

R H O D E I S L A N D



NATURAL HISTORY SURVEY

Providing Ecosystem Science and Information

Invasives Preparedness for Land Stewards

Handout for 2014 Land and Water Conservation Summit,

March 8, 2014,

Memorial Union, University of Rhode Island, Kingston,

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Abstract:

Every day, it seems, there are new invasive species threats, new research on their ecological effects, and new developments for their control. **Don't let the flood of information paralyze you into inaction.** For local groups managing conservation land, the situation won't be improved by delay and there are plenty of practical steps to take to improve your group's invasive species preparedness and to begin responding to existing problems. We prepared this handout to encourage good strategic invasives preparedness and practical invasives monitoring and control activities that you can initiate to affect the situation on the ground. Emphasis will be on plants and on key elements of an invasives strategy, simple first steps for monitoring and control, and resources available on the web and elsewhere.

Visit RINHS at www.rinhs.org or facebook.com/rinhs.

See RINHS videos on invasive control at youtube.com/rinaturalhistory

Summary:

1. What are invasive species and why is invasive control important?
2. Invasive Preparedness Strategy Outline
3. The Easy Eight--eight species even a beginner can take on
4. The Secondary Six--six species that require a little more effort
5. Seven things your group can do this year to improve your invasive preparedness

Invasive Species are...

By definition, an invasive species is any species of animal or plant that is:

- a) introduced to a country or region where it is not native (it is "alien" or "exotic");
- b) is reproducing and spreading without the aid of cultivation (it has become "naturalized");
- c) harming one or more native resources such as species, habitats and natural communities, or ecosystems (it is "invasive").

Introductions can occur accidentally or intentionally. Accidental introductions involve whole individuals, seeds, root fragments, or other propagules being transported via commerce, movement of vehicles or materials, or wildlife movement. Plants deliberately introduced with good intentions such as landscaping, agriculture, wildlife food, or erosion control have later turned out to be invasive.

From the standpoint of land conservation and stewardship, invasive species may also impair non-biotic conservation values that are intrinsic to the particular parcel of land, such as aesthetics, cultural landscapes, or recreational use.

Just in terms of the plants, the Federal Noxious Weed List includes 96 species, identified primarily as agricultural nuisances. The Invasive Plant Atlas of New England (IPANE) tracks 115 plants and includes an additional 34 species that are being watched for one reason or another. The Vascular Flora of RI (1998) includes 1,980 entries, of which 392 are considered as naturalized, 331 of those are not native to North America, and another 145 that have been introduced but did not appear to be fully naturalized. The Rhode Island Invasive Species Council lists 68 of plants as having some level of invasive tendency.

Professional biologists need specialized training to recognize all of these plants (and the many invasive animals). It is understandable that the invasives issue may be overwhelming to conservationists who are also struggling with so many other needs.

Don't be paralyzed into inaction by the need for specialist knowledge! Many widespread and damaging invasive plant species are fairly easy to identify and there are steps you can take today to tackle these as well as to improve your group's invasive preparedness.

**Invasive species are a threat to
the very conservation values we're working so hard to preserve:**



Invasives even threaten our landscape's cultural features and our regional identity!



A classic New England stone wall, the kind tourists pay to see, WITHOUT invasives...



The SAME Classic New England stone wall, the kind tourists pay to see, WITH invasives (Japanese knotweed).

Invasive Preparedness is...

60% General good land stewardship ("One more reason for doing what we should be doing anyway"):

1. Know your land (each parcel or contiguous group of parcels)
 - a) boundaries
 - b) physical features and processes
 - c) biological features and processes
 - d) cultural features and processes
 - e) what conservation values have been identified/prioritized in your mngmnt plan
 - f) who uses your land for what
2. Know your neighbors/neighborhood
 - a) who owns what around you?
 - b) who does what on the abutting properties?
 - c) noteworthy features and the relationship to your land and features
 - d) Seek to develop relationships with neighboring property owners.
 - host a neighborhood educational meeting on invasives
 - walk the refuge with the neighbors to look at the invasive problems
 - invite the neighbors to participate in work days on the refuge
 - offer *your* volunteers to willing neighbors to pull up invasives on *their* land
 - offer to replace problem landscape plants on neighbors' property
3. Write down what you know
 - a) map the different kinds of features
 - b) agree on names for features or have some other reference system to aid communication
 - c) create files for each abutting parcel
4. Conduct regular, on-the-ground reconnaissance
5. Have a formally established path for...
 - a) information and reports going up the line
 - b) responsibility for follow-up on reports
(general officer, stewardship officer/committee, town dept., parcel steward)
6. Keep up your capacity to undertake big stewardship tasks
 - a) active board committees
 - b) strong volunteer corps
 - Educate volunteers and those who enjoy use of the land.
 - Trainings via guided tour, self-guided tour, flip charts
 - Volunteer work days
 - Periodic visits by property stewards
 - Tool pool at trailhead
 - c) good relations with town departments, etc.

