Best Management Practices for Prescribed Burning and Reporting Priority Species Using the MISIN

Phyllis Higman
Michigan Natural Features Inventory

Should we be managing invasive species?

- Remember – you are NOT managing invasive plants per se
  - (except high-threat early detection species)

- You ARE managing land for particular goals and objectives = VALUES
  - Which species threaten these goals?

In the context of overall management goals:

1. Define area of interest
2. Inventory (what, where)
3. Identify mgmt goals (values)
4. Identify threats to mgmt goals
   - ➢ invasive species inventory
5. Implement mgmt actions
6. Monitor and adapt

The dilemma:

- While prescribed fire is a critical management tool, particularly when combined with other tools;

- it creates the perfect storm for:
  - stimulating some on-site invasive spp.
  - colonization by some off-site invasive spp.

Invasive Species Inventory

- Should include:
  - On-site inspection
  - Off-site inspection

  } should be protocol & costs factored in
  - Species that respond to increased light
- Report significant findings
  - Midwest Invasive Species Information Network (MISIN)
  - Under-reported and high threat species
    - particularly early detection species that are not yet widespread

What's to worry about?

Best Management Practices
(Pre-burn)

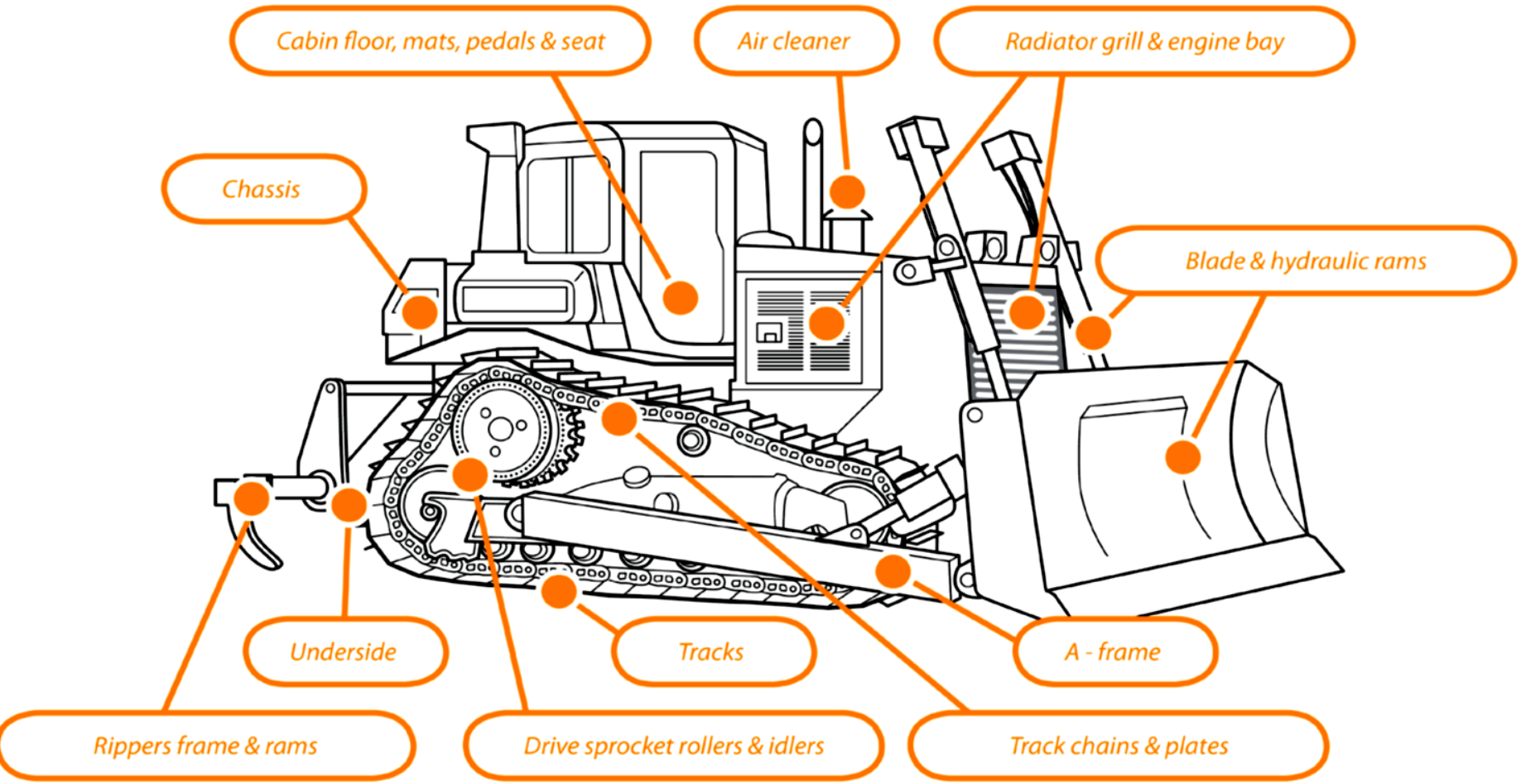
- Survey, identify and report invasive species of concern on and near burn site
  - treat before burn, if needed
  - be prepared for follow-up after burn
  - consider potential long-term management needs for addressing seed bank and nearby infestations

Best Management Practices
(During Burn)

- Minimize soil disturbance and vegetation removal (use existing breaks where possible)
- Minimize the use of retardants that may alter soil nutrient availability
- Avoid areas with priority invasive plants (fire lines, monitoring camps, staging areas, helibases, and watering stations**)
- Clean equipment and vehicles prior to entering and leaving burned areas

**no transfer of water from water body to water body

BULLDOZER WITH KEY SPOTS TO CHECK AND CLEAN



Clean yourself too; skin, hair, clothing, boots, etc.

How/where do you dispose of fragments, seeds, etc.?

Best Management Practices

(Immediately after Burn)

- Limit human or livestock entry until desirable vegetation has recovered
- Monitor burned areas and areas of significant disturbance or traffic
- Detect invasive species early and treat before vegetative spread and/or seed dispersal

Best Management Practices
(Post-Burn)

- Eradicate small patches; contain or control large infestations within or nearby
- Re-establish vegetation on bare ground as soon as possible (canopy cover in forests)
- Avoid use of fertilizers in post-fire rehabilitation and restoration
- Use only certified weed-free seed mixes when re-vegetation is necessary (and mulches) (appropriate species and genotypes)

Best Management Practices
(Outside the Box)

- Incorporate cost of weed prevention and management into fire rehabilitation plans
- Include weed prevention education in fire training and training & outreach materials
- Secure restoration funding to do this well (ultimate causes vs symptoms)

Midwest Invasive Species Information Network

MISIN

Version 2.1

Midwest Invasive Species Information Network

The MISIN smartphone app provides a mobile solution for the capture of invasive species field observation data. You can play an important role in the early detection and rapid response to new invasive threats in your area by contributing invasive species observations to the MISIN database.

