Controlling Knotweed in the Bayfield Peninsula

Northwoods Cooperative Weed Management Area

Working Together to Protect Northern Wisconsin From Invasive Species


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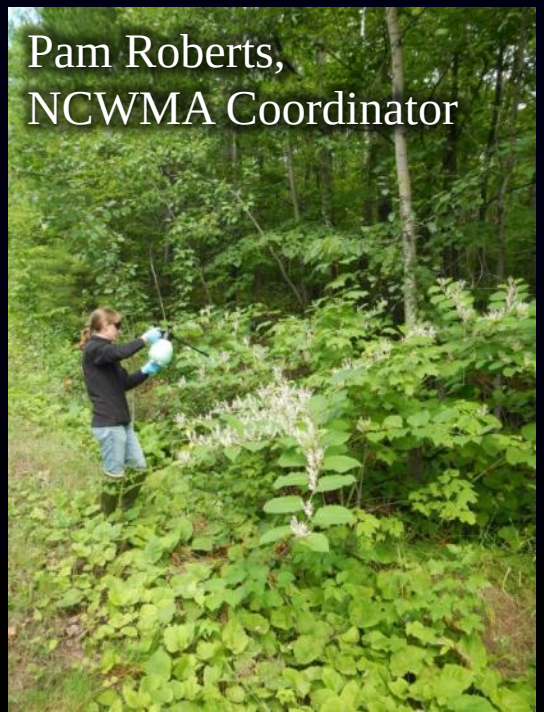

Pam Roberts,
NCWMA Coordinator


Jane Swenson,
Professional knotweed hater

Main Project Area: Bayfield County, WI

(Northwoods CWMA covers Douglas, Bayfield, Ashland, and Iron Counties)




Places worth protecting!

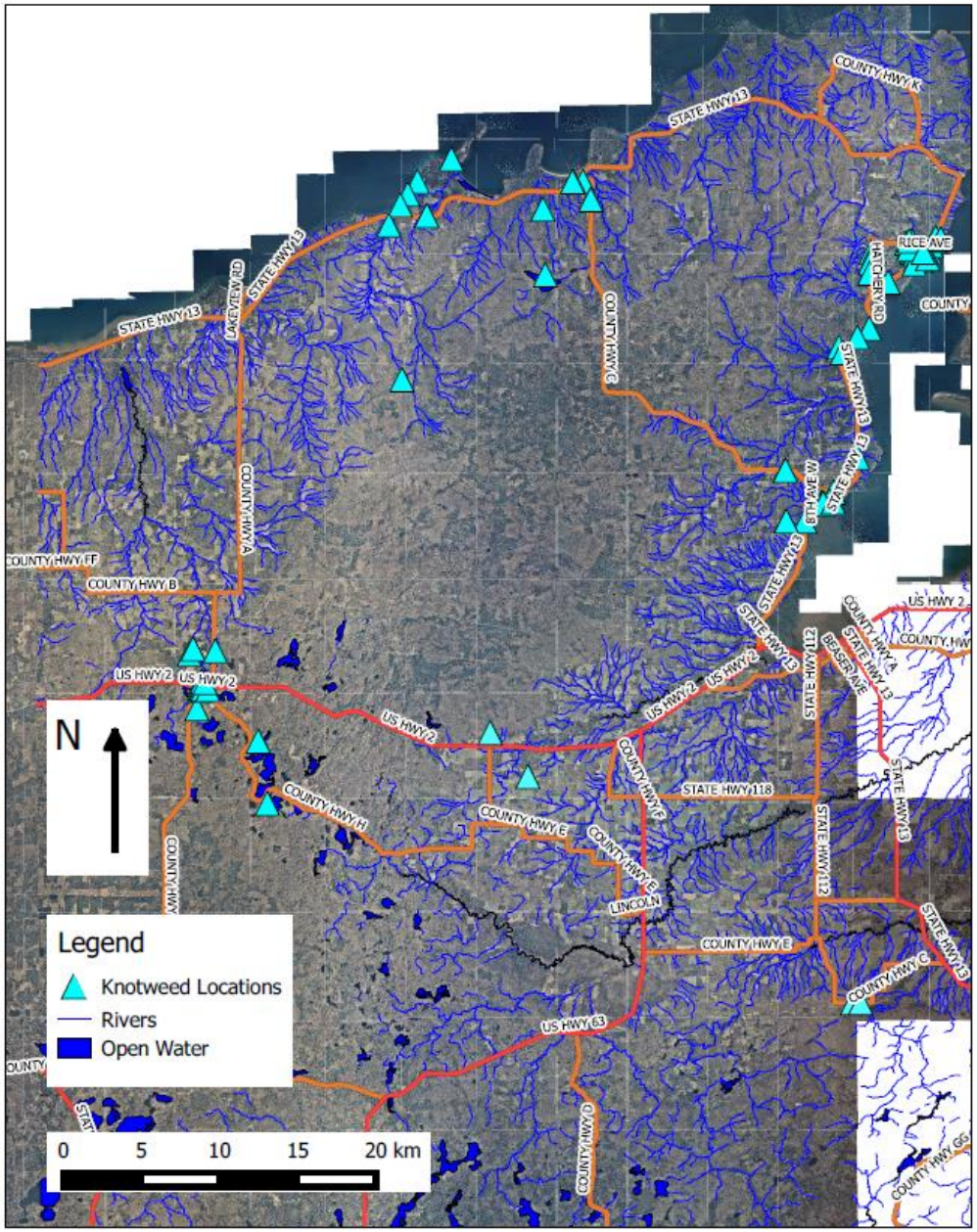
- State natural areas, wildlife areas, and fisheries areas
- Wilderness areas
- Apostle Islands National Lakeshore
- Tribal National Park
- Chequamegon-Nicolet National Forest
- North Country National Scenic Trail
- National wildlife refuges
- Ramsar Wetland of International Importance
- Lake Superior coastal wetlands an estuaries
- Wetland Gems
- National Wild and Scenic Rivers
- Priority Navigable Waters, Public Rights Features and Areas of Special Natural Resources Interest



