

Response to invasive species in Alaska with the Ecosystem Approach: Role of education



UAF - CES *IPM Program*



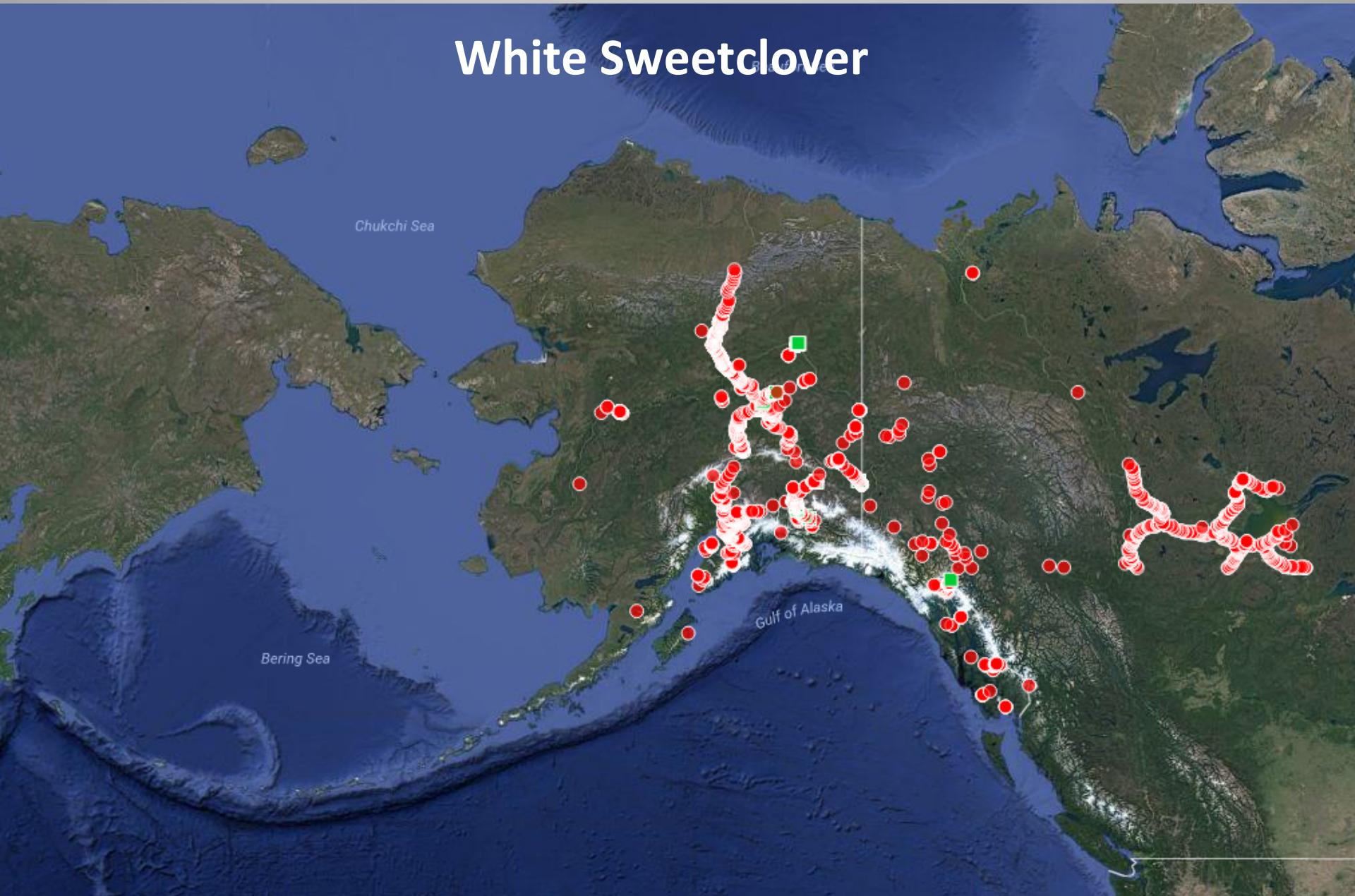
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Invasive Plants Instructor
Integrated Pest Management Program
UAF Cooperative Extension Service
Find us on Facebook: "Alaska IPM"