- Identify and report 300+ invasive plant and animal species
- Capture and submit species observations from the field
- Include images taken in the field with your observation
- Browse images and species information on the top Midwest invaders

Available on the App Store

ANDROID APP ON Google play

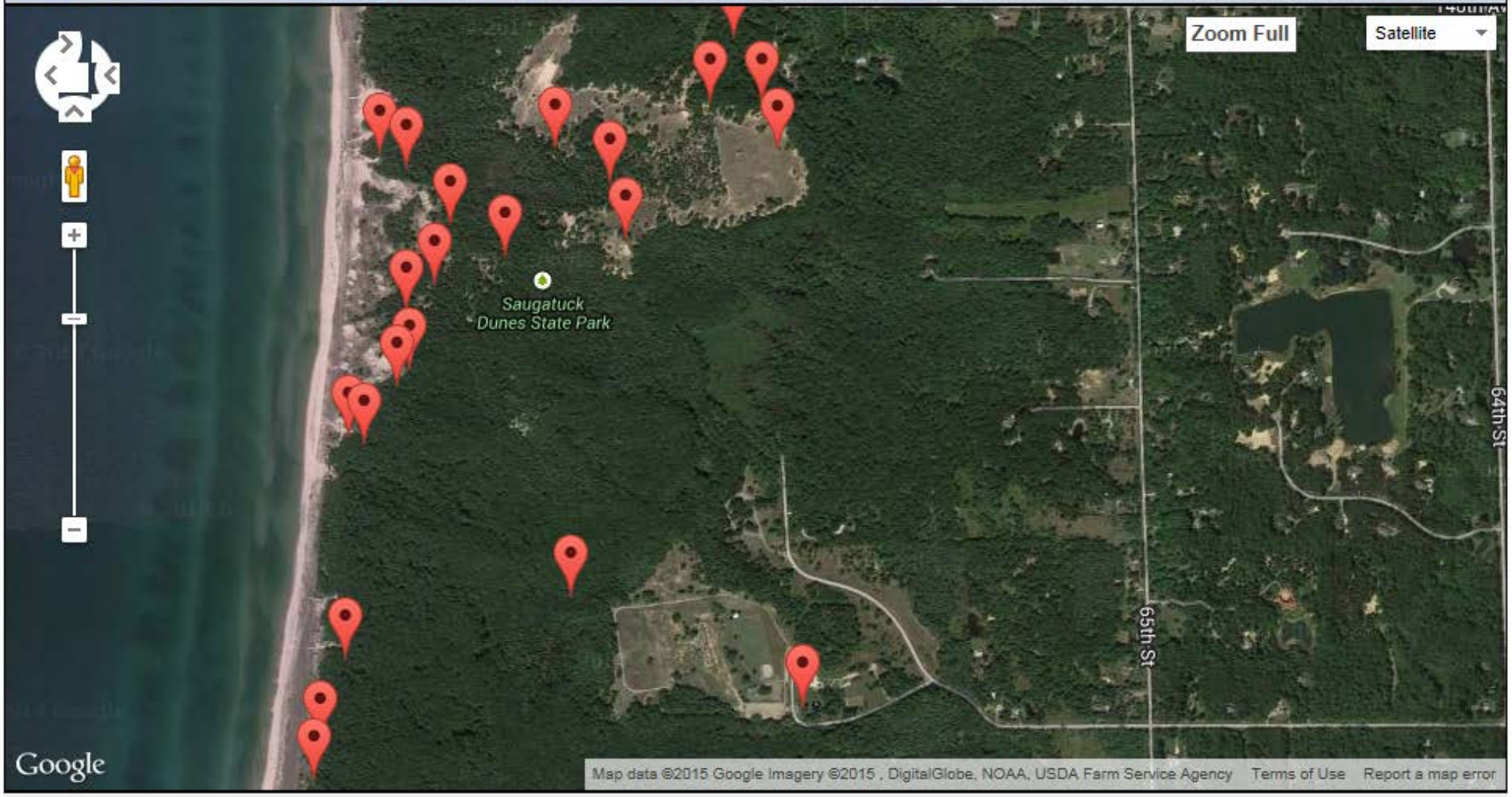
HOME | ABOUT | REPORT SIGHTINGS | SPECIES INFORMATION | BROWSE DATA | EDSS | TOOLS | LEARN | MY MISIN

- Search by Date
- Search by Species
- Search by Geography
- Search by Project
- Search by Contributor

Reported Species Observations

Oriental bittersweet

Messages: Please note that User Login is required to view contributor details.



HOME ABOUT REPORT SIGHTINGS SPECIES INFORMATION BROWSE DATA EDSS TOOLS LEARN MY MISIN

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Reported Species Observations

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MISIN

- Aggregate data statewide
  - assist in prioritizing control efforts
  - better understand dispersal mechanisms
  - assist with predictive modeling
- Early Detection Auto-Alert System
- Connect to other data sets - multiple scales
- Species information and ID modules
- Monitoring (hoping for funding for this)

The pictured plant is Oriental bittersweet.

- ○ True
- ● False

We need you to report!

What, where, how much?

Pop-quiz!

