



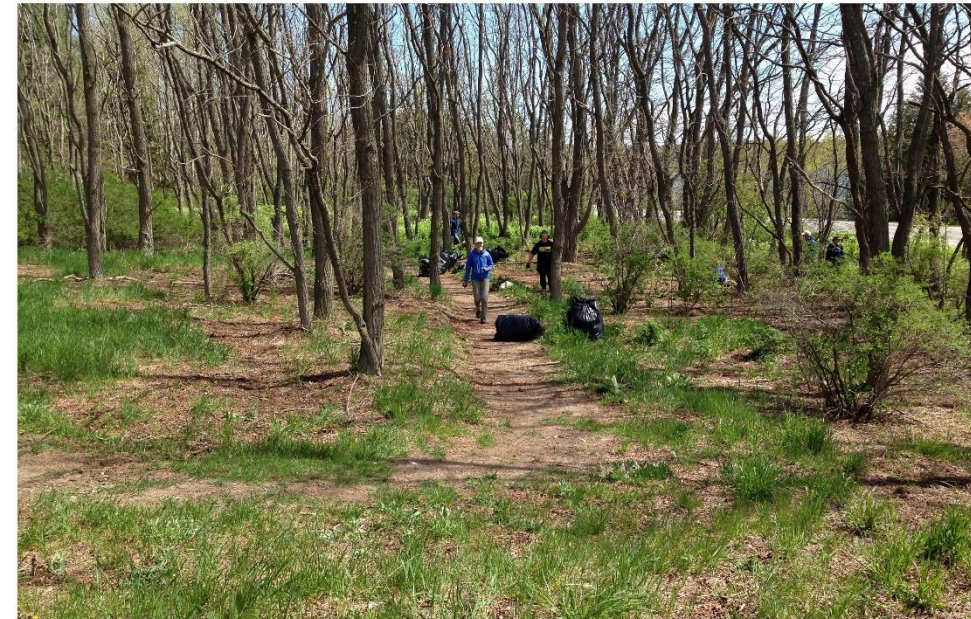
***Protecting, enhancing, and promoting  
northwest Michigan's natural communities  
through terrestrial invasive plant  
management and outreach.***

**[HabitatMatters.org](https://HabitatMatters.org)**



# ISN's History

- Founded 2005
  - NW MI CWMA
- GT Regional ISN: 2010
- Merged 2012!





# NORTHWEST MICHIGAN INVASIVE SPECIES NETWORK



- Garfield Township
- City of Frankfort
- Benzie Long Lake Assoc.
- Portage Lake Watershed Forever
- Friends of Betsie Bay
- The Nature Conservancy

## Major Partners:



**Grand Traverse  
Conservation District**



Michigan  
Natural  
Features  
Inventory



- Sleeping Bear Dunes NL
- Grand Traverse Band of Ottawa and Chippewa Indians
- Grand Traverse Audubon Club
- Little Traverse Bay Band of Odawa Indians



### Funding provided by:

Michigan Invasive Species  
Grant Program  
Gr Lks Restoration Initiative



# Mission

*Protecting, enhancing, and promoting northwest Michigan's natural communities through terrestrial invasive plant management and outreach.*

Serving Benzie, Grand Traverse, Leelanau, and Manistee counties

# ISN Goals

- 1) Raise awareness of high-priority invasive species in the region through education in order to cultivate long-term stewardship of our natural areas
- 2) Prevent introduction and spread of terrestrial invasive plants through outreach and collaboration with government officials and garden professionals
- 3) Survey region for high-priority terrestrial invasive plants to aid in effective prioritization and treatment strategies
- 4) Facilitate and assist with treatment of high-priority species on public and private land based on survey maps and prioritization strategies

