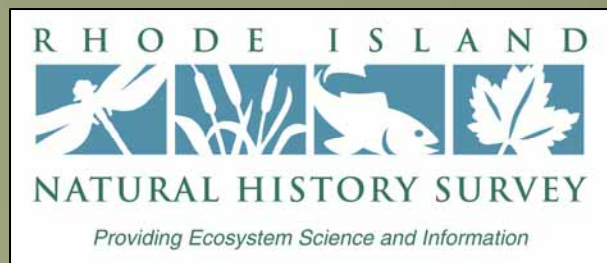


Invasive Plants: How to Kill them



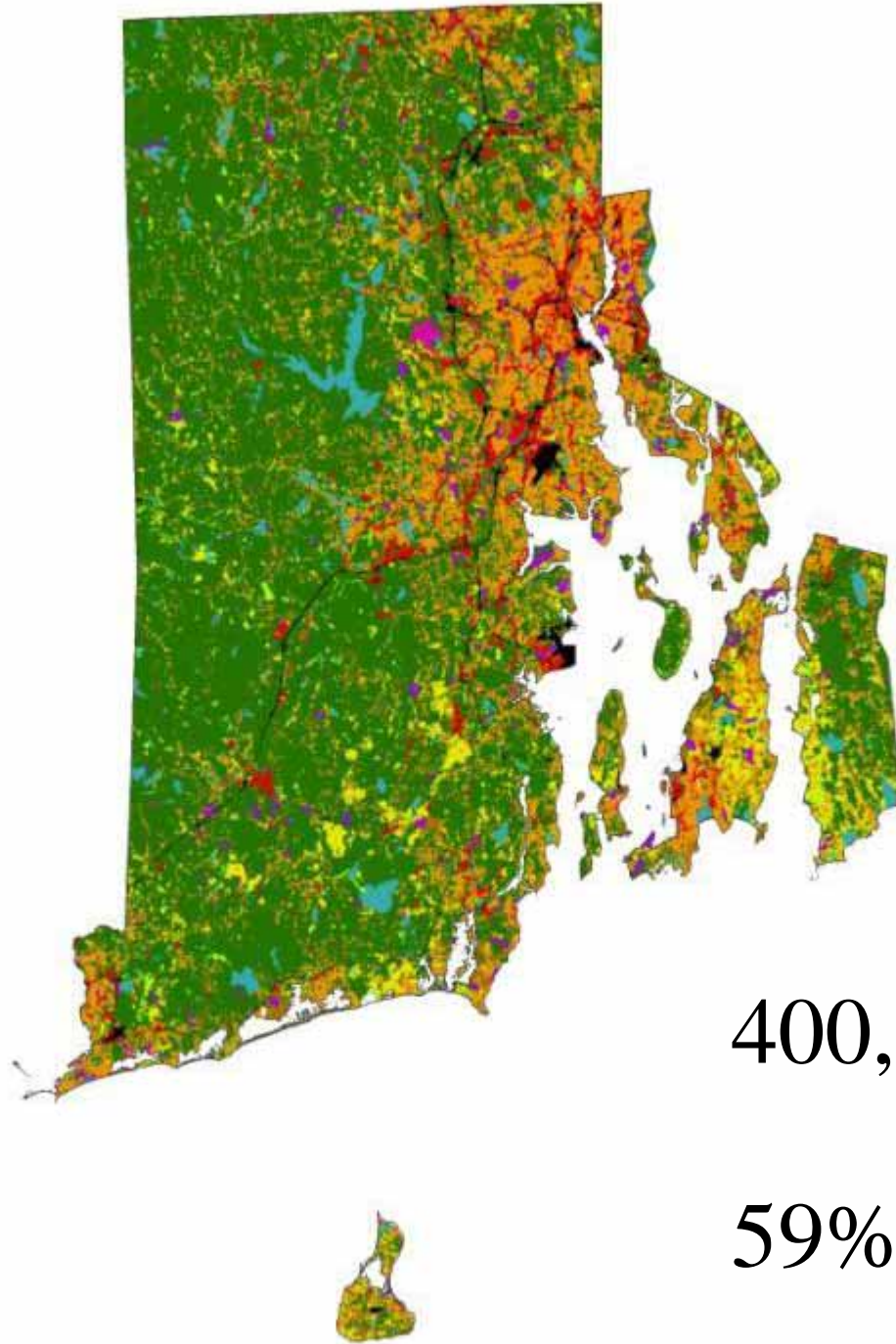
Saturday, March 27th, 2010
RI Land and Water Summit
Memorial Union
URI Kingston, RI