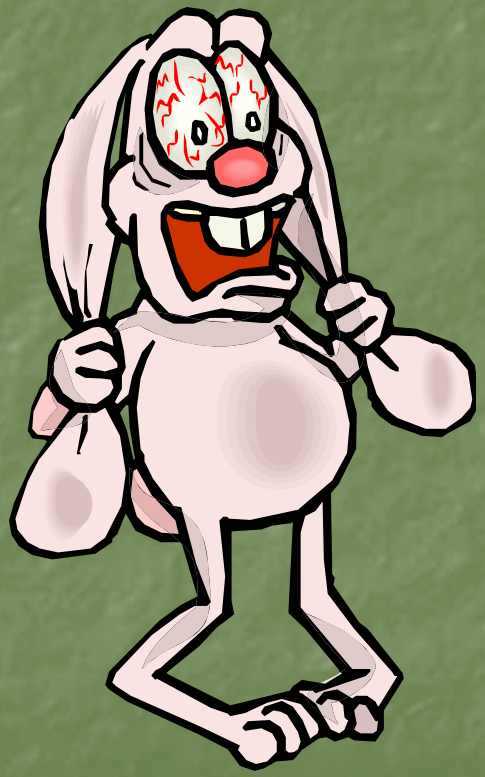
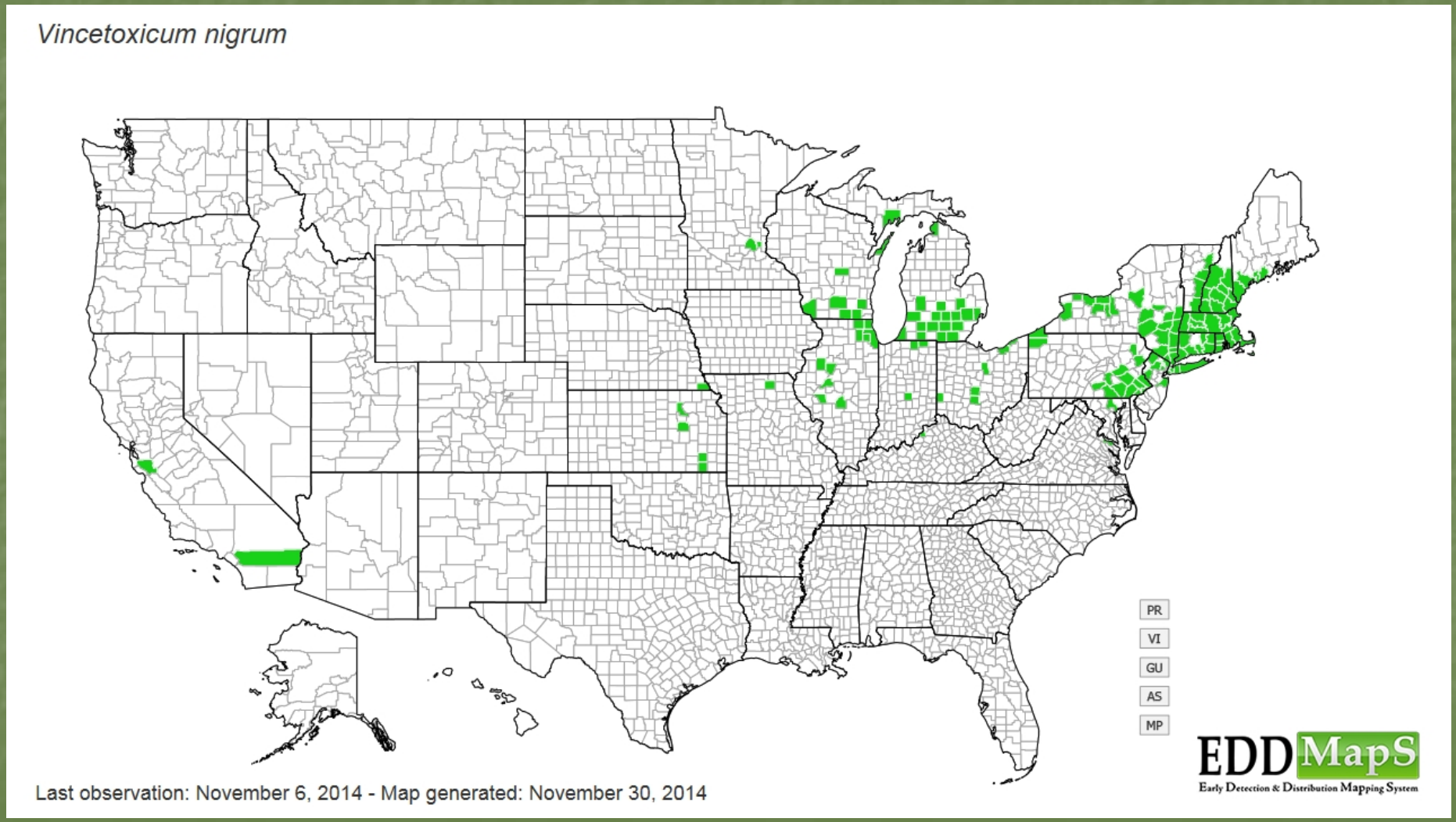
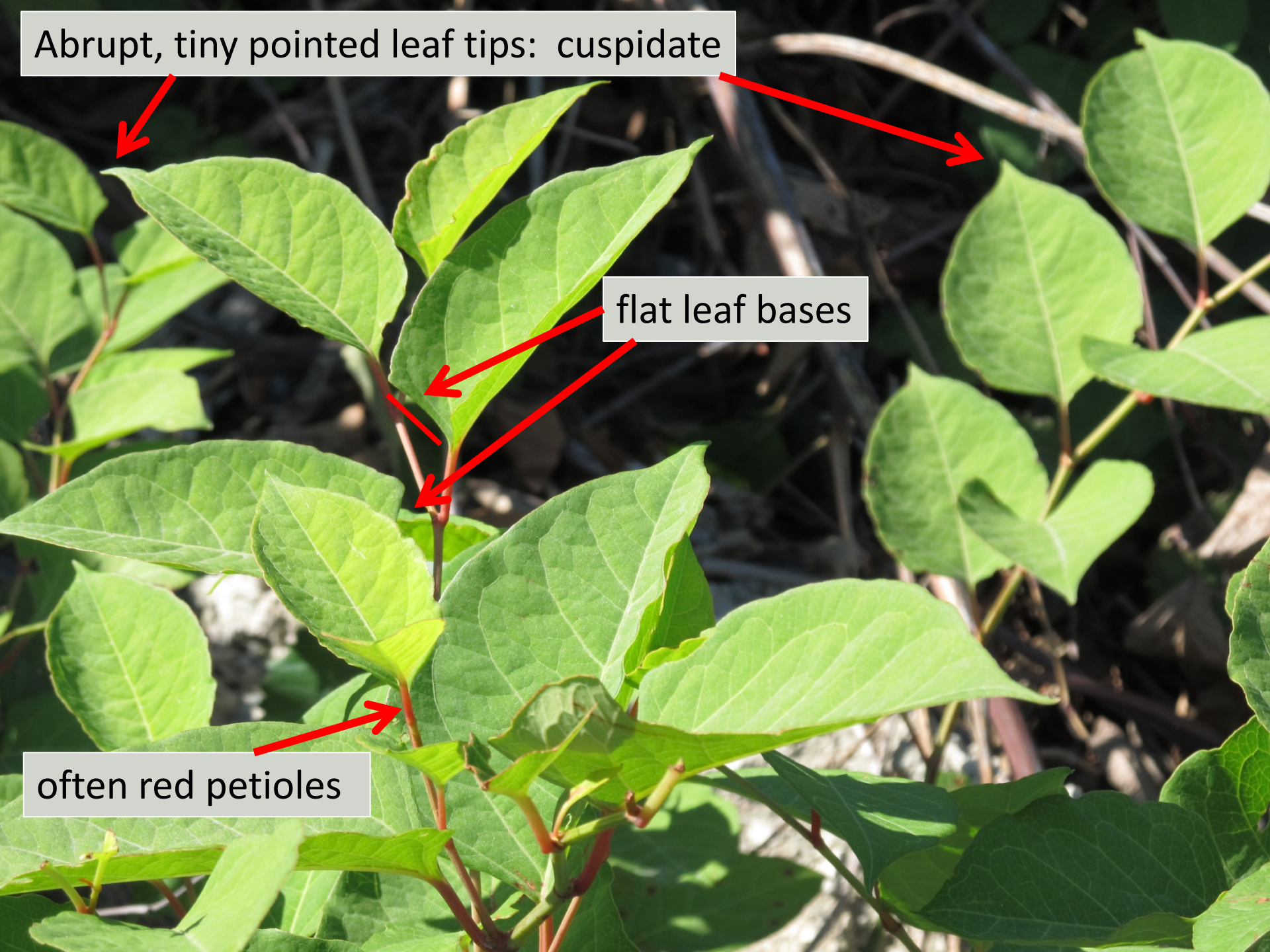