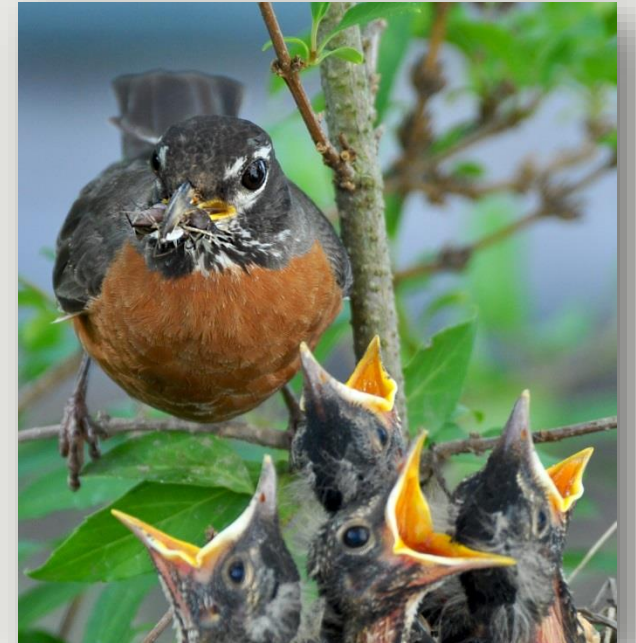
# Habitat Matters



For People



For Northwest Michigan



For Wildlife



Mike Davis

# Nature's Vast, Unseen World



Double-toothed prominent (*Nerice bidentata*) on an elm leaf.



Julie Falk

Northern spicebush swallowtail.  
Hosts:  
spicebush,  
sassafras.



Lisa Brown

Pandorus sphinx moth (*Eumorpha pandorus*) on a Virginia creeper at Kids Creek Park.

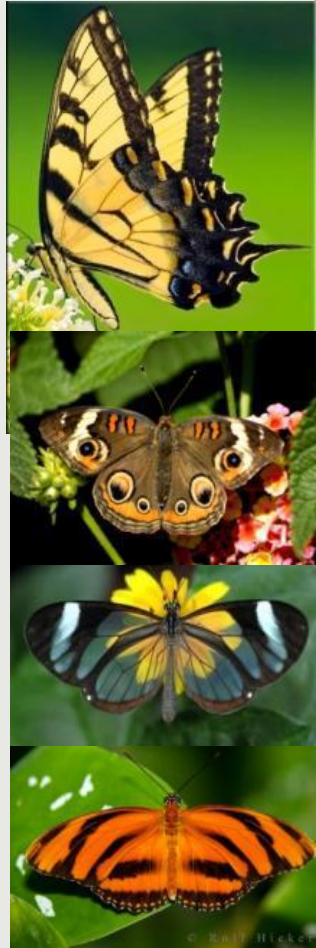


Carol Groves





# Nature's Vast, Unseen World



| Woody Plants Ranked by Ability to Support Butterfly/Moth Species |                 |                   |
|--|-----------------|-------------------|
| Common Name  | Genus           | Species Supported |
| oak  | <i>Quercus</i>  | 534               |
| willow   | <i>Salix</i>    | 456               |
| cherry, plum   | <i>Prunus</i>   | 456               |
| birch  | <i>Betula</i>   | 413               |
| elm  | <i>Ulmus</i>    | 213               |
| pine   | <i>Pinus</i>    | 203               |
| chestnut   | <i>Castanea</i> | 125               |



Source: Tallamy, Doug. [Bringing Nature Home](#). Timber Press, 2007.

# How Long Until “Non-Native” Becomes “Native?”

How long does change take?



Invasive  
Phragmites

| Hosting Capacity of Alien Plants Introduced to North America |                                  |                                       |   |
|--|----------------------------------|---------------------------------------|---|
| Plant Species  | Herbivores Supported in Homeland | Herbivores Supported in North America | Years Since Introduction to North America |
| Black sally  | 48 species                       | 1 species                             | 100                                       |
| Melaleuca tree   | 409 species                      | 8 species                             | 120                                       |
| Indian fig cactus  | 16 species                       | 0 species                             | 250                                       |
| <b>Invasive phragmites</b>                                   | <b>170 species</b>               | <b>5 species</b>                      | <b>300+</b>                               |

Source: Tallamy, Doug. [Bringing Nature Home](#). Timber Press, 2007.