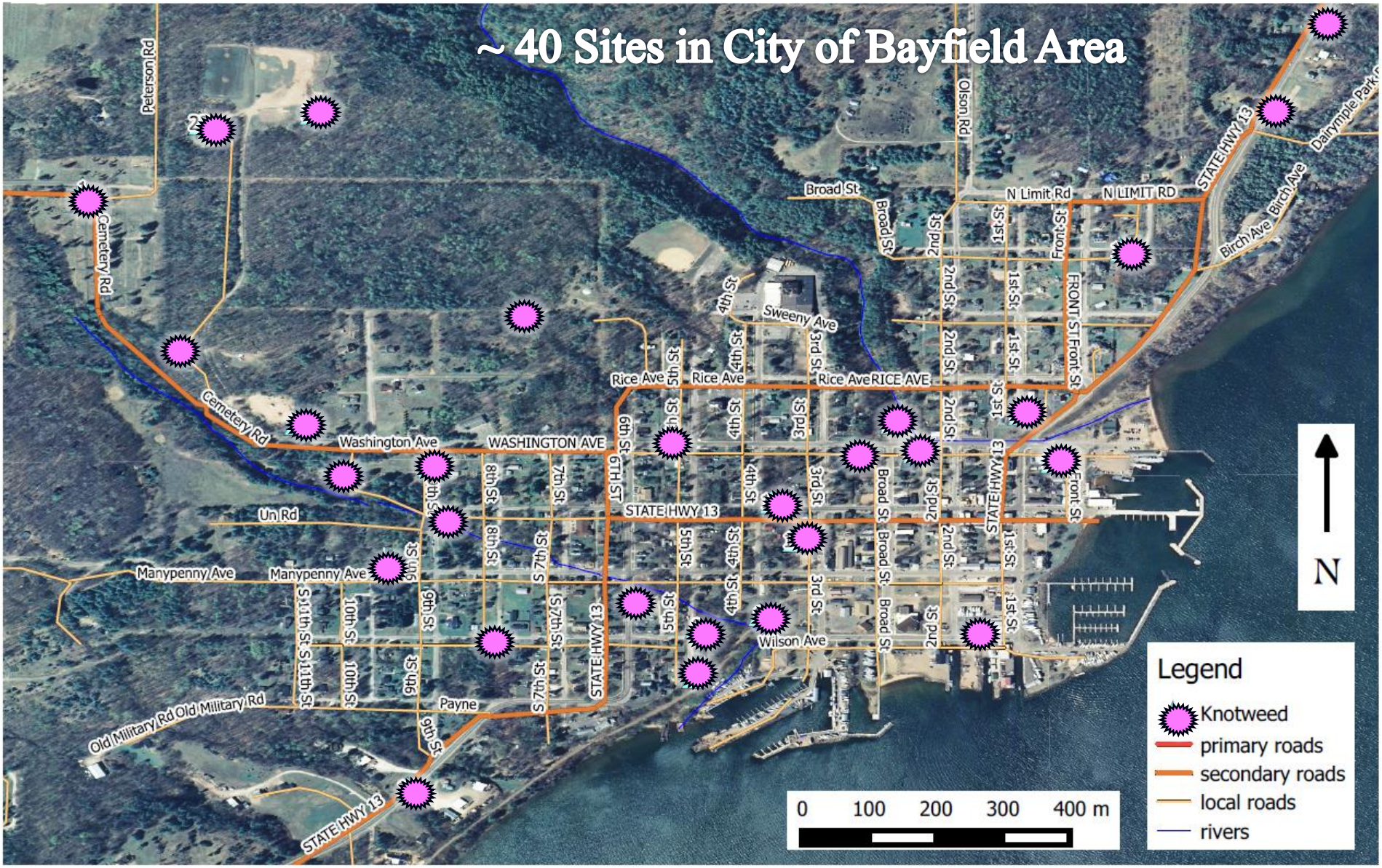
We have Japanese, Giant, Dwarf Japanese, and likely Bohemian Knotweed

