Setting Strategic Priorities for Invasive Plant Management in Ontario

Terrestrial Invasive Plants Species Conference
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Overview

Context and Background

What is a Delphi Survey?
  • Summary of Rounds #1, #2 and #3

The Delphi Results
  • Strategic actions for invasive plant management

Next steps
The Ontario Invasive Species Strategic Plan (OISSP) provides the framework for Ontario’s current and future actions on invasive plants.

1) Leadership/Coordination
2) Legislation/Policy
3) Risk Analysis
4) Monitoring/Science
5) Management
6) Communications
Context – the need to set strategic priorities

• OISSP is the starting point for discussions within the Ontario government and among partners about key priorities for implementation.

• Invasive Species Centre through their Strategic Business plan also recognizes the need to set priorities for research and management.

• Invasive plant management is a complex problem and cannot be addressed by any one agency.

• Establishing priorities based on the shared goals of all organizations/and agencies involved in invasive plant management is critical to success…. 
The Delphi Technique

- A process to obtain expert opinion and formulate solutions to complex problems (i.e. “expert brainstorming”)
- Technique originated by the U.S. Air Force in 1950s to predict impacts of atomic attacks by Russia.
- Widely adapted for use in many fields (e.g. health, education, technology sector) as a means to identify and solve problems

The Delphi Steps
1. Articulate problem.
2. **ROUND 1**: Ask participants (experts) to provide their perspectives on the problem, and potential solutions through a carefully designed questionnaire.
3. Participants complete the 1st questionnaire anonymously and independently.
4. **ROUND 2**: Results are summarized and shared with the participants.
5. Participants review the results and provide their opinions on the proposed solutions.
6. **ROUND 3/ Workshop**: Results are summarized and shared with the participants, to and seek consensus on the key solutions.
Approach

• Invited 70+ experts and practitioners in invasive plant management in January 2012
  • Experts from a broad range of backgrounds
  • Field staff, academics, industry, policy analysts, regulators etc.

• Ambitious timelines
  • Round 1 survey- February 2012
  • Round 2 survey – March 2012
  • Round 3 – March 22\textsuperscript{nd} workshop
ROUND 1

- 32 questions, 2 weeks to respond
  - Broad questions requiring written detailed responses
  - Focus on *both* aquatic and terrestrial invasive plants
  - Describe knowledge of current state of invasive plant management, key barriers, and key opportunities for improvement (e.g. Control techniques, priority spp. leg/policy, research etc)
  - Responses were anonymous

- 53 respondents
  - Representation from all levels of government, conservation authorities, NGOs, and academia
Round 2

39 questions*, 1-2 hours to complete, 1.5 weeks to respond

- Survey focused on evaluating the responses from Round 1
- **Categorize** threat of terrestrial and aquatic invasive plants to Ontario’s biodiversity (from species identified in Round 1)
- **Identify** any barriers and actions that were missed
- **Prioritize** key actions for invasive plant management
- Responses were anonymous
- 41 responses received

*Legislation and Policy:* Responses incorporated in regulatory review being conducted by York University with support from the Canada/Ontario Invasive Species Centre.
Round 3 - Workshop

- 55 participants, March 22\textsuperscript{nd} in Toronto
- Presented results of the Delphi survey, and status of Ontario’s current activities with respect to invasive plants
- Breakout sessions focused on 6 key themes:
  - Mechanical control
  - Chemical control
  - Site Restoration
  - Monitoring and Detection
  - Research
  - Climate change
- Participants asked to confirm and refine priority actions
  - was anything missed?
Delphi – Summary of Results

• Funding and resources identified as the **primary barrier and need** for all aspects of invasive plant management.

• **Leadership and coordination** identified as critical

• Delphi respondents highlighted a number of possible actions to improve management…
1) Confirming current threats to Ontario’s biodiversity

- Terrestrial invasive plants (50 spp.)
  - Garlic mustard, Dog Strangling Vine
  - Glossy and Common Buckthorn
  - Giant Hogweed, Japanese Knotweed

- Aquatic invasive plants (13 spp.)
  - European frog-bit
  - Eurasian water-milfoil
  - Phragmites
Delphi Results: Potential Threats

2) Confirming potential threats to Ontario’s biodiversity

- Terrestrial invasive plants (8 potentials)
  - Porcelain berry
  - Sea buckthorn*
  - Kudzu*
  - Japanese Stilt Grass
  - Mile a Minute weed

- Aquatic invasive plants (12 potentials)
  - Fanwort *
  - Water hyacinth
  - Hydrilla
  - Water Soldier*
  - Water Chestnut*

- Risk assessments needed to assess threat and to identify additional “unknown” spp.
- Detection programs and response planning were identified as critical.

*Populations have been detected in Ontario, but are not known to be widely established.
3) Improving control techniques

**Solutions to improve mechanical & chemical control rated highly**
- Develop Best Management Practices (BMPs) for priority spp.
  - Encourage focused research on efficacy
- Develop training opportunities for professionals and volunteers
- Address regulatory/permitting barriers - SIMPLIFY
- Investigate suite of chemical tools available for use
- Develop adaptive management framework to guide control actions at the landscape level
- Address liability concerns (e.g. use of volunteers)

**Solutions for biological and cultural controls focused on research and development.**
4) Site Restoration

- Develop BMPs specifically on site restoration
- Guidance on restoration goals and plans
  - What is achievable?
- More training, research and extension to practitioners
  - “how to do it”
- Improve availability of native plant stock for site restoration activities
  - Communicate needs to the nursery industry
5) Monitoring
   • Develop early detection reporting networks, coordinated at local and provincial level
   • Make use of social media and on-line tracking tools and promote existing tools (e.g. provincial Invading Species Hotline)
   • Incorporate monitoring through existing field programs
   • Develop and/or improve monitoring protocols

6) Research
   • Risk assessment to identify potential invasive plants, and priorities for management
   • Efficacy of control techniques, and new tools (chemical)
   • Biological controls for priority species
   • Economics of impacts, cost/benefit analysis
7) Climate change considerations in invasive plant management

- Focus early detection/monitoring in areas vulnerable to spread of invasive plants
- Conduct risk assessments of potential invasive plants
- Regulate invasive plants that are at risk of spreading beyond current range
8) Communications

- Build upon organizational resources and coordinate efforts (e.g. OIPC and OFAH outreach/reporting tools)
- Develop visual and social media tools
- Build partnerships with industry
- Focus messages on “hit list” of key species.
Delphi Results- Future Trends

Opportunities

• Growing recognition of the urgency of the invasive species threat.
• Increasing public awareness of invasive species = greater political awareness.
• Recent establishment of coordinating organizations (i.e. Invasive Species Centre, and OIPC).
• Increasing opportunity for partnerships with many organizations to address invasive plants.
Next Steps

• Completion of Summary Report of Delphi Survey – October 2012

• Integrate priority actions within the Ontario Invasive Species Strategic Plan and the Invasive Species Centre’s Strategic Business Plan

• Implementation of Key Strategic Actions – Already Beginning!
  • Evaluate legislative/regulatory options for invasive plants within the provincial regulatory review by York University in partnership with MNR and the ISC
  • Development of BMPs for priority species (DSV, GHW, and Buckthorn already complete)
  • Compendiums of invasive plant management and research (underway)
  • Updating invasive plant list for Ontario (underway)

• Develop partnerships to coordinate implementation of strategic actions on invasive plants in Ontario over the long term.
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