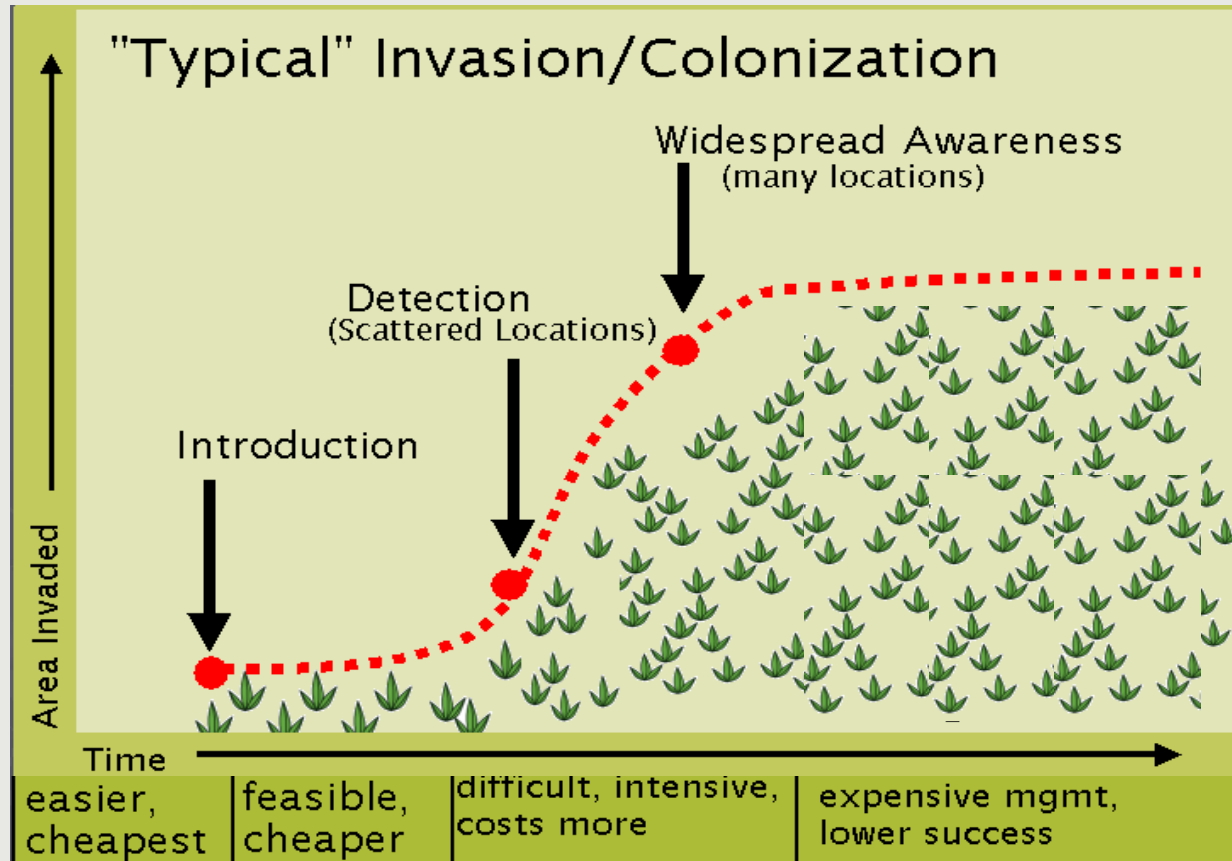
# Native vs. Non-Native vs. Invasive

- Invasive
  - Not native **AND** harms habitat/economy/humans
  - E.g. Japanese barberry, knotweeds
- Non-Native
  - “habitat neutral” (or some of both help & hurt)
  - E.g. marigolds, hosta
- Native
  - Definitely helps habitat!
  - E.g. purple coneflower, butterflyweed