Workshop Agenda

- Forest Health Works Project
- EDRR Species of Concern
- Invasive Project Planning
- Control Techniques
- Rhody Native Initiative
- Q & A





400,000 Acres

59%



- 126,000 cords of fuel wood produced annually in RI
- Hunting and freshwater sport fishing industries are valued at over **\$48.3 Million per year**





R H O D E I S L A N D
FOREST HEALTH
WORKS PROJECT

*“Making forest
health work”*

st

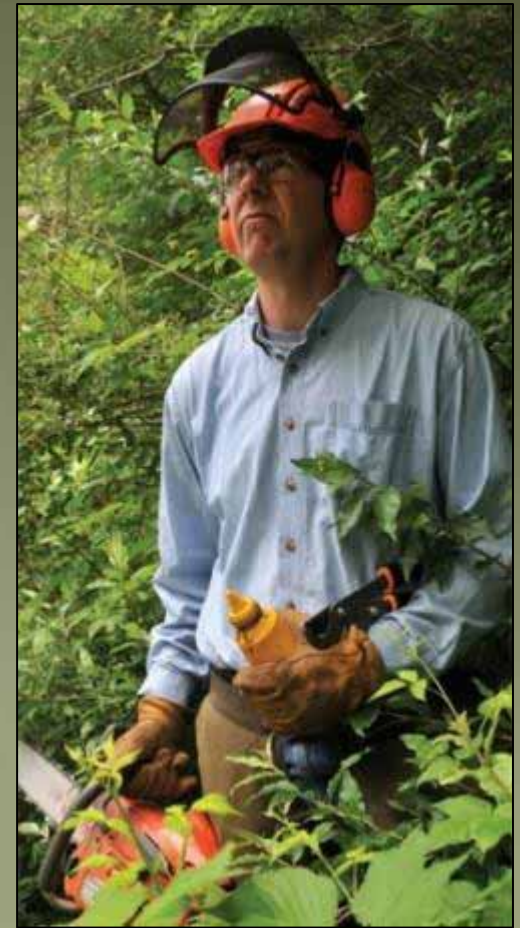
Forest Health Works Project

- RINHS & RIDEM Partnership
- Stimulus funded from the U.S. Forest Service
- Invasive Plant Control in/near forests
- Investment in RI's *forest health*
- Stimulate RI's economy
- ~\$300,000 for job creation & training



FHWP Projects

- Most work in priority forests of Western RI
- Landscape-perspective
- Public & Private Land
- High Community Value Sites
- Details still in progress
- Check www.RINHS.org beginning late spring for more details on projects