Photo by John M. Randall, The Nature Conservancy

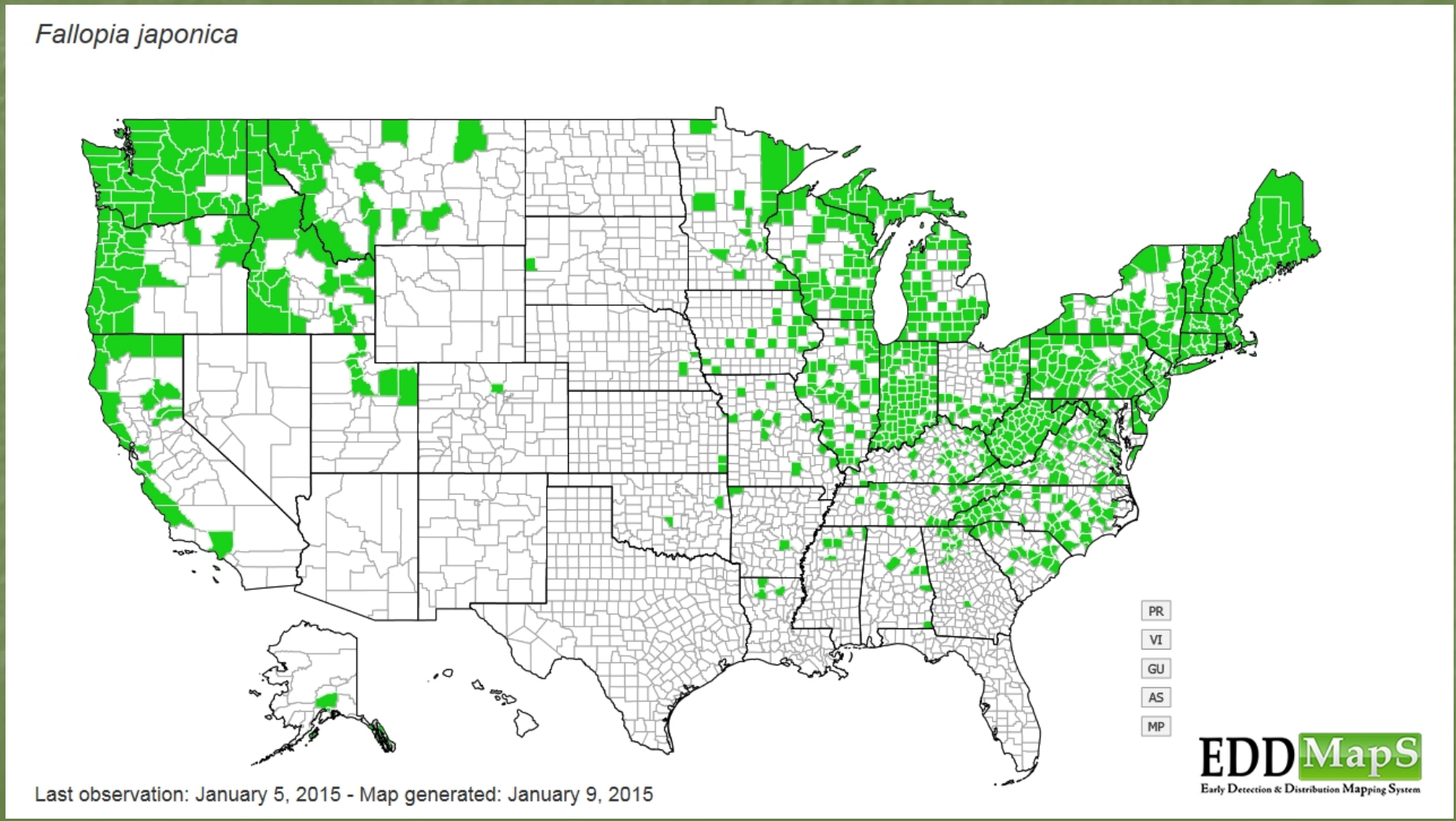
Black swallow-wort



also pale swallow-wort

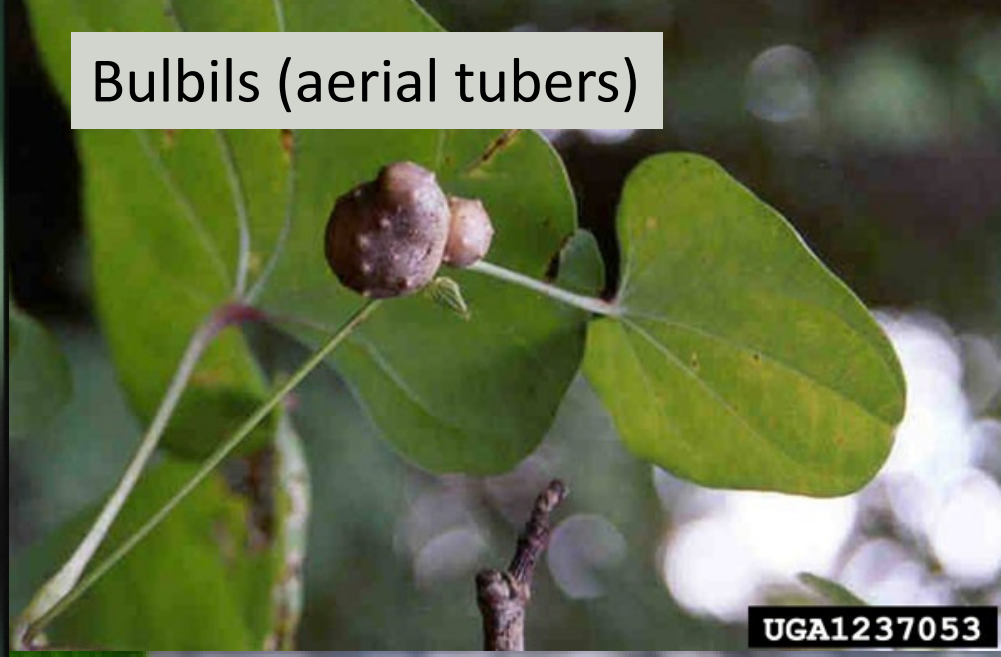

Abrupt, tiny pointed leaf tips: cuspidate
flat leaf bases
often red petioles

Japanese knotweed