# What's Invasive?

**Formal definition – a non-native species that harms people, the environment, or the economy.**



Source: Michigan Natural Features Inventory



**Environmental harm – a natural area consisting mostly of one or a combination of introduced plants that provide minimal habitat value.**

# Top 20 Least Wanted Species

- Developed by ISN Partners in October 2010
- Lists plants causing the most problems
- Half of the plants on the Top 20 still sold for landscape use

 NORTHWEST MICHIGAN  
INVASIVE SPECIES NETWORK

## TOP 20 LEAST WANTED

**SHRUBS:**

1. common buckthorn (*Rhamnus cathartica*)  
glossy buckthorn (*Frangula alnus*)  

2. honeysuckle(s)  
(*Lonicera* spp.)<sup>1</sup> can also be a vine  

3. Japanese barberry  
(*Berberis thunbergii*)  

4. multiflora rose  
(*Rosa multiflora*)  

5. Russian olive (*Elaeagnus angustifolia*)  
autumn olive (*Elaeagnus umbellata*)  


**HERBACEOUS PLANTS:**

7. baby's breath (*Gypsophila paniculata*)  

8. bull thistle (*Cirsium vulgare*)  

9. Canada thistle (*Cirsium arvense*)  

10. dame's rocket  
(*Hesperis matronalis*)  

11. European swamp thistle  
(*Cirsium palustre*)  

12. garlic mustard  
(*Alliaria petiolata*)  

13. Japanese knotweed (*Polygonum cuspidatum*)  
giant knotweed (*P. sachalinense*)  

14. leafy spurge (*Euphorbia esula*)  

15. lyme grass (*Leymus arenarius*)  

16. narrow-leaved cattail (*Typha angustifolia*)  

17. phragmites (*Phragmites australis*)  

18. purple loosestrife (*Lythrum salicaria*)  

19. reed canary grass (*Phalaris arundinacea*)  

20. wild parsnip (*Pastinaca sativa*)  


**WOODY VINE:**

6. oriental bittersweet (*Celastrus orbiculatus*)  


# Focus 4: Japanese knotweed

*Polygonum cuspidatum* (*Fallopia japonica*)



Buyabetterhome.co.uk

## Goals:

- Survey
- Develop effective regional treatment strategy
- Treat outlier populations

Traditional uses: food, medicine.

## Notes:

- Native to Asia
  - Colonizes areas after lava flow
- Introduced as ornamental
- **Illegal in Michigan**

## Problems:

- Displaces natives
- Difficult to control
  - Disposal problems
- Property damage



Randy Westrbooks, USGS

5331054



Bradley Kriekhaus, USFS

# Focus 4: Garlic Mustard

*Alliaria petiolata*

## Goals for ISN:

- Control in natural areas
- Educate public & encourage private land removal



## Notes:

- Native to Eurasia

## Problems:

- Displaces natives
- Competes with tree seedlings
- Unpalatable to most native herbivores