Outline

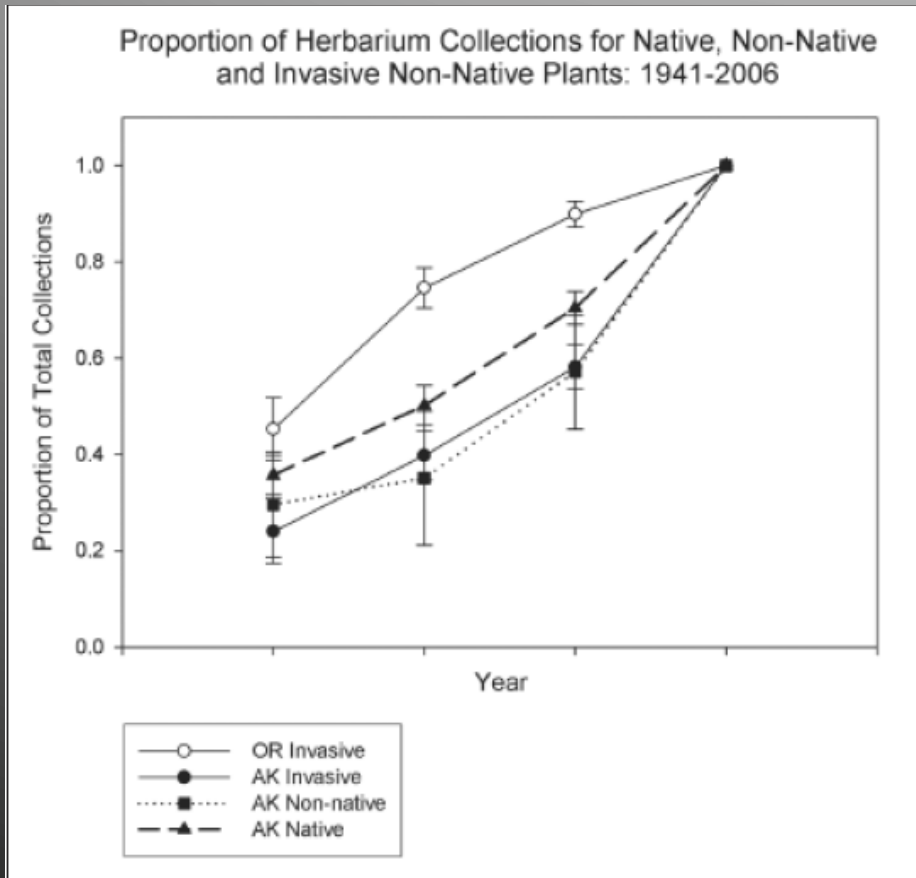
- Invasive species in Alaska
- Role of Integrated Pest Management
- Terrestrial invasive species education and delivery methods
 - Identification/reporting
 - Prevention
 - Management
- Gaps in education of particular groups
- Barriers to adopting practices

White Sweetclover



Data from the Alaska Exotic Plant Information Clearinghouse <http://aknhp.uaa.alaska.edu/>