(*Polygonum cuspidatum; Fallopia japonica)*

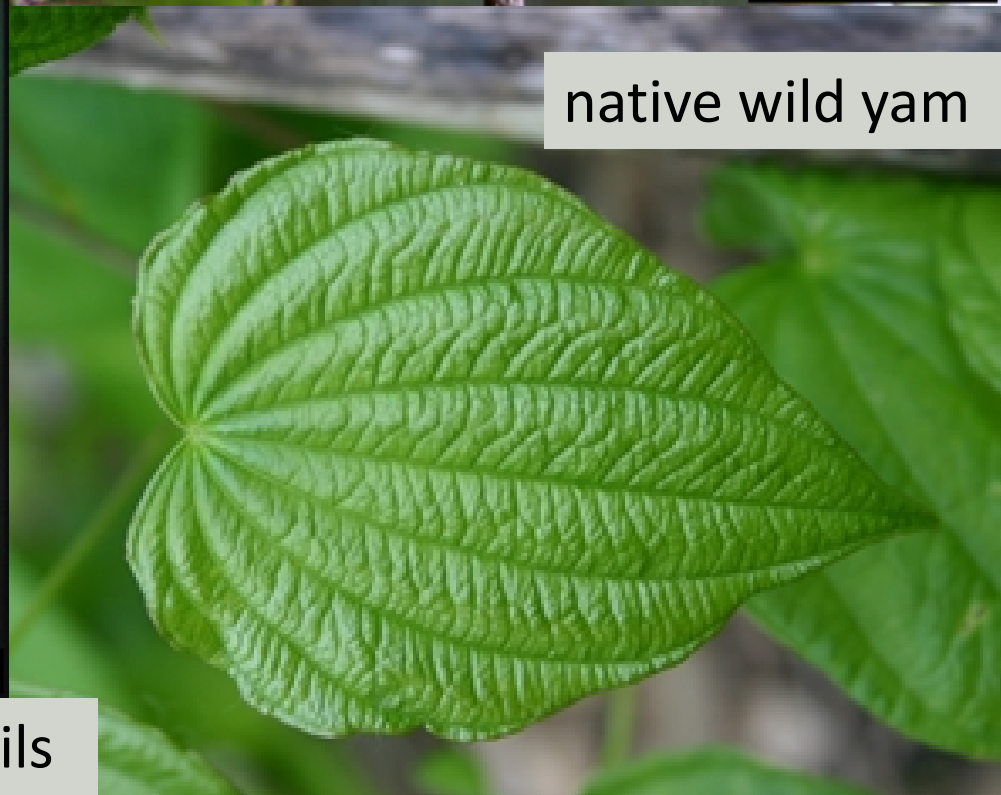


also giant and Bohemian knotweed

Perennial vine; reproduces by bulbils

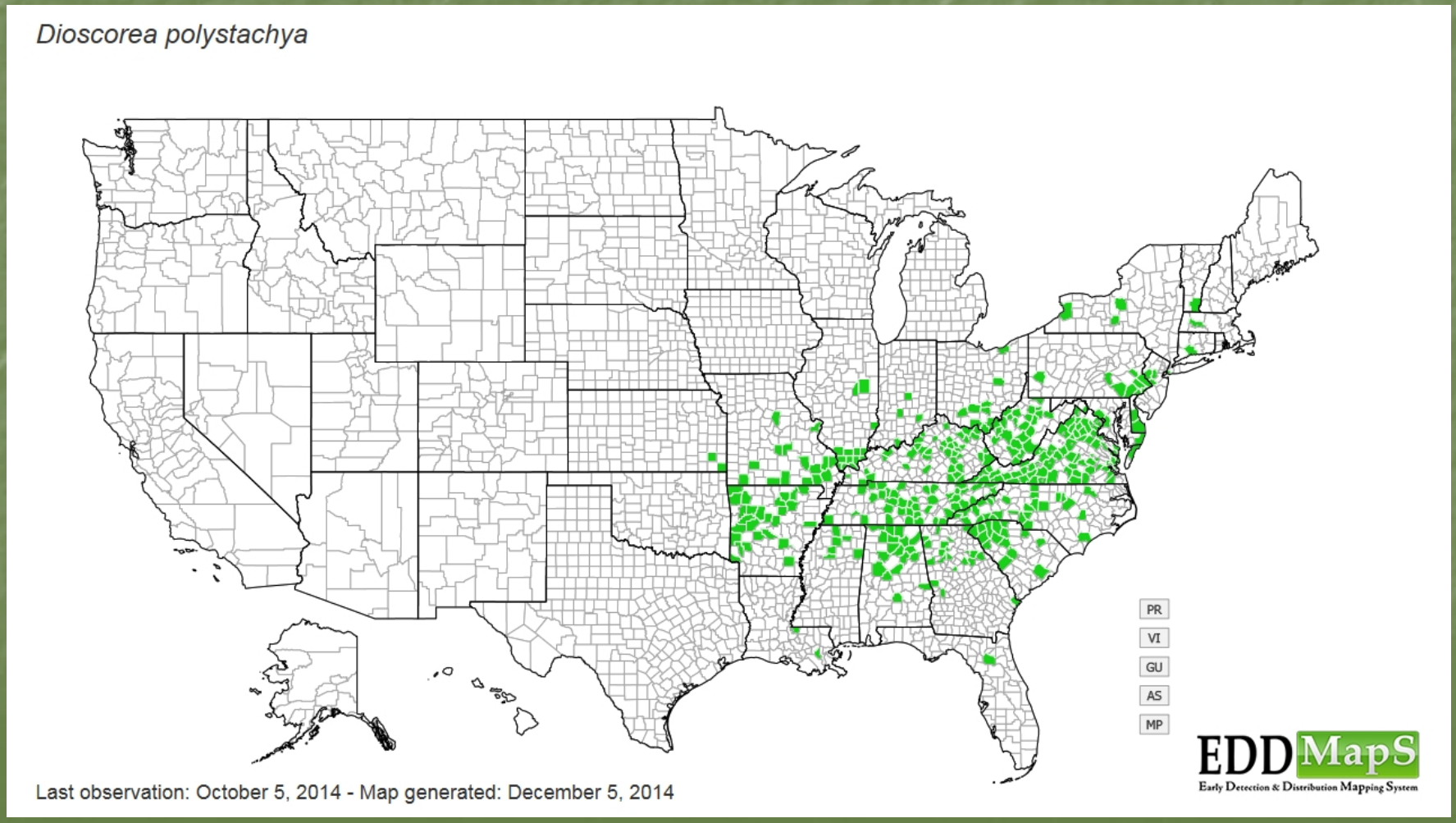


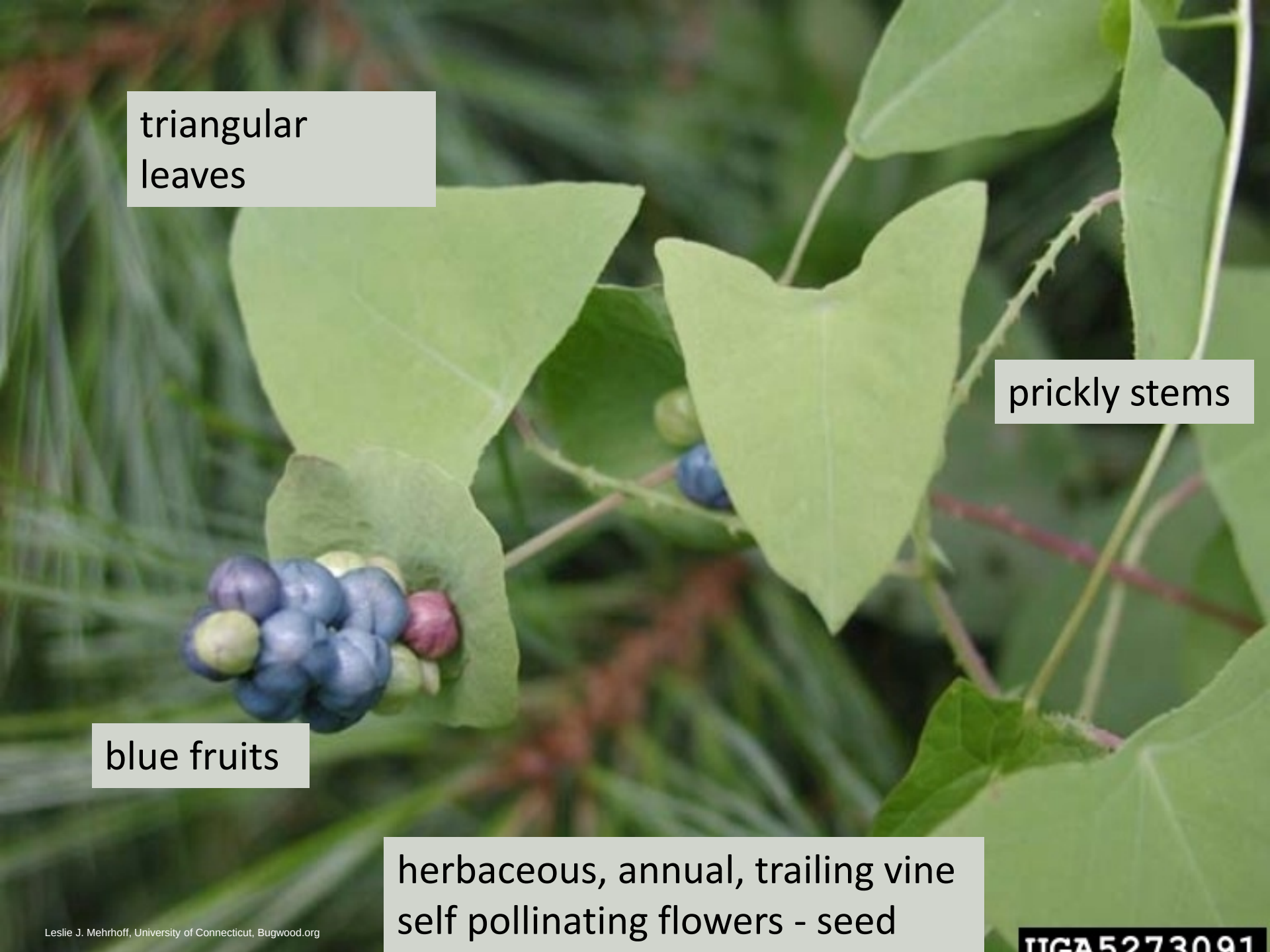
Bulbils (aerial tubers)



