Analysis of Risk Assessment Results & Regulatory Outcomes for Woody Plants in the Great Lakes States

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Midwest Invasive Plant Network Coordinator
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OVERVIEW

- Brief project introduction
- Invasive plant/weed risk assessment
  - MIPN’s past regional work
- What causes different results? (case studies)
- Lessons learned
- Questions
WOODY INVASIVES of the GREAT LAKES (WIGL) COLLABORATIVE

- Invasive species collaborative of GLRI
- Funded September 2017
- Will share info on ID, impacts & management of 28 woody species
WEED/IP RISK ASSESSMENT

What?: Formalized and documented procedures
❖ Lit review -> numeric scoring or discussion and voting
❖ Status assessment - looks at distribution & impacts of species that are already naturalized
❖ Risk assessment - looks at potential for distribution & impacts for species that are not present or not naturalized

Who?: Volunteer boards or councils
❖ May or may not have formal connection to state government
❖ Technical expertise & well-rounded stakeholder representation should be goals

Why?: Justify listing or regulating a species as invasive
## GREAT LAKES ASSESSMENT GROUPS

<table>
<thead>
<tr>
<th>State/Species Council</th>
<th>Active?</th>
<th>State Official?</th>
<th># Plant Species Assessed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois Invasive Plant Species Council</td>
<td>N</td>
<td>Y</td>
<td>? 11+ T</td>
</tr>
<tr>
<td>Indiana Invasive Plant Advisory Committee</td>
<td>Y</td>
<td>N</td>
<td>75 T</td>
</tr>
<tr>
<td>Minnesota Noxious Weed Advisory Committee</td>
<td>Y</td>
<td>Y</td>
<td>71 T</td>
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<tr>
<td>New York Invasive Species Advisory Committee</td>
<td>Y</td>
<td>Y</td>
<td>183 T+Aq</td>
</tr>
<tr>
<td>Ohio Invasive Plants Council</td>
<td>Y</td>
<td>N</td>
<td>65 T+Aq</td>
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<tr>
<td>Pennsylvania Controlled Plant and Noxious Weed Committee</td>
<td>Y</td>
<td>Y</td>
<td>0</td>
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<tr>
<td>Wisconsin Invasive Species Council</td>
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<td>Y</td>
<td>150 T+Aq</td>
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</table>
ASSESSMENT METHODOLOGIES

- Each state/group’s methodology is different (though most touch on similar elements)
  - Are results valid and comparable???
- MIPN investigated with 2016 paper in Inv. Plant Sci. & Mgmt.
  - Methodological differences and different findings don’t result in radically different outcomes...at least for species that are widely recognized as invasive and are broadly distributed
  - Differences in outcomes are usually due to:
    - Regionality/range limitations
    - Different weighting of economic value (in trade)
    - Species that are newly invasive in the region (disparate distribution)
  - Can improve accuracy by sharing works cited

NEW CASE STUDY 1: NORWAY MAPLE

- Acer platanoides

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<thead>
<tr>
<th>State</th>
<th>IL</th>
<th>IN</th>
<th>MI</th>
<th>MN</th>
<th>NY</th>
<th>OH</th>
<th>PA</th>
<th>WI</th>
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<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>Very High</td>
<td>Low</td>
<td>N/A</td>
<td>Very High</td>
<td>Pending further review (M)</td>
<td>N/A</td>
<td>N/A</td>
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Photos: L: B. MacDonald, Sault College; R: G. Fewless, University of Wisconsin-Green Bay
DIFFERENCES IN KEY DEFINITIONS

- Differences in what is considered “very seedy”
  - # per individual? (IN, NY, OH)
  - # per area? (MI)

- What is considered “germinating under a wide range of conditions?”
  - Access to sunlight
  - Soil type and drainage
  - Habitat type

- What should be prioritized - naturalization presence/absence or density of distribution where naturalized?
  - High quality info on distribution density can be really hard to find
ECOSYSTEM IMPACTS