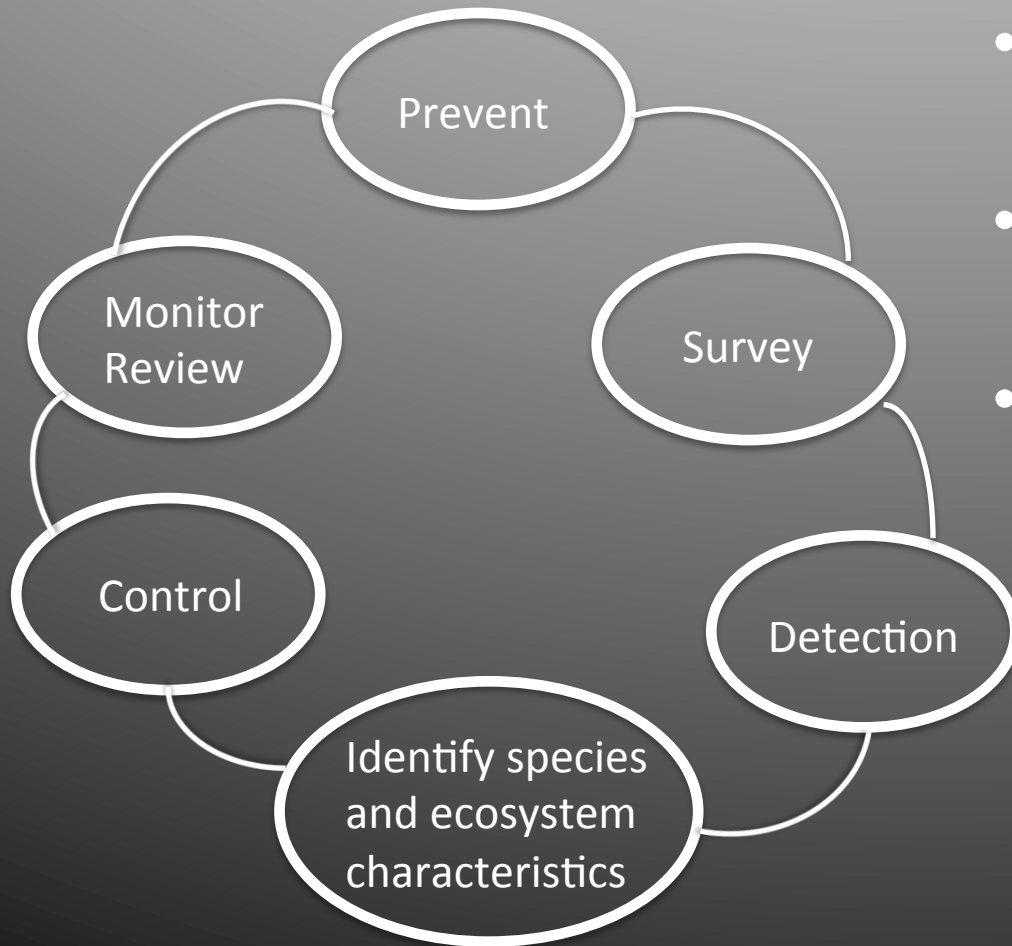
Invasive species in Alaska



- Rate of introduction is increasing
- Still many opportunities for prevention and eradication, e.g.
 - Asian gypsy moth
 - Interceptions
 - Spotted knapweed
 - 5 locations
 - Giant hogweed
 - 1 location

Image from: Carlson, M., and M. Shephard. 2007. Is the spread of non-native plants in Alaska accelerating? In: Meeting the challenge: invasive plants in Pacific Northwest ecosystems, Portland, OR. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, En. Tech. Rep. PNW-GTR-694: 111-127.

Role of Integrated Pest Management



- Core to all forms of pest management
- Identifies goals and best approach to reach them
- Uses pest biology to
 - Make control practices that reach goals
 - Minimizes impact to the environment – e.g. ground disturbance, overuse of pesticide

Identification and reporting

Identification and reporting

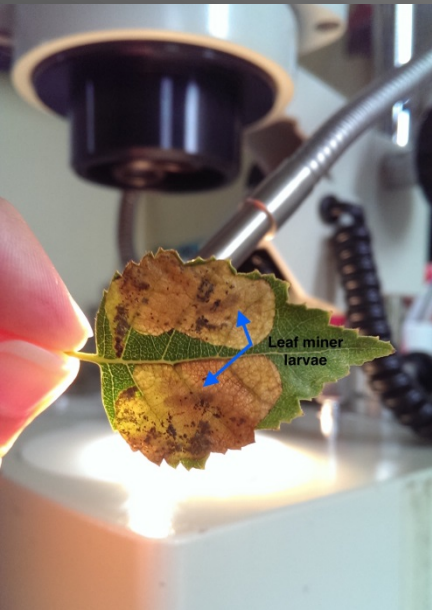
- Mobile applications
- Online reporting system
- Old fashioned e-mail, phone calls, and specimen delivery
- Online identification courses- Focus on Early Detection
- Collectively receive 1000s of queries and reports annually