native wild yam

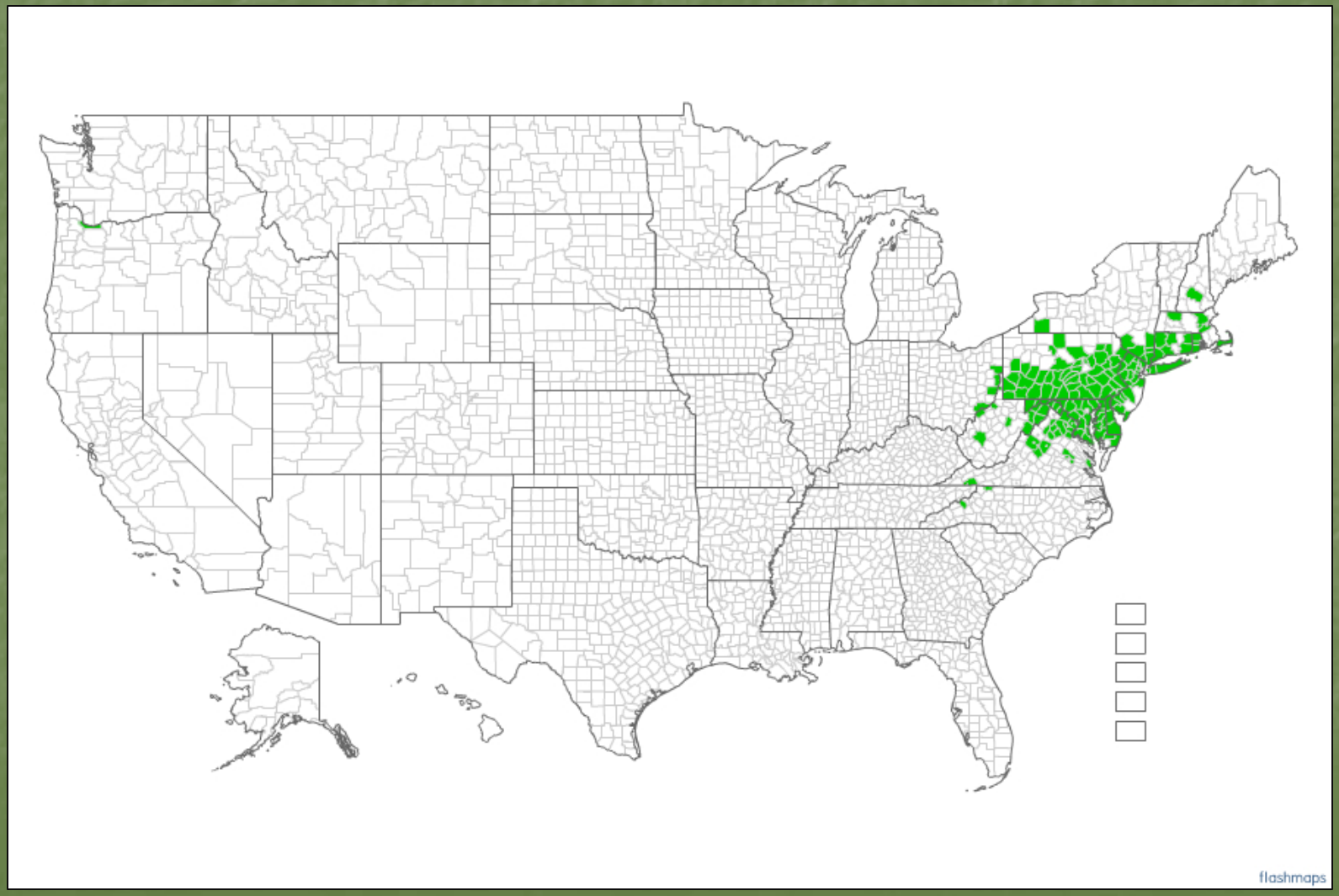
Chinese yam
(Dioscorea polystachya)




triangular leaves
prickly stems
blue fruits
herbaceous, annual, trailing vine
self pollinating flowers - seed
Leslie J. Mehrhoff, University of Connecticut, Bugwood.org
UGA5273091