FHWP Projects

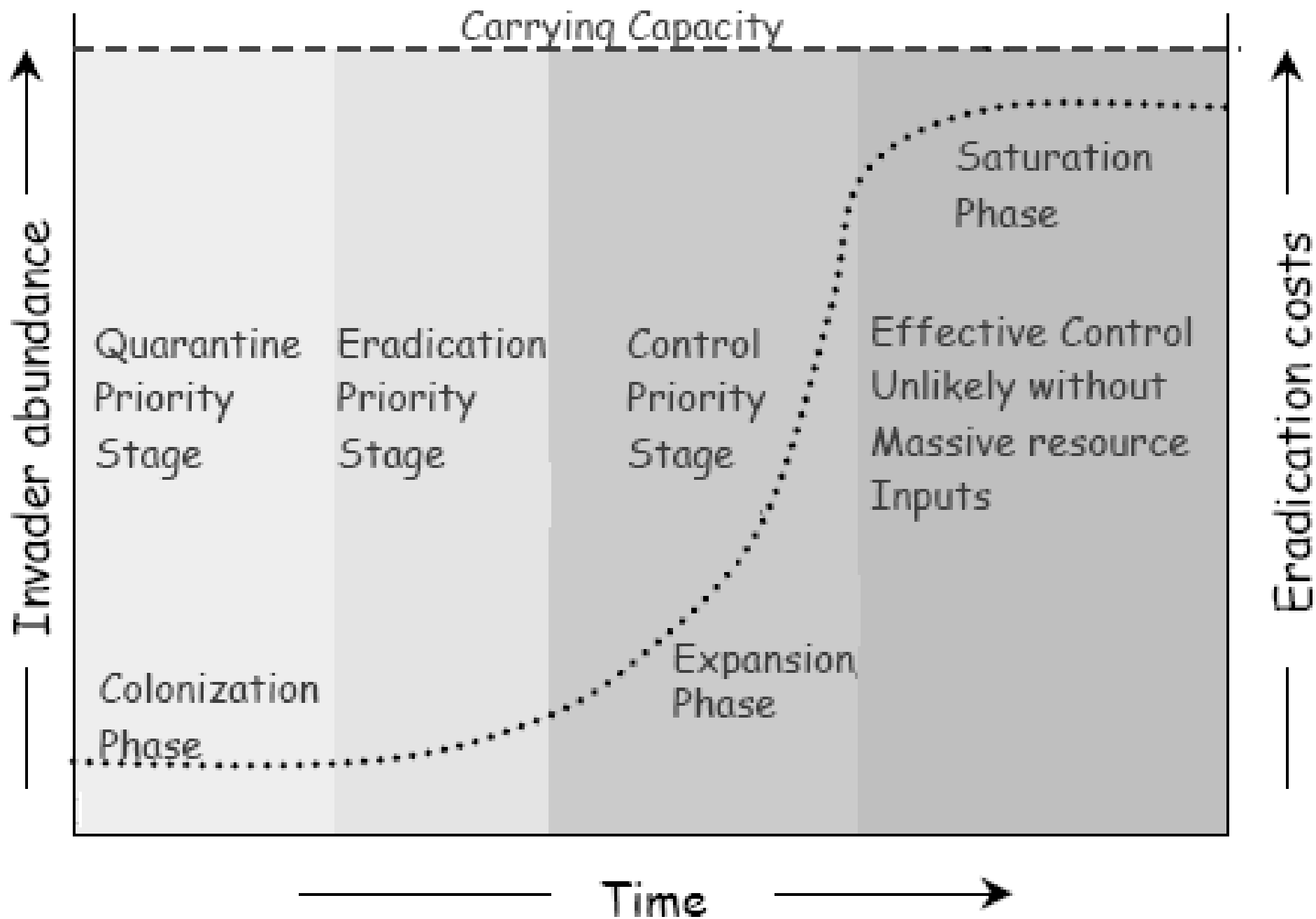
- RINHS will be inventorying
- Stimulus \$\$\$: Contracted Bids
- Qualified contractors in the landscaping, arborist, and related industries.
- Our goal: Build the capacity of industry and awareness among citizens.
- It takes a watershed to kill invasives.