- Michigan’s assessment only looked at one source, from horticultural literature, that indicated no major ecosystem impacts from *A. platanoides* invasion
  - The smoking gun???
    - Sort of...
- Differences in cost estimates for control
  - May be related to assumed population density
REGS & CASE STUDY CONCLUSIONS

- *A. platanoides* only regulated in New York State w/ labeling requirement
  - One of three species assessed as “very high risk” that was not prohibited from sale
- Not included in current Indiana preliminary rule
- Is *A. platanoides* invasive in the Great Lakes Basin?
  - Yes, but not one of the “worst-of-the-worst”
  - Intensity of invasion may be uneven across range
  - Alternatives and less seedy cultivars should be favored in landscaping
    - None should be planted close to natural areas where species is not yet naturalized
- Revision of assessments to capture new research is critical
NEW CASE STUDY 2: WINTERCREEPER

- *Euonymus fortunei*

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<th>PA</th>
<th>WI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td>N/A</td>
<td>High</td>
<td>Not invasive</td>
<td>N/A</td>
<td>High</td>
<td>Invasive (H)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Photos: L: J. Scheper, Floridata.com; R: Monroe County (IN) Identify & Reduce Invasive Species
DIFFERENCES IN KEY DEFINITIONS

- What is considered germinating under a wide range of conditions?
  - Access to sunlight
  - Soil type and drainage
  - Habitat type

- What should be prioritized - naturalization presence/absence or density of distribution where naturalized?
  - High quality info on distribution density can be really hard to find

Images: Early Detection & Distribution Mapping System (EDDMapS)
ECOSYSTEM IMPACTS

- No obvious temporal difference this time, though some obvious differences in # of sources consulted
- Differences in interpretation of degree of impacts
  - At least two layers of vegetation negatively impacted
  - Influences on abiotic ecosystem processes largely inferred (IN, NY)
- Importance of disturbance interpreted differently

Photo: N. Johnson, Ohio Environmental Council

Photo: C. Evans, University of Illinois Extension
REGS & CASE STUDY CONCLUSIONS

- *E. fortunei* only regulated in New York State w/ labeling requirement
- Is included in current Indiana preliminary rule
- Is *E. fortunei* invasive in the Great Lakes Basin?
  - Yes, but so far largely limited to Zone 6
  - Intense invasions seem to be isolated - “watch list” everywhere else
  - Should be carefully maintained in (or removed from) existing landscaping and alternatives favored
  - Retailers and landscapers can play an important role
### SEMI-NEW CASE STUDY 3: BORDER PRIVET

- *Ligustrum obtusifolium*

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<th>OH</th>
<th>PA</th>
<th>WI</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>High</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>High</td>
<td>Not Invasive (L)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
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</table>

Photos: L: L. Merhoff, University of Connecticut; R: Lower Hudson (NY) PRISM
DIFFERENCES IN FINDINGS

- What counts as vegetative reproduction?
  - Stump sprouts
  - Root sprouts (better documentation for *L. vulgare*)
  - Rooting stem nodes (anecdotal)
- How many fruit and viable seed? Ecosystem process impacts?
  - Sometimes there just isn’t good data...
- Does it occur in wetlands?
REGS & CASE STUDY CONCLUSIONS

- *L. obtusifolium* regulated in New York State - sales prohibited
- Is included in current Indiana preliminary rule
- Was not included in last year’s regs in Ohio
- Is *L. obtusifolium* invasive in the Great Lakes Basin?
  - Hard to say - probably in somewhat isolated occurrences
  - Landscape alternatives should be promoted out of an abundance of caution
LESSONS LEARNED?

▶ For the majority of invasive species, differences between state assessments and outcomes are minor or easily attributable

▶ Some species are darned difficult to assess
  ❖ Conclusions shouldn’t be stretched further than data support
    ❑ May be especially important for species in trade

▶ Commitment to objective inquiry is critical
  ❖ Thorough lit review; variety of sources
  ❖ Limited use of anecdotal info and unpublished data

▶ Continuation of regional dialogue on assessments is important to improve consistency
QUESTIONS???

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