## Disposal Options:

- Find a use
- Trash
- Tarping

**Traditional uses:** food, papermaking, animal feed

# Focus 4: Invasive *Phragmites*

*Phragmites australis*

## Goals:

- Surveying
- Control populations
- Engage landowner groups & municipalities

### Traditional uses:

natural building, bioremediation

## Notes:

- Native to Europe

## Problems:

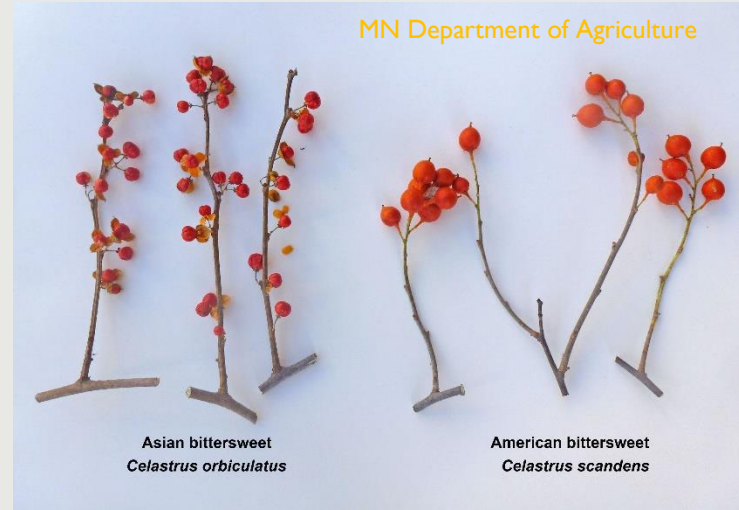
- Displaces native plants
- Decreased property values
- Increased fire risk





# Focus 4: Oriental bittersweet

*Celastrus orbiculatus*



## Goals:

- Survey
- Treat in natural areas

**Traditional uses:** native and introduced versions both used in fall crafts

## Notes:

- Native to Asia
- Brought as ornamental

## Problems:

- Out-competes native American bittersweet
- Shades out trees it climbs on



# Current Programs

- **Go Beyond Beauty**—a voluntary program to remove invasive ornamentals from local nurseries' and landscapers' inventories
- **Workbees**—focused on garlic mustard, baby's breath, shrubs
- **Control**—high-priority species in high-quality habitats
  - Japanese knotweed, Oriental bittersweet, garlic mustard, invasive Phragmites
  - Early Detection species
- **Outreach**—presentations
  - On the value of habitat, threat of invasives
  - Local governments, garden clubs, Road Commissions, sportsmen's clubs, schools, etc.

[www.HabitatMatters.org](http://www.HabitatMatters.org)



**SOUTHERN BLUE FLAG IRIS**  
(*Iris virginica*)

**NORTHWEST MICHIGAN INVASIVE SPECIES NETWORK**  
Protecting, enhancing, and promoting Northwest Michigan's natural communities through terrestrial invasive plant management and outreach.

**Key Features:**

- Mass Effect**  
Although dramatic in the landscape, may be challenging to maintain optimum wet conditions.
- Foliage**  
Sword-like leaves add kinetic interest. Iris is used to make dyes and perfumes.
- Visitors to Explore**  
Hosts the caterpillar of this agreeable tiger moth, as well as those of the beautiful Virginia ctenucha moth.

**Is southern blue flag iris right for your garden?**

☀️ 💧/💧/💧/💧/💧 1-3 ft tall June 🌱 🐛

To learn more about how you can help protect our wild places, visit [HabitatMatters.org](http://HabitatMatters.org)



**PLAN BEFORE YOU PLANT:**  
Native Alternatives to Invasive Ornamentals

Northwest Michigan Invasive Species Network



# Get Involved

- Report ([MISIN.msu.edu](http://MISIN.msu.edu))
- Stop the Spread
  - Clean trails & waters
  - Don't plant invasive ornamentals
- Spread the word
  - Planting Guide
  - Community involvement
- Volunteer
  - [HabitatMatters.org](http://HabitatMatters.org) for upcoming volunteer & recreational events



**Clean Boots,  
Vibrant Trails,  
More Wildlife.**

It is not the mud, but tiny seeds that cause concern. Seeds of invasive plants often travel in the treads and laces of footwear, pant cuffs, hiking gear, and on pet fur. Invasive plants displace native plants that are critical to wildlife, especially to butterflies and birds. Once established, they are costly to remove.

**Clean your boots, pants, packs, and pets before hitting the trail. Help keep natural areas vibrant for future discovery.** To learn more, visit [HabitatMatters.org](http://HabitatMatters.org).

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**Native Plants are Habitat**  
Wildlife like birds and butterflies need the right plants. Most songbirds feed insects to their nestlings, and those insects in turn depend on specific host plants. A healthy diversity of native plants means more to discover while out exploring on the trail.