Invasive Plants
Early Detection /
Rapid Response Species

Microstegium vimineum UGA0016158



Early Detection / Rapid Response Species

1. Non-native species that have recently been detected in Rhode Island, for which there are only a few known populations throughout the state.
2. Species which are considered invasive in the northeast, or in other parts of the United States.
3. The species has the potential to become widely distributed throughout the state.
4. Following detection, there should ideally be in place, an organized protocol for 'Early Detection / Rapid Response

Mile-a-minute vine, *Persicaria perfoliata* (*Polygonum perfoliatum*)

Native Range: Asia

Introduced: 1930's accidental

Potential Impacts to Forest Habitat:

Clinging vine of open, moist habitats

Fruit is buoyant

Impacts to riverine systems, emergent wetlands, and early successional habitat





Blankets vegetation
Eventually killing underlying
plants



Triangular leaf, minutely
toothed along the margin
Blue-green color
Downward facing prickles



Blue berries
Perfoliate leaf supports a
terminal flowering stalk



Garlic mustard, *Alliaria petiolata*

Native Range: Europe

Introduced: 1800's medicinal use

Potential Impacts to Forest Habitat:

Shade tolerant understory herb

Chemicals in roots inhibit soil bacteria that are necessary for native species to extract nutrients out of the soil



Biennial wildflower with
garlic scented leaves
First year of growth is an
evergreen basal rosette



Second year plants flower
And go to seed
4-petaled white flower
Dry seed pods twist and
shoot out seeds when contacted

Japanese silt grass, *Microstegium vimineum*

Native Range: Japan, Korea, China, Malaysia, India

Introduced: 1919 accidental

Potential Impacts to Forest Habitat:

Highly shade tolerant grass

Prefers moist soil

Impacts forest regeneration

Seeds cling to fur and clothing





Off-set, iridescent mid-vein
Sprawling habit: new plants arise
from each rooted node



Stilt-like root structure
smooth stem



Stiltgrass along skidder trail
in a logging operation in
Scituate

Giant pepperweed, (*Lepidium latifolium*)

Native range: to southeastern Europe and Africa

Present in Massachusetts in coastal areas , and sw Connecticut

Perennial herbaceous plant

Member of the mustard family



Growth in May, begins as a basal rosette

Flowers in July, seeds set by late July or early August

Stands increase in size and density over time,
out-competing native species

Seeds remain viable after saturation by salt water



Leslie Mehrhoff



Kudzu,
Pueraria montana

Native Range:
Japan, Southeast Asia

Present in
Massachusetts
in coastal areas.
Unconfirmed reports in
Connecticut in 2009.

Semi-woody, perennial vine.
Member of the pea family
Large tap-root can be 1meter deep
Blooms in late July, early August



© William S. Justice

Trifoliate leaves
up to 4 inches across,
With hairs on both
surfaces



© Ted Bodner

Dark red,
½ inch long flowers.
Very fragrant

Flattened seed pods are
3 inches long, with hairs
on surface. Each pod
holds 3–10 seeds.



© Ted Bodner



Mandy Tu

To Report a Sighting in Rhode Island:

Contact James Barnes / Hope Leeson at the
Rhode Island Natural History Survey

401-874-5807

jbarnes@rinhs.org

hleeson@rinhs.org

Invasive Project Planning

- Use Common Sense
- Make a Plan
- Prioritize Sites, Species, Seasons
- Integrated, Holistic Approach
- Persistence
- Partnership
- Positivity



Common Sense

60% of Invasive Preparedness is having Good Stewardship

30% is invasive thinking

10% is specialized knowledge (botany or pesticides)

BOTTOM LINE?

90% of Invasive Preparedness Strategy
you can learn today and implement over
the next 12 months.

10% is technical:

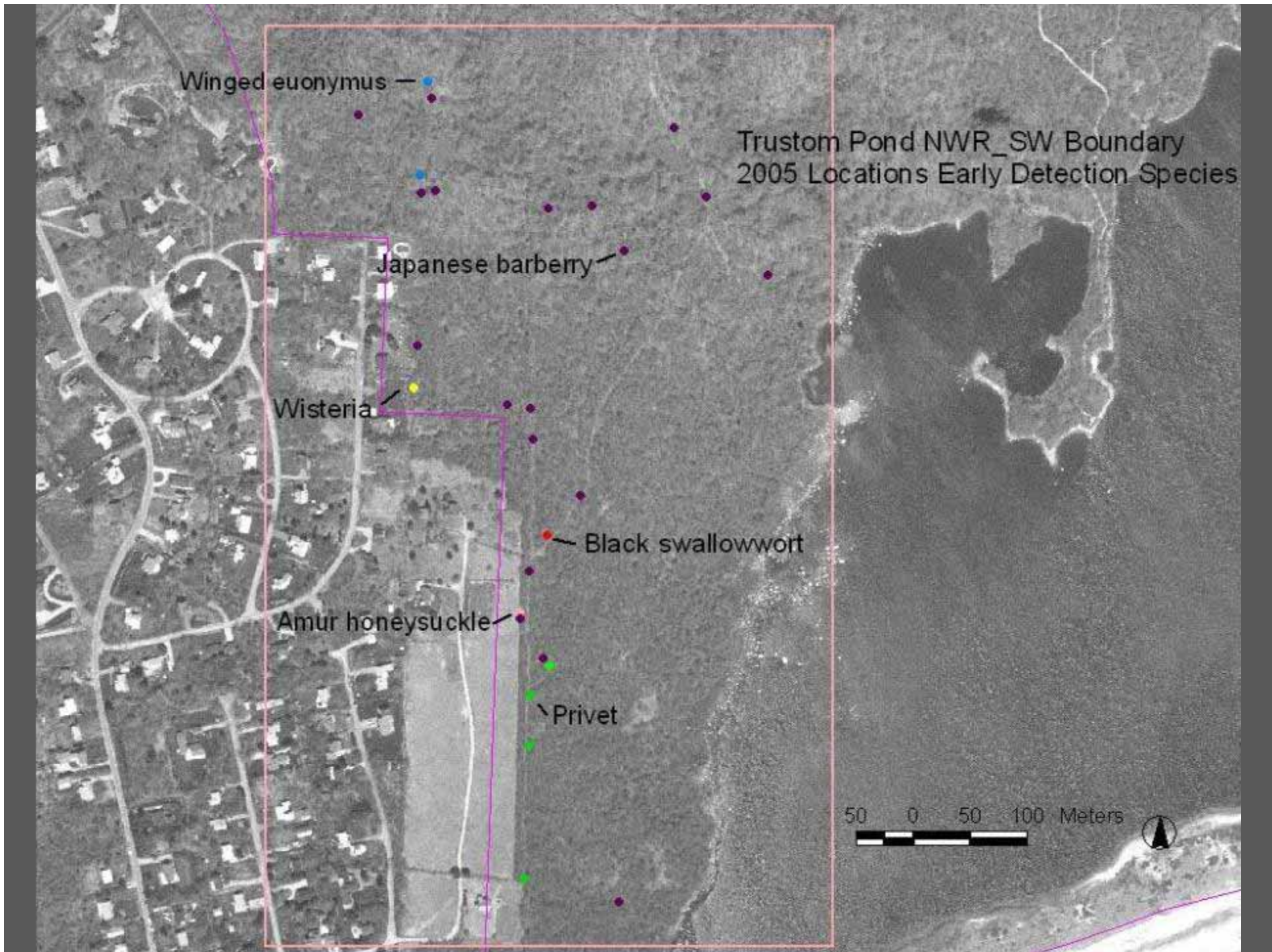
1. Who ya gonna call?