30% invasive frame of mind (*"You've got to think like Japanese Knotweed to STOP Japanese Knotweed!"*):

1. Keep alert to **changes** in your land
 - a) continuity in personnel and volunteers has many advantages
 - b) take advantage of visiting "experts," invite them for walks and take notes
 - c) trust your hunches and follow up on them
2. Check out your **vectors/pathways**
 - a) landscaping
 - b) construction
 - c) materials
 - d) livestock
 - e) vehicles and foot traffic
 - f) runoff
 - g) machinery
 - h) dumping
 - i) neighbors
3. **Act fast:**
 - a) to control vectors
 - b) to prevent spread of new invaders
4. **Be patient:**
 - a) to roll back existing problems
 - b) to control large areas
 - c) to win over neighbors

10% technical knowledge (*"The most important thing to know is when and whom to ask for help"*):

1. Tap into a network of local conservation organizations and land trusts to receive
 - alerts to new problems
 - technical advice
 - advice on control methods and new ideas
 - share tools (the kind made of metal AND the kind made of MENTAL)
2. Search literature for management techniques most effective for targeted species.
3. Add plans for selected known invasives to your management plan.

The EASY EIGHT:

Eight invasive plants that you can identify and control WITHOUT Ph.Ds. in botany and chemistry.

1. Oriental Bittersweet
2. Barberry (both Japanese and European)
3. Winged Euonymus (a.k.a. Burning Bush)
4. Autumn Olive (and the similar Russian Olive)
5. English Ivy
6. Privet (any of the many varieties)
7. Garlic Mustard
8. Multiflora Rose

These were chosen because:

- It is fairly easy to learn to identify them using print and web sources only
- There are few native species that they could be confused with or, as with bittersweet, the native species is very rare and not invasive
- You can make meaningful strides towards control without specialized techniques or chemicals

Bittersweet and multiflora rose are the trickiest, although there are one or two diagnostic features that once learned make them easy to distinguish from the native species.

The SECONDARY SIX:

These six invasive plants are relatively easy to identify but very hard to control once established.

They are presented here because early detection and rapid response is your best bet.

1. Swallow-wort (Black and Pale)
2. Common Reed (a.k.a. *Phragmites australis* or "Phrag")
3. Japanese Honeysuckle
4. Purple Loosetrife
5. Knotweed (a.k.a. American or Mexican Bamboo)
6. Yellow Iris

Established populations of these plants are extremely difficult or even impossible to eradicate even with chemicals and at any rate efforts at large scale eradication will almost certainly produce "collateral damage." It is, therefore, important to learn to identify these species and act swiftly to eliminate small populations when found.

SEVEN THINGS you can do this year...

Don't let the technical demands of invasive species identification and herbicide use dis-empower you; you can do things right now to improve your organization's invasive preparedness. Here are some suggestions, but there are many more....

- 1. Make a map and name things so that you can communicate about problem areas**
 - find special places and landscape features and assign them names
 - ask your members to suggest names as a contest or allow them to assign names as a benefit of donating
 - revise existing maps with new trails, names, etc.
- 2. Go on a recon. mission**
 - walk your boundaries
 - look for and photograph encroachments, especially yard waste dumping
 - look for erosion and other disturbances running towards your boundaries that could be opening up the soil to invasive plants or carrying them onto your land.
- 3. Get your abutters involved**
 - find out who they are and introduce yourselves if you haven't already
 - invite them for a nature walk or work day
 - offer to help abutters clear especially dangerous invasives on their land
- 4. Meet the mowers**
 - Knotweed (and some other really bad invaders like stilt grass) are often spread by using or moving mowers or heavy equipment. In towns, the highway department's mowers and street sweepers can easily spread knotweed onto your land but this is not often appreciated by the department: cheerfully educate them about the issue. Check out the town's compost/mulch pile. Find out what happens to soil gathered during street sweeping and catch basin cleaning.
- 5. Organize a clipping, cutting, and pulling party**
 - Winged euonymus, barberry, privet, and autumn olive can all be controlled to some extent by determined clipping and pulling. Organized clipping and pulling sessions can be a good way to engage your members.
- 6. Vine-ectomies**
 - Bittersweet and English ivy vines are hard to kill, but if you cut a few inches out of the large vines near the ground, it knocks them way back and also helps prevent further spread by killing the fruiting portions that are elevated in the trees.
- 7. Pulling and pesto party**
 - Bite back at garlic mustard; it is an extremely tough customer but apparently makes nice pesto.