Northern spicebush is one of just a few host plants for the caterpillar of the spicebush swallowtail butterfly.



More native plants mean more of the insects that songbirds need to thrive.

# Steering Committee Updates



# MISIN

[www.misin.msu.edu](http://www.misin.msu.edu)

- Data Submission
- Identification resources
  - I pg (Species Information)
  - Training modules (Tools>>Training Modules)
- Treatment Tracking



# Grants Update

- Fully funded through October
  - EPA GLRI
  - USFS GLRI
  - MISGP2
  - TART contract
- Submitted Grants
  - EPA GLRI
  - USFS GLRI
- Upcoming Grants
  - Rotary
  - MISGP



# Hiring

- Seasonal Survey Technicians (2)



# Go Beyond Beauty



- **Program expansion underway**
  - Now open to anyone with an interest in creating a garden space with no high-priority invasives
  - New signs and outreach material have been created – free to Go Beyond Beauty participants
- **Spring Meeting – Thursday, April 6 – 2:00-4:00pm**
  - Overview of all new programming
  - Signage dispersal
- **Trade-up/ “Dumpster Day” – Saturday, May 13 – 10:00am-2:00pm**
  - Japanese barberry disposal event
  - Landowners bring plants to ISN and in exchange, receive a discount
  - Registration to open soon
  - Focus on tick-barberry connection



# Japanese Barberry and Ticks

- **Plants create perfect, humid environment**
  - Favored by blacklegged ticks and the white-footed mouse (primary vector)
- **Research (based in Connecticut)**
  - Numbers reflect ticks carrying Lyme disease in a one acre sample
  - Original study – *Environmental Entomology*
    - Unmanipulated, dense barberry stands → 120
    - Controlled barberry → 40
    - Areas absent of barberry → 10
- **Environmental AND public health concerns**



**BREAK!**

# Municipality Outreach



# Bootbrushes

- ~\$300 each (printing & materials, not installation)
- Cost-share!
  - Sign is developed, or you can use your own
    - Must have ISN & GLRI branding on it (& approval)



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Northern spicebush is one of just a few host plants for the caterpillar of the spicebush swallowtail butterfly.



More native plants mean more of the insects that songbirds need to thrive.

**Must install ~100 in ISN's service area before October!**

Email Katie by **April 30** with number wanted & whether you will use our sign or your own

# Restoration

- Just under \$20,000 of restoration funds for cost-share
- Areas of previous treatment OR areas at high risk of invasion a “plus”
  - Preferably generally high-quality, just needs “help”
  - Contract work & species purchase eligible



**Must restore 30 acres in ISN’s service area before October!**

Email Fields **by Mar 31** with site info, min & max funding requested, and acres to be restored.

# Treatment Plans

- Expanded “large-scale” treatment
  - Manistee knotweed
  - Manistee, Arcadia, & Betsie *Phragmites*
  - Elberta Baby’s breath
- Continued targeted treatment
  - Cost-share implementation

**For example, if a site treatment requires two hours of labor and a landowner has agreed to 50% cost-share:**

$$2\text{hrs} \times \$80.00/\text{hr} = \$160.00$$

$$\$160.00 \times 50\%$$

**Total Cost to Landowner: \$80.00**

**If the treatment took 30 minutes or less with a 50% cost share:**

Minimum charge of \$40.00

$$\$40.00 \times 50\%$$

**Total Cost to Landowner: \$20.00**

# Field Season—Crews

- Survey Crew
  - Email/phone suggestions
  - GoogleDoc
- “Check-out” Crew
  - Likely doesn’t exist? ☹️
    - Proposal out to EPA GLRI includes crew
      - March 2017: notify finalists (“tentative”)