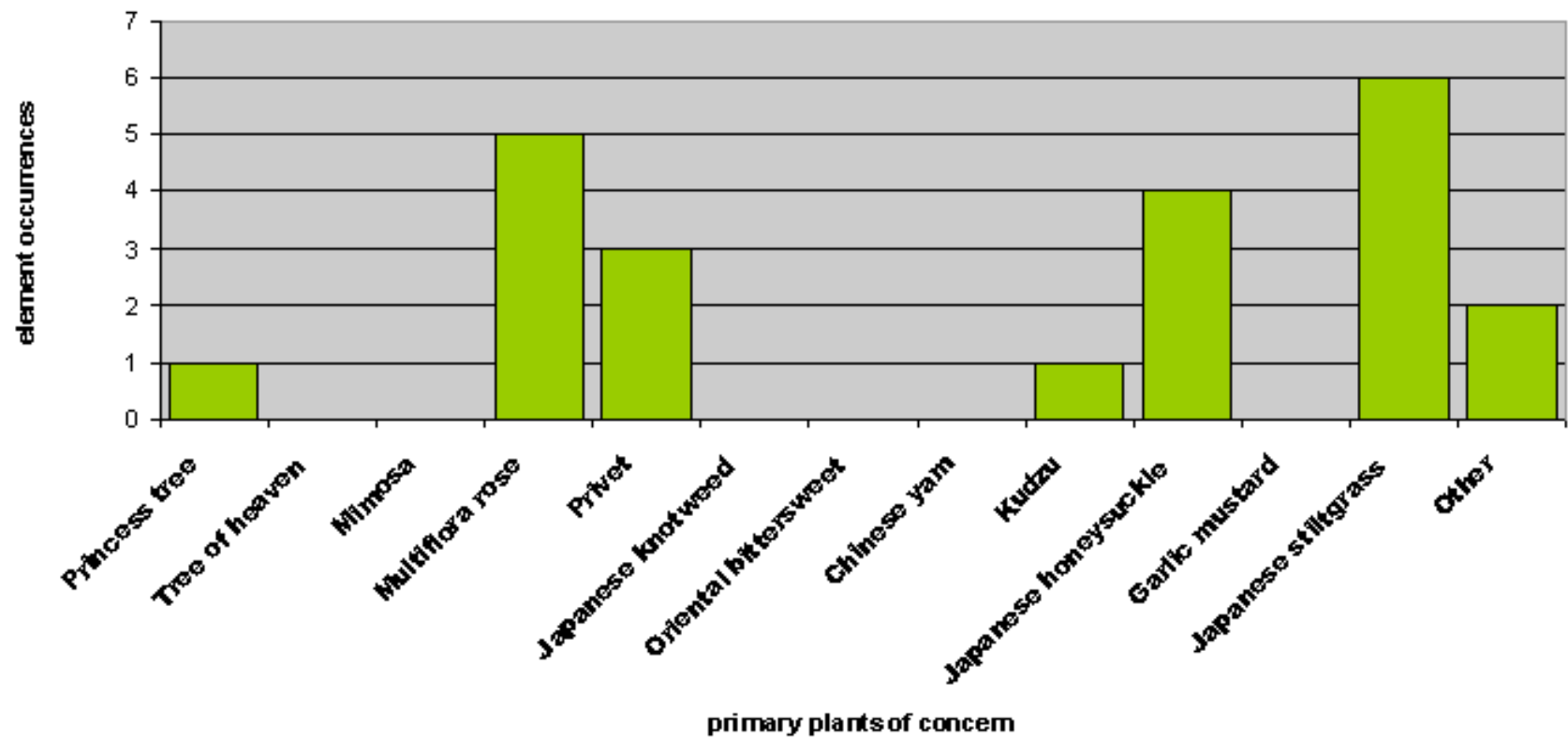
Creating an Invasive Species Management Plan

- Establish management goals and priorities
- Conduct a site inventory
- Prevention, Early Detection and Rapid Response
- Select treatments and timing for each invasive plant species present based on science and current technology
- Plan for multiple years of treatment
- Adaptive Management





Invasive Exotic Plant Occurrences Nantahala Project Area; Fall 2002 - Fall 2003



Site-Based Invasive Prioritization:

- Focus on large blocks of un-invaded areas –keep them un-invaded
- Control small outlier populations first
- Reverse the invasion –expand the un-invaded area outward.