Mile-a-minute Weed

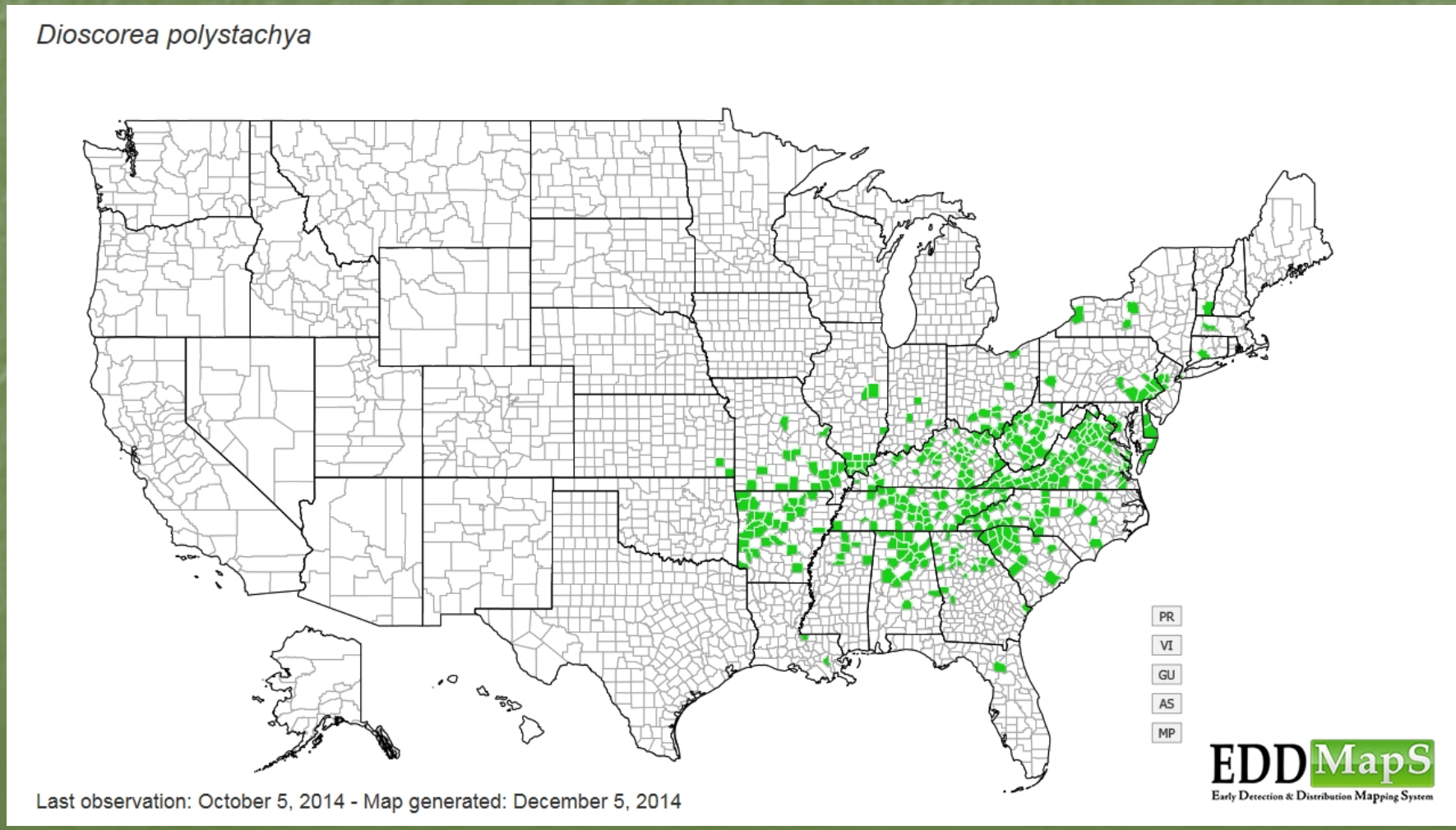
Persicaria/Polygonum perfoliatum




translucent midvein

Japanese Stiltgrass

Microstegium vimineum

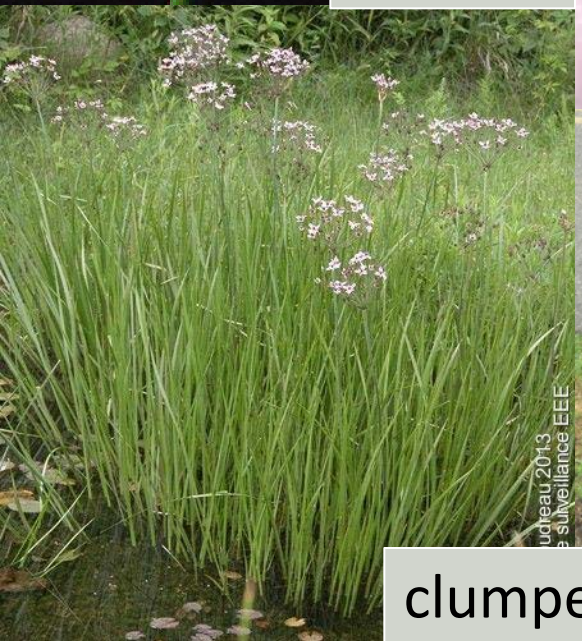


round stem

triangular leaves

curly tip

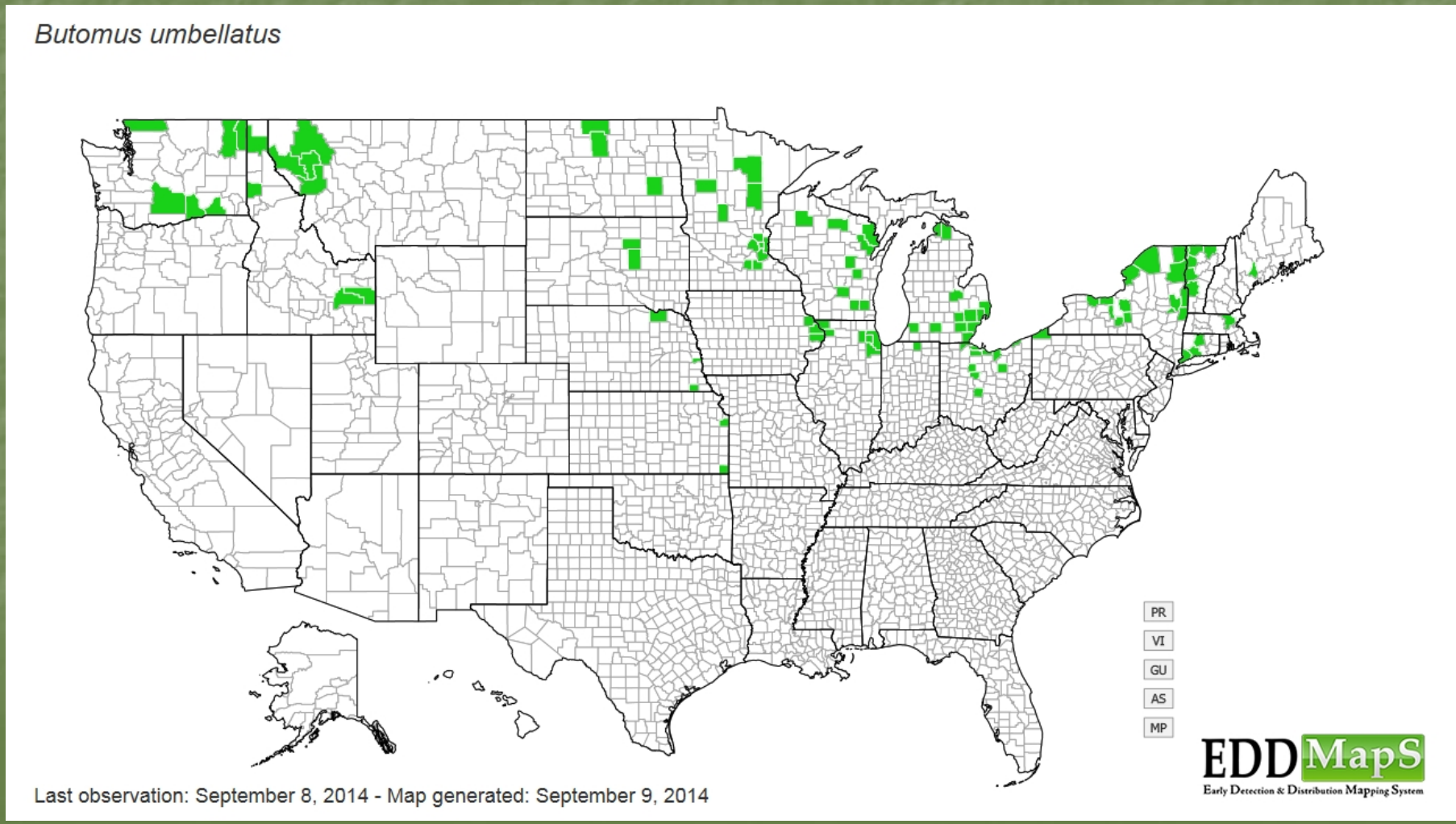