Significant finds

All were subjected to control or eradication efforts

Amber marked birch leaf miner



Spotted knapweed



Image; Michael Rasy, UAF CES, Bugwood.org

Giant hogweed



Garlic mustard



Purple loosestrife



Image; Jessie Moan, UAF CES

Tour of the mobile app

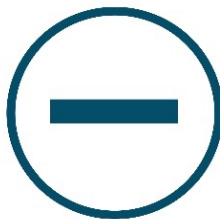


Alaska Weeds ID

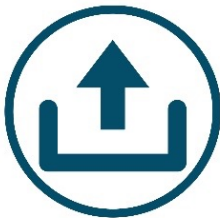
Reports



Report Form



Negative Survey Form



Upload Queue

Field Guide



Alaska Weeds ID

Field Guide



Species by Category



All Species



My List



Species Key



Alaska Weeds ID



District Species

Miscellaneous



EDDMapS Login



More Options



How To

The Key

Verizon LTE 10:35 AM 87%

Alaska Weeds ID Categories



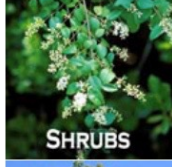
Aquatic



Grass



Herbs/Forbs



Shrub



Tree



Vine



Verizon LTE 10:36 AM 86%

Leaf Type Leaf Position



Opposite (1)



Alternate (10)



Whorled (0)



Verizon LTE 10:36 AM 86%

Leaf Position Leaf Margin



Entire/Smooth (5)



Serrated/Toothed (4)



Spiny (1)



Hairy (1)





Flower

Photo By: Loke T. Kok, Bugwood.org



[Report](#)

Cirsium vulgare
bull thistle

Family

Asteraceae

Known in Alaska?

Yes (uncommon, but locally abundant where present)

Native Species Look-alikes

3 native *Cirsium* species are found in meadows and woods in Southeast Alaska, Yukon Territory, and the Aleutian Islands. These native plants have stems that are not winged

[Report](#)

Ecological Impact

Competes with native plants for soil moisture and nutrients; decreases forage quality for grazing animals through displacement of native plant species;

Distribution and Abundance

Most commonly found in disturbed areas such as pastures, rangelands, roadsides, and ditches but can also move into undisturbed grasslands, meadows, and forest openings; Currently known in Alaska from Southeast, Southcentral, and Kodiak; Native to Europe, Western Asia, and Northern Africa;

Management

Hand pulling and mowing has been shown to be effective if maintained for at least 4 years:

Reporting weeds


Verizon LTE 10:26 AM 89%


Alaska Weeds ID

2015-10-26 10:26 AM

Study Type**

Site Area** (Acres)

 Tap Here to Add Photo

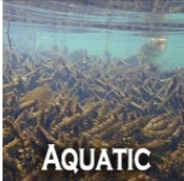
Latitude 58.29942
Longitude -134.416
Accuracy 50.0 m 


Any Extra Information Goes Here


Add Species Save


Verizon LTE 10:27 AM 89%


Cancel

 Aquatic >

 Grass >

 Herbs/Forbs >

 Shrub >

 Tree >

Categories All Species Favorites Recent

Carrier 10:24 AM
Pin Location:
LAT:31.476442 LNG:-83.524559



Cancel Point Polygon Done

Carrier 10:25 AM
Polygon Drawn:
Approximately 0.7230 Acres



Clear Points Sketch Draw
Cancel Point Polygon Done

Online detection education

← → ↻ <https://forestpests.community.uaf.edu> ☆

ABOUT • MODULES • LINKS

FOREST PESTS



Module 1 - Introduction



Module 2 - Wood Boring Insects



Module 3 - Bark Beetles



Module 4 - Defoliating Moths



Asian gypsy moth. Photo by John H. Ghent, USDA Forest Service, Bugwood.org



Rosy gypsy moth. Photo by David Mohn, Critters Page (Creatures Great and Small), Bugwood.org



