# The Michigan State University Invasive Species Initiative

Robert Ahern

Michigan State University  
Department of Entomology

# Initiative History

2004

Develop a multidisciplinary Great Lakes Invasive Species program at MSU to integrate research, outreach and teaching.

2005

Organizational meeting (70 faculty and staff)  
Kickoff symposium (Dan Simberloff, Jason Shogren)

2006

Initiated database of *Nonindigenous Biota of Michigan*  
Graduate Seminar (ENT 812, PLB 802, FW 893)  
2<sup>nd</sup> Symposium (Ed Mills, Kat Shea)

2007

Completed first draft of database  
Started development of reporting and education website

# http://www.invasivespecies.msu.edu

The screenshot shows a web browser window with the Michigan Invasive Species Initiative website on the left and a Google search results page on the right. The search query is "Michigan OR MSU invasive species".

**Michigan Invasive Species Initiative Website (Left):**

- Header: Invasive Species Initiative
- Image: Two mushrooms
- Navigation menu:
  - Invasive Species HOME
  - About the Initiative
  - News & Events
  - Search People & Topics
  - Invasive Species Resources
  - MSU courses

**Google Search Results (Right):**

Search: Michigan OR MSU invasive species

Web Results 1 - 10 of about 93

- Michigan Invasive Species Initiative**  
NEW - Dr. Robert Ahern to join MSU Team. With funding provided through the MSU Environmental Research Initiative, the Invasive Species Initiative recently ...  
[www.invasivespecies.msu.edu/](http://www.invasivespecies.msu.edu/) - 7k - [Cached](#) - [Similar pages](#)
- Michigan Invasive Species Initiative**  
The MSU Invasive Species Initiative was one of 12 proposals to receive funding from the Environmental Research Initiative. The Environmental Science and ...  
[www.invasivespecies.msu.edu/about.asp](http://www.invasivespecies.msu.edu/about.asp) - 14k - [Cached](#) - [Similar pages](#)  
[ [More results from www.invasivespecies.msu.edu](#) ]
- Invasive Species in the Great Lakes Region**  
Find out what **invasive species** are, how they adversely affect the Great Lakes ... Michigan Nonindigenous Aquatic Nuisance Species State Management Plan ...  
[www.great-lakes.net/envt/flora-fauna/invasive/invasive.html](http://www.great-lakes.net/envt/flora-fauna/invasive/invasive.html) - 42k - Apr 17, 2007 - [Cached](#) - [Similar pages](#)
- michigan invasive plants council**  
The Michigan Invasive Plant Council (MIPC) is a non-profit organization spanning a wide array of groups from governmental agencies, to commercial ...  
[forestry.msu.edu/mipc/](http://forestry.msu.edu/mipc/) - 2k - [Cached](#) - [Similar pages](#)
- Invasive Species: United States - Michigan**  
This section of Invasivespeciesinfo.gov provides information for US **invasive species** issues.  
[www.invasivespeciesinfo.gov/unitedstates/mi.shtml](http://www.invasivespeciesinfo.gov/unitedstates/mi.shtml) - 39k - [Cached](#) - [Similar pages](#)
- Biodiversity Partnership - State Info**  
View federal and state **invasive species** activities for Michigan from ... Click here for specific information on **invasive species** in Michigan. ...  
[www.biodiversitypartners.org/state/mi/invasive.shtml](http://www.biodiversitypartners.org/state/mi/invasive.shtml) - 33k - [Cached](#) - [Similar pages](#)
- [PDF] INVASIVE SPECIES IN MICHIGAN**  
File Format: PDF/Adobe Acrobat - [View as HTML](#)  
**Invasive Species** in Michigan: A Quick Look. Michigan has been invaded by a number of harmful exotic plants, and animals. Here is a quick look at some of the ...  
[www.biodiversitypartners.org/invasive/factsheets/MI.pdf](http://www.biodiversitypartners.org/invasive/factsheets/MI.pdf) - [Similar pages](#)

# Invasive Species Initiative

## Objectives:

*Complete the Nonindigenous Biota of Michigan database...*

*Build on the inventory of MSU expertise... develop partnerships... at state, regional, and federal levels.*

*Develop a web-based training and reporting platform for invasive species survey, detection and mapping.*

# Monitoring invasive species in MI

1. Collection of species distribution data – MSU research and extension (Michigan Natural Features Inventory– MNFI), TNC and other partners

2. Data analysis and database hosting – MSU Invasive Species Initiative

3. State–wide reporting and educational website (Collaboration between MNFI, partners, and researchers)

Long–term: Contribute to larger area (regional, national) databases

# A list of nonindigenous species in Michigan

Goal: to identify and collect information about all non-indigenous species in the state

Categories:

- Taxonomic information

- Native range

- Date of introduction

- Pathway

- Invasiveness

- Status in MI

# Methods

Consult state-wide taxonomic lists

Use peer-reviewed literature to identify non-indigenous species, first occurrence, distribution, origin, etc.