Jo Latimore



clumped

early detection!

Flowering rush
(Butomus umbellata)

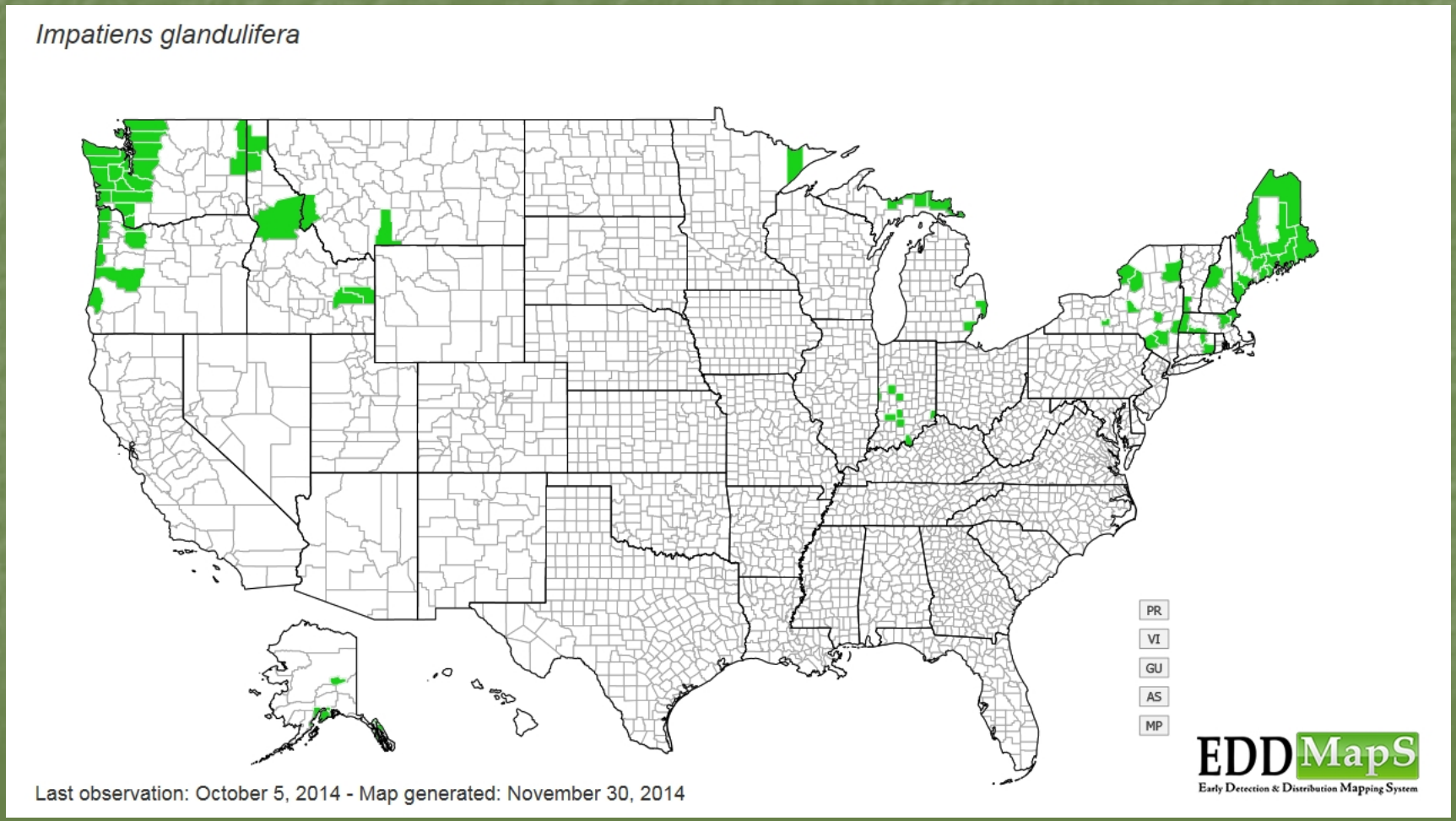


pink flowers

strongly serrated leaves

lower lvs opposite; upper lvs. whorled

Himalayan balsam
(Impatiens glandulifera)




Change the world!