Bohemian or other?

Bayfield County Knotweed
NCWMA Sites 2014



City of Bayfield Knotweed 2014



Tracking the knotweed sites

Most notifications done via email then the data is recorded into the tracker

Spreadsheet includes:

- **Landowner information**
- **Permission expiration date**
- **Location/GPS coordinates**
- **Treatment method**
- **Herbicide used**
- **Gallons applied**
- **Specimen collected Y/N**

- *Other pertinent information*
  - Area of infestation/current status
  - Misc. notes
  - Persons involved
  - Surfactant used
  - Equipment used
  - Date and time
  - Species
  - How mixed
  - Sign placed Y/N
  - Weather

Knotweed Tracker contributed to by NCWMA partners and then shared

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Site #	Giant/Japanese	County	Town/City	Location (landmark, intersection)	Landowner	LO contact info	Waypoint	Lat/long or TRS	Original Area of infestation and Current Status	Treatment/cutting	Notes	Permission Form Y/N
2	1	Japanese	Bayfield	City of Bayfield	Evergreen Cemetary			043	N46°49'02.0" W090°49'58.6"	A few plants. 6-6-14 visit: 10x10 ft, sparse	6-25-14: Cut all; left some reference plants.		
3	19	Japanese	Bayfield	City of Bayfield	Soccer Fields	City of Bayfield		045	N46°49'07.4" W090°49'42.5"	Large patch near where you drive in... also along the road driven to the site. 6-6-14 visit: 25x25 Most dead, new plants to the north in ravine.	6-10-14: Cut all		Yes - Expire Aug 2019
4	2	Japanese	Bayfield	City of Bayfield	Sand/gravel Pit	City of Bayfield		046	N46°48'45.5" W090°49'43.6"	Just a few plants on the opposite side of where you enter. 6-6-14 visit: Few plants on road 40 yards east of entrance.	6-10-14: Cut all	Some garlic mustard nearby. 6-17-14: didn't see garlic	Yes - Expire Aug 2019

Northwoods Cooperative Weed Management Area (NCWMA)
Landowner Permission Form for Weed Treatment

Please fill out this section and sign at the bottom:

Landowner name(s):_____

Mailing address:_____

Property location(s):_____

_____

Daytime telephone:_____

Email address:_____

Tenant name (if applicable):_____

Tenant telephone:_____

Comments or special instructions regarding access to your property (steep slopes, animals, gates, fences, etc.):

_____

_____

_____

_____

_____

The purpose of this document is to:

1. Authorize the members of the NCWMA or its contractor(s) to enter or cross the private property at times agreeable to the landowner for treatment of targeted weed species.
2. Members of the NCWMA will conduct treatment of targeted weed species using best management practices. These may include mechanical and chemical methods. Herbicide treatment will be handled by trained individuals.
3. The NCWMA and its members agree to hold landowners harmless for all claims, suits, or actions whatsoever resulting from this cooperative agreement and to absolve landowners from all liabilities related to actions conducted by the NCWMA.
4. The landowner grants permission for 5 years or until formally revoked, either orally or in writing. Permission is also granted for project monitoring by the NCWMA and its members.
5. This agreement shall be effective upon the signature of all the parties listed below.