Nun moth. Photo by Hannes Lemme, Bavarian State Research Center for Agriculture, Bugwood.org



Siberian moth. Photo by Pest and Diseases Image Library, Bugwood.org

Gypsy Moth ID (Outsmart App)



Prevention education

Focus of prevention

- Best management practices
- Use of weed free forage/ straw/gravel
- Online course available for right of ways

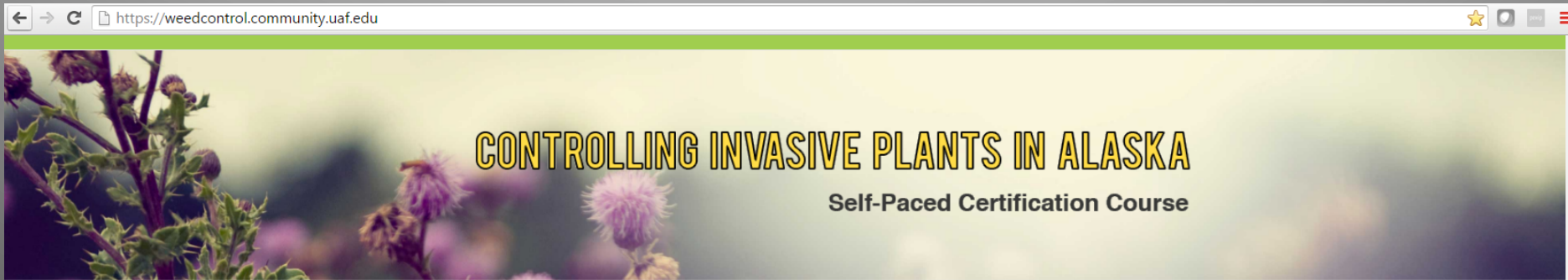


Left: Invasive white sweetclover infests a gravel pit.

Above: weed free forage Image courtesy www.agri.idaho.gov

The image shows the cover of a publication. At the top right, the code 'PMC-00342' is printed. The main title 'BEST MANAGEMENT PRACTICES' is in large, bold, orange letters. Below it, the subtitle 'CONTROLLING THE SPREAD OF INVASIVE PLANTS DURING ROAD MAINTENANCE' is in white text on a green background. The authors are listed as 'by Gino Graziano, Steven Seefeldt and Lydia Clayton'. The logo for 'COOPERATIVE EXTENSION SERVICE' and 'UNIVERSITY OF ALASKA FAIRBANKS' is at the bottom left. The background of the cover is a photograph of a road with a green sign and some vegetation. At the bottom, there are three circular inset images showing road maintenance equipment: a tractor, a front loader, and a truck.

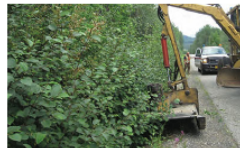
Online course for right of ways



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**UNIT 1 —
INTRODUCTION TO
INVASIVE PLANTS**



**UNIT 2 — BEST
MANAGEMENT
PRACTICES**



**UNIT 3 — PLANNING
TO AVOID & REPORT
NEW INFESTATIONS**



**UNIT 4 — INTEGRATED
VEGETATION
MANAGEMENT**





Management

- Included in online courses as applicable
- Timely live webinars or face to face workshops
- Many fliers and materials for the public
- Provide site specific prescriptions

