RHODE ISLAND
NATURAL HISTORY SURVEY
Providing Ecosystem Science and Information

Invasives Preparedness for Land Conservation Organizations

*A presentation by **Rhode Island Natural History Survey** at*
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*by **Hope Leeson and David W. Gregg***

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 begin responding to existing problems. RINHS contract botanist Hope Leeson and Executive Director David Gregg will present elements of a good invasives preparedness strategy and practical invasives monitoring and control activities that a group can initiate to affect the situation on the ground and also help develop organizational capacity. 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.

Presentation 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, invasive species are part of the large group of organisms that are not native to a country or region, but that as a result of being introduced, are capable of reproducing and spreading without the aid of cultivation. Introductions can occur accidentally or intentionally. Accidental introductions involve seed or larvae being transported via commercial vectors, as shipping material for imported products, in ballast water, and from more regional sources, as seed or plant fragments stuck into tire treads, bird's feet, or attached to boat propellers. Plants have been introduced as conservation plantings for wildlife food value and for erosion control, as components of landscape design, and for agriculture. Most insects were introduced accidentally as escapees from scientific and agricultural research.

A small percentage of all naturalized species become labeled as invasive. These are the species which reproduce and expand at the expense of native flora, fauna, and alter the ecology of a community.

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

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 animals). It is understandable why the invasives issue is overwhelming to community groups who are also struggling with some many other tasks.

Don't be paralyzed into inaction by the need for specialist knowledge! Many widespread and damaging 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 conservation values we're working so hard to preserve: to the habitats and natural features,

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

Invasive Preparedness is...

60% good general stewardship practices you should have anyway
30% having an invasive frame of mind
only 10% knowing something technical about invasives or herbicides

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 management 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 department, 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.D.s 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 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
    - 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
    - look for erosion and other disturbances inside and outside your boundaries that could be opening up the soil to invasive plants.

3. Get your abutters involved
    - find out who they are
    - 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) are often spread when landscaping equipment is moved from place to place. In towns, the highway department's mowers and street sweepers can easily spread knotweed but this is not well understood by the department. Educate them about cleaning equipment, 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
    - Euonymus, barberry, privet, and autumn olive can all be controlled to some extent by determined clipping, etc. Organized clipping 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.