Status of Invasive Plant Management In Michigan’s Upper Peninsula:

Are We Making an Impact?
Why should we care?
History
Overall progress - Trends
Measuring progress - Garlic Mustard
A future technique to measure progress: Crowd-sourced photo monitoring
Important Things to Remember
Knotweed management efforts by WRISC (Emily)
Why Should we Care?
Here’s One Reason
History of Invasive Plant Management
In the U.P.
1991-Present
1991 - First manual removal of invasive plants on the Hiawatha NF – Big Island Lake Wilderness
1996 - Invasive plant removal begins on Grand Island
1999 – Glossy buckthorn is mapped at Seney NWR
2001 – First invasive plant management efforts at Seney NWR; MDNR and MDOT begin spot treatments of GM at Cut River Bridge
2002 – Earliest activities to manage GM and other invasive plants in the Western UP on the Ottawa NF
2003 - Mapping of invasive plants in the western UP by GLIFWC
2005 - First NRCS funding of herbicide treatments for buckthorn in Iron County
2005-07 – “Pulling It Together”, grant funded project by Marquette CD and partners
History of Invasive Plant Management in the UP

- 2006 – Formation of first CWMA in the UP (Western Peninsula Invasives Coalition, WePIC)
- 2007 - UPRC&D begins writing grant proposals to obtain funding for invasive plant management
- 2008 – Start-up of two more CWMAs in the UP (CUPCWMA and WRISC)
- 2010 – Beginning of RRIP-IT-UP; EUPCWMA is formed
- 2011 – Formation of KISMA. UP now has complete coverage by CWMAs
- 2012 – Start-up of project for UP-wide Garlic Mustard Removal
- 2013 – Start-up of UP-wide Phragmites project/2nd year for Garlic Mustard project
- 2014 – 2nd year for Phragmites project
Overall Progress - Trends

- Few people involved -> Many people involved
- No CWMAs -> Full coverage
- Few groups involved -> Many groups involved
- Few citizens knowledgeable -> Many more are knowledgeable
- Few sites found -> Many more sites found

Is this having an impact on invasive plant populations?
Increase in Organizations Involved: Number of Partners in CWMAs

Wild Rivers – 23
CUPCWMA – 17
EUPCWMA – 19
KISMA – 22
WePIC – 39

TOTAL - 108
“In areas of high use, there are some positive changes. There has been a reduction in the size of the total area and the density of garlic mustard present. In our monitoring plots, what used to be pure monocultures of garlic mustard now have trout lilies, bracken fern, even trilliums in them. We can see progress.”

---Nick Cassel, EUPCWMA Coordinator
Is this what progress looks like?
Garlic Mustard Project in the UP
Final Results 2012-13

- Conducted hand-pulling and herbicide treatments on 478 acres
- More than 60 organizations, agencies, and other groups participated in detection, mapping and control efforts
- 22 press releases published and 79 educational events were conducted
- More than 1,100 students and adults were trained to recognize and control GM
At least 22,000 residents were contacted by Conservation Districts and partners through:

- Newsletter articles
- Displays at county fairs and farmers markets
- University, tribal and watershed events
- Websites
- Facebook pages
- Garlic mustard posters at campsites, parks and trailheads
- Garlic mustard doorhangers placed on doors in neighborhoods where GM was discovered
Reductions in Garlic Mustard, Houghton County

Garlic Mustard Treatment @
26115 Allouez Street, Baraga County

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<th>Gallons Pulled</th>
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Garlic Mustard Treatment @
Laurium Yard Waste Dump

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Sites Showing Reduction in Garlic Mustard, Houghton County

Total Number of Sites Reported = 18
Sites Showing Reduction = 15
Sites Showing an Increase = 3
“It seems if a site is small enough, and IF the landowner is vigilant year after year...then those spots will have garlic mustard eradicated...Some places seem to have garlic mustard gone according to landowners. I think there was progress made in the sense that more people recognize garlic mustard and a few places are GM-free now.” ---Janet Marr, former KISMA Coordinator
RRIP-IT-UP Garlic Mustard Monitoring Form

Name: AL TG MAN 051

Location - Center of Monitoring Plot (decimal degrees):

Latitude: N 46.075131°
Longitude: W 85.95500°

Pre-Treatment Monitoring - Spring 2012
Date: 5-18-12 Initial: JG
Percent Cover of Garlic Mustard: 95%
Comments: Both 2nd year plants were still present. Messed by roadside pull

Post-Treatment Monitoring - Fall 2012
Date: 10-19-12 Initial: JG
Percent Cover of Garlic Mustard: 65%
Comments: Some 2nd year plants were still present. Messed by roadside pull

Pre-Treatment Monitoring - Spring 2013
Date: 5-15-13 Initial: JG
Percent Cover of Garlic Mustard: 55%
Comments: Smaller plants; very plentiful 1st years

Post-Treatment Monitoring - Fall 2013
Date: 10-15-13 Initial: JG
Percent Cover of Garlic Mustard: 16%
Comments: Mostly first years, few second year present as well

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* Not applicable unless you have conducted & recorded treatment at this location prior to 2013
Are we making progress?
Alger County – Monitoring Plot #010

May 19, 2012 – [Pictured at right] 95% Garlic Mustard Cover

May 25, 2013 – 50% Garlic Mustard Cover – Notes: Good amount of native plants. *No photo available.*

May 20, 2014 – 2% Garlic Mustard Cover. Notes: *Almost no GM!* – *No photo available.*
Data Collection – Current Limitations

Problems with data/data collection:

a) 2 or 3 years is not enough
b) Data incomplete or inconsistent at times (“Gallons Pulled”- based on different sizes of bags)
c) Weather makes it hard to compare from year to year
d) Not enough time to complete data sheets
Crowd-sourced Photo Monitoring

Monitor environmental and social change using iPhones, photo-stitching, and time lapse
What do you need? A camera phone and a stout piece of bent steel.

The angled steel is firmly mounted to provide a consistent height, angle and direction from which to shoot images using nearly any camera.

When collected together, photo-stitching software aligns and pieces together images to show changes over time.

Check it out: http://monitorchange.org/
The next time you write a grant proposal, consider including crowd-sourced photo monitoring as a tactic for long-term evaluation.
Is this what progress looks like?

PHRAGMITES - 2013

PHRAGMITES - 2014
Important Things to Remember

- We are just getting started
- Education is the key
- Pick your battles
- Take more photos: Before and After
- “Longevity, consistency, eyes on the ground”

Don’t give up!
“Too often I have noticed that the reaction time to begin control is much too long. By the time efforts are put forth, the problem has often magnified to a point that little can be done. I think that we need to get a better handle on what is more than likely coming, and how to best involve the public in any detection and control efforts.” ---Bob Kahl, Volunteer Extraordinaire
The Ultimate Goal
Thanks to the following people for their time, information and photos:

Christy Burkhart  
Nick Cassel  
Darcy Rutkowski  
Ann Hruska  
Ian Shackleford  
Danielle Miller  
Misa Cady  
Teri Grout  
Janet Marr  
Deb LeBlanc  
Wally Brinkmann  
Emily Anderson  
Tom Berndt  
Tom Tauzer