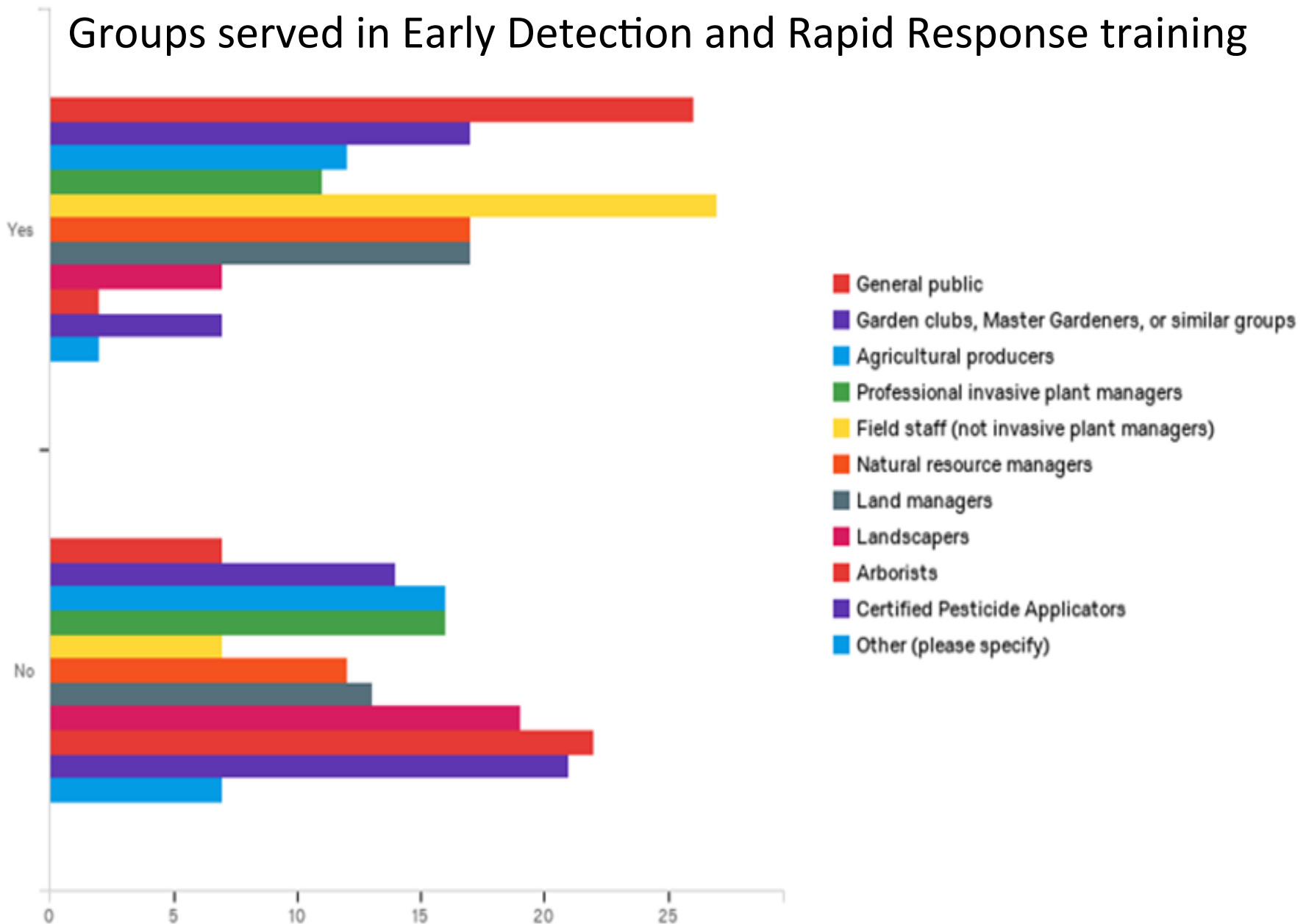


Gaps in education

Results from a recent survey of Invasive Plant Managers about Early Detection and Rapid Response (EDRR)



Groups served in Early Detection and Rapid Response training



Western, Arctic, and Southeast Alaska are underserved

Barriers to adopting EDRR

People who don't participate in EDRR

- Identified lack of training as main reason
- Lack of support from superiors
- Lack of interest
- Rural areas with no staff focused on invasive species

Barriers to adopting management practices

Management practices

- State Regulations are out of date
- Lack of funding
- Hesitance to utilize all tools – herbicides

Solutions

- Make trainings more accessible
 - Online asynchronous is the current effort
- Identify reasons for lack of participation in rural areas
 - Conduct workshops and/or advertise online courses in rural areas
- Identify funding sources
- Continue to educate agencies and public about IPM and utilizing all practices
- Committee for Noxious and Invasive Plant management is requesting updates to regulations

Thanks



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Introduction & Summary



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