# 2017 Workbees and Other Events

- **Garlic Mustard**

- Manistee – May 12<sup>th</sup> at Magoon Creek Natural Area
- Grand Traverse – May 13<sup>th</sup> at Boardman River Nature Center
- Benzie – May 19<sup>th</sup> at Tank Hill
- Leelanau – May 20<sup>th</sup> at Clay Cliffs Natural Area

- **Invasive Species Papermaking** – May 13<sup>th</sup> at Boardman River Nature Center

- **GPS & ID Training Day** – June 5 all day; open to partners (not public)

- **Baby's Breath**

- May 25<sup>th</sup>
- June 1<sup>st</sup>
- June 17<sup>th</sup>
- July 6<sup>th</sup>
- July 15<sup>th</sup>
- August 3<sup>rd</sup>

- All events are held on Elberta Beach in Benzie County → 9:00am-noon

- **Japanese Knotweed Community Training** – June 3<sup>rd</sup>, Manistee County

- **Landing Blitz (Clean Boats, Clean Waters)** – July 1<sup>st</sup>, Benzie County

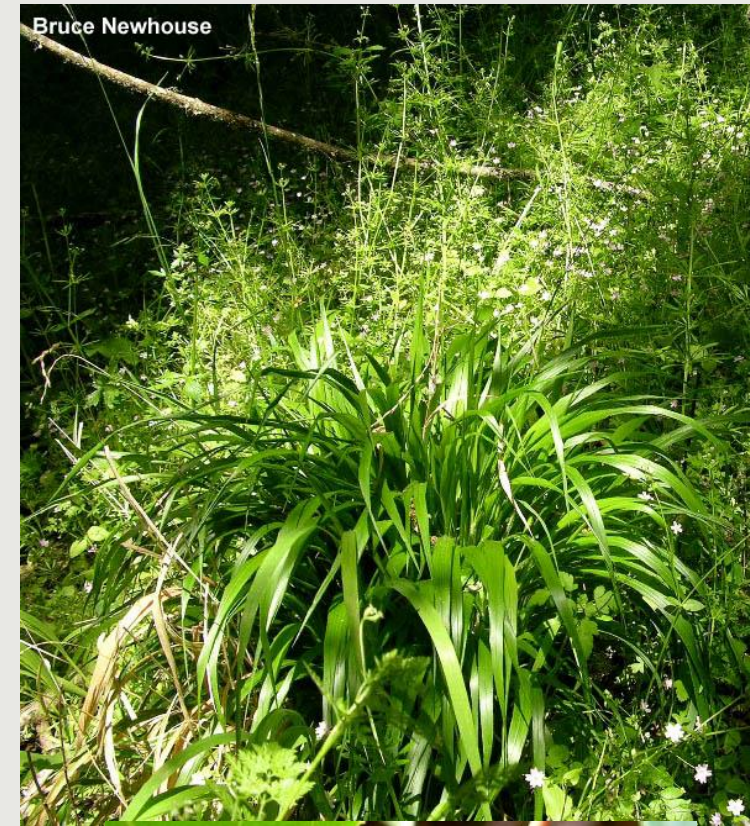


# GPS Unit Calibration



# Michigan Invasive Species Coalition Updates

- Core Team meeting 3/6
  - Updating “workplan” for 2017—utilizing Strategic Plan
    - Internal & external communication, Structure/Function
  - Annual Meeting Update
  - Funding Survey Update
  - New Invasives—False brome, hardy kiwi (keep an eye out)
- MISIN Treatment Tracking
- Forum! [Forum.MichiganInvasives.org](http://Forum.MichiganInvasives.org)



# Great Lakes Watershed Field Course

Inland Seas is bringing in 30 teachers from all over the Great Lakes watershed to help them bring ecological topics to schools! ISN will help.

- Major Topics:
  - Invasive Species
  - Habitat Restoration
  - Nutrient Runoff
- Brainstorming:
  - Field trip sites
    - IS control
    - Restoration
    - Places that “need something” to inspire teachers!

# Partner Updates!

2 minutes each, please