Consult recognized experts within each taxonomic field for validation

# Results

<b>Taxa</b>		<b>Number of taxa</b>
Plants		951
Terrestrial invertebrates		195
<i>Insects</i>	102	
<i>Earthworms</i>	18	
<i>Gastropods</i>	12	
<i>Isopods</i>	12	
<i>Spiders</i>	11	
<i>Millipedes</i>	6	
<i>Centipedes</i>	5	
<i>Ticks and mites</i>	8	
<i>Pseudoscorpions</i>	21	
Aquatic invertebrates		56
<i>Crustaceans</i>	25	
<i>Diatoms</i>	17	
<i>Gastropods</i>	27	
<i>Molluscs</i>	8	
Terrestrial vertebrates		17
<i>Mammals</i>	4	
<i>Herps</i>	6	
<i>Birds</i>	7	
Aquatic vertebrates		21
<b>Total</b>		<b>1240</b>

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Terrestrial plants are the most specious group of nonindigenous taxa

# Results

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Plants	951	Terrestrial plants are the most specious group of nonindigenous taxa
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Aquatic invertebrates	56	
<i>Crustaceans</i>	25	
<i>Diatoms</i>	17	
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<i>Molluscs</i>	8	
Terrestrial vertebrates	17	
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<i>Herps</i>	6	
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# Web Portal

Web-based training and reporting platform for invasive species survey, detection and mapping.

- Reporting feature for trained observers

- Training modules

- Feedback reporting

Data capture to feed future analysis

- Management

- Research

Collaboration

- MSU, MNFI, state agencies

# Interactive IS Reporting

MI Invasives Demo Site - Mozilla Firefox

Site Login | MI Invasives Demo Site - Mozilla Firefox

STIS-ISC  
Save the Spread Information Systems Group

### MI Invasives Demo Site

**Site Login**

You must login to view this web mapping site.

Username

Password

Active Tool: Zoom In

Active Layer: sightings

Map Scale: 1 : 5,115,188 ([Change scale](#))

Done



# Interactive IS Reporting

Tools allow for zoom, pan, query, and digitize tasks

**Tool Bar**

**Map Layers**

- RASTER
- Base Information
  - Counties
  - Urban Areas
  - National Forest
  - State
  - Water
- Transportation
  - Roads
  - Road Names
  - Airports
- Species Data
  - sightings

**Legend**

- sightings
- Freeways
- Highways
- Local Roads
- Roads
- Water
- State
- National Forest
- Urban Areas
- Counties

- Layers can be toggled on/off
- Active layer can be selected

# Interactive IS Reporting

MI Invasives Demo Site - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://35.9.159.55/fist/fistmain.php?site=mi\_invasives

STS-ISC  
Slow the Spread Information Systems Group

About Legend Layers Help Logout

### Digitize Point

2. Add attributes to the point.

Field	Value	Data type
sitename	<input type="text"/>	text
observer	<input type="text"/>	text
exotic	<input type="text"/>	text
landcover	<input type="text"/>	text
spatialpat	<input type="text"/>	text
density	<input type="text"/>	text
scientific	<input type="text"/>	text
comments	<input type="text"/>	text
disturb	<input type="text"/>	text
date	<input type="text"/>	text

Active Tool: Digitize point

Active Layer: sightings

Map Scale: 1 : 9,345 (Change scale)

Done

Digitized observation

Associated attributes. Locations and attribute information stored within geo-database in real-time

# Interactive IS Reporting

**MI Invasives Demo Site - Mozilla Firefox**

File Edit View History Bookmarks Tools Help

http://35.9.159.55/fist/fistmain.php?site=mi\_invasives

Google

**Identify Results**

Layer: sightings  
Displaying records: 1 - 1 of 1

gid	1154
sitename	1124-6
observer	PH
exotic	SPOTTED KNAPWEED
landcover	Deciduous Forest
spatialpat	Scattered
density	80
scientific	CENTAUREA MACULOSA
comments	oak
disturb	Road
date	

Done

Active Tool: Zoom In

Active Layer: sightings

Map Scale: 1 : 609,183 (Change scale)

Done

Charlevoix Antrim Montmorenci Kalkaska Gaylord Oscoda Kalkaska Grayling Wexford Missaukee Roscommon Ogemaw Houghton Lake

# Priorities

Continue developing state and regional partnerships

Complete data collection for remaining taxonomic groups

Beta test reporting website

Invasive Species Symposium– April 4

# Acknowledgements

Michigan State University Environmental  
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Doug Landis, Doug Schemske, Amos Ziegler,  
Carol Swinehart, Jean Tsao, Frank Lupi, Jen Lau,  
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[www.invasivespecies.msu.edu](http://www.invasivespecies.msu.edu)