Site-Based Invasive

Prioritization:

- All roads, trails, and watercourses are invasive corridors; survey them regularly to detect new invaders quickly
- For long distance dispersers: in aquatic settings, control upstream to downstream
- For bird-dispersed species, control large seed source populations first

Species-Based Invasive Prioritization:

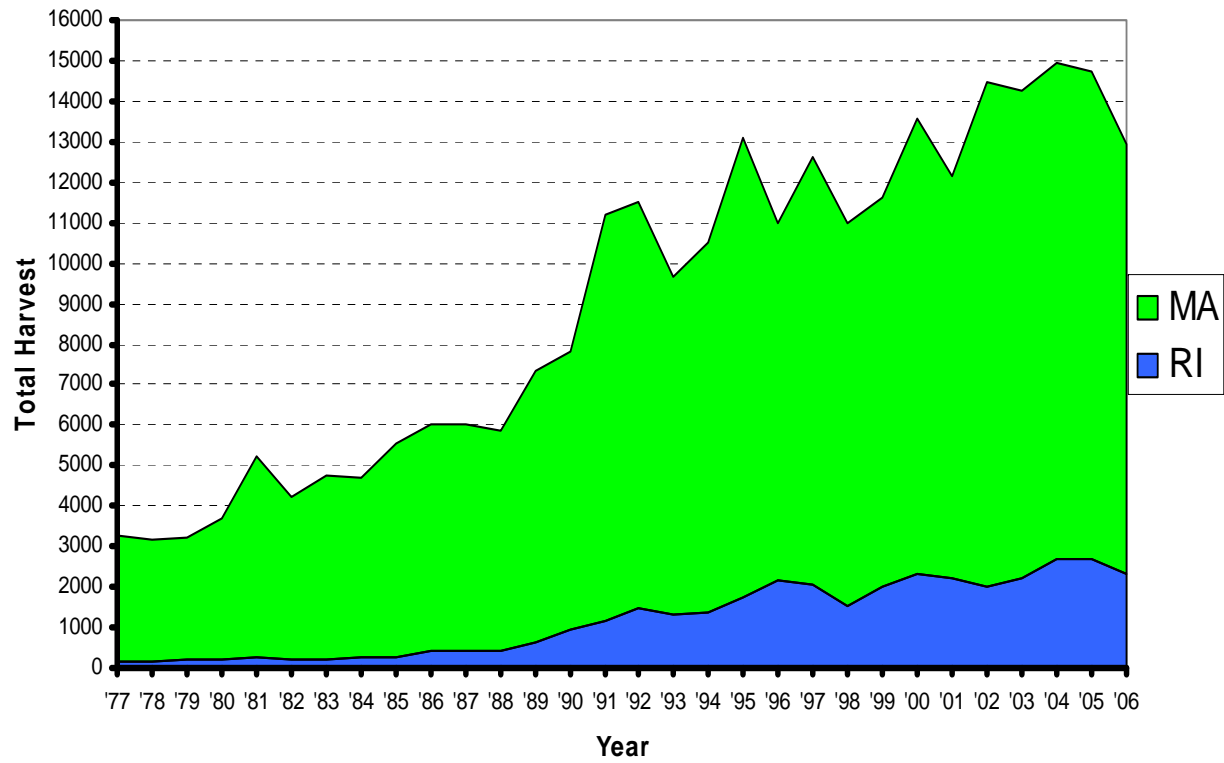
- EDRR
- In forests, shade tolerant species that cannot be reduced through ecological control
- Species that alter ecosystem processes such as sedimentation, nutrient cycling, etc.
- For both site and species prioritization it comes down to conservation values/threats & human/financial resources

Holistic Ecosystem Approach

- *Present Land Management Practices* : Contribute to the spread of invasive species & Encourage growth of invasive species



MA & RI Deer Harvest Data: 1977-2006



Microstegium vimineum

The 3 P's

- Persistence
- Partnership
- Positivity



Aren't we just fighting nature?

Invasive plants wouldn't do nearly as well in nature without human activity & disturbance.

In other words:

We're already managing for them – but not how we want to.