_____	_____	_____
Printed name of cooperating landowner	Signature of cooperating landowner	Date
_____	_____	_____
Printed name of NCWMA representative	Signature of NCWMA representative	Date

KNOTWEED KNOCKOUT CONTROL DATA SHEET
NCWMA 2014

DATE: _____

Site Information

Town:_____ Site No. _____

Only necessary for new sites or updates

Landowner:_____ Contact Info:_____

GPS WP: _____ Lat/Long:_____ _____

Species: Giant Japanese Bohemian Other:_____

Area of Infestation (Sq ft **and** site description): _____

_____

Voucher Specimen Collected? Yes No Sign Placed? Yes No

Control Information

For Milestone do not apply more than 0.6 gallons/1,000 sq ft (mixed at .5 oz/gal for 14oz/acre)

Initials of those involved: _____

Area Treated (Ft): ____ x ____ ____ x ____ ____ x ____ ____ x ____

Gallons applied: _____ _____ _____ _____

Method of Control: FOLIAR or Other:_____

Time:_____

Herbicide:_____ Concentration: _____ mL/gal or oz/gal

Surfactant: _____ Concentration: _____ mL/gal or oz/gal

How Mixed: PRE-MIX or IN-SPRAYER

Equipment used: BACKPACK or Other:_____

Weather and Site Conditions (temp, windspeed, precipitation, cloud cover, etc.)

At time of treatment: _____

Next 12 hours: _____

Other Notes/Observations: _____

Draw map on back of sheet

Specimen Label

Dow AgroSciences™

Milestone™

Specialty Herbicide

™Trademark of Dow AgroSciences LLC

- **For control of susceptible broadleaf weeds, including invasive and noxious weeds, on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, non-cropland areas (such as roadsides), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.**

GROUP	4	HERBICIDE

Active Ingredient:	
aminopyralid: 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-2-pyridinecarboxylic acid, triisopropanolammonium salt of aminopyralid.....	40.6%
Inert Ingredients	59.4%

Keep Out of Reach of Children

CAUTION

Precautionary Statements

Hazard to Humans and Domestic Animals

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Amount of Milestone per 1000 sq ft to Equal Broadcast Rate		
Broadcast Rate (fl oz/acre)	Amount of Milestone per 1000 sq ft	
	(fl oz)	(Milliliters)
3	0.069	2
5	0.115	3.4
7	0.161	4.8

Spot Application: Spot treatments may be applied at rates equivalent to broadcast-applied rate of up to a maximum of 7 fl oz per acre per annual growing season. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage. Use of a high quality non-ionic agricultural surfactant may be added to the spray mixture as recommended by the surfactant manufacturer. Repeat treatments may be made, but the total amount of Milestone applied must not exceed 7 fl oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated boom, boomless spray system, hand-held, or backpack sprayers.

Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb active ingredient (14 fl oz of Milestone) per acre per annual growing season; however, not more than 50% of an acre may be treated. Do not apply more than a total of 0.11 lb active ingredient (7 fl oz per acre of Milestone) per annual growing season as a result of broadcast, spot or repeat applications.


ADJUSTABLE WINDOW SCREENS
R250WB-S
Ridge Light


This is Giant Knotweed
It looks cool, but it's bad!
So What's the Problem?
What is being done?

Treatment methods

Methods Employed

- Cut stump with triclopyr – unsuccessful*
- Foliar with aminopyralid – about 75%-100% control *
- Late July mowing/cutting with aminopyralid foliar treatment in September (tested at 1 Site) – 75% control 1st year, 50% control 2nd year *
- Cut stump glyphosate/aminopyralid – 50%-60% control*
- Dip shear method with glyphosate – To Be Determined

*percent control based on general field observations

Other methods

- Stem injection
- Scraped stem
- Two Cuttings/season then herbicide

The knotweed killer mix

½ oz. per gallon Milestone (aminopyralid)

½ oz. per gallon of surfactant (we use Liberate or Cide Kick II)

Blazon blue dye

Applied as a foliar spray

Primary treatment 2014:
Cut majority of sites in early summer
Treat with a foliar spray in September

Coming back next year we find….

100% control for 3 years (at a small percent of sites)

Extent of our reach

Remaining leaves show reduced growth and damage for over 2 years

Individual shoots with reduced growth

Milestone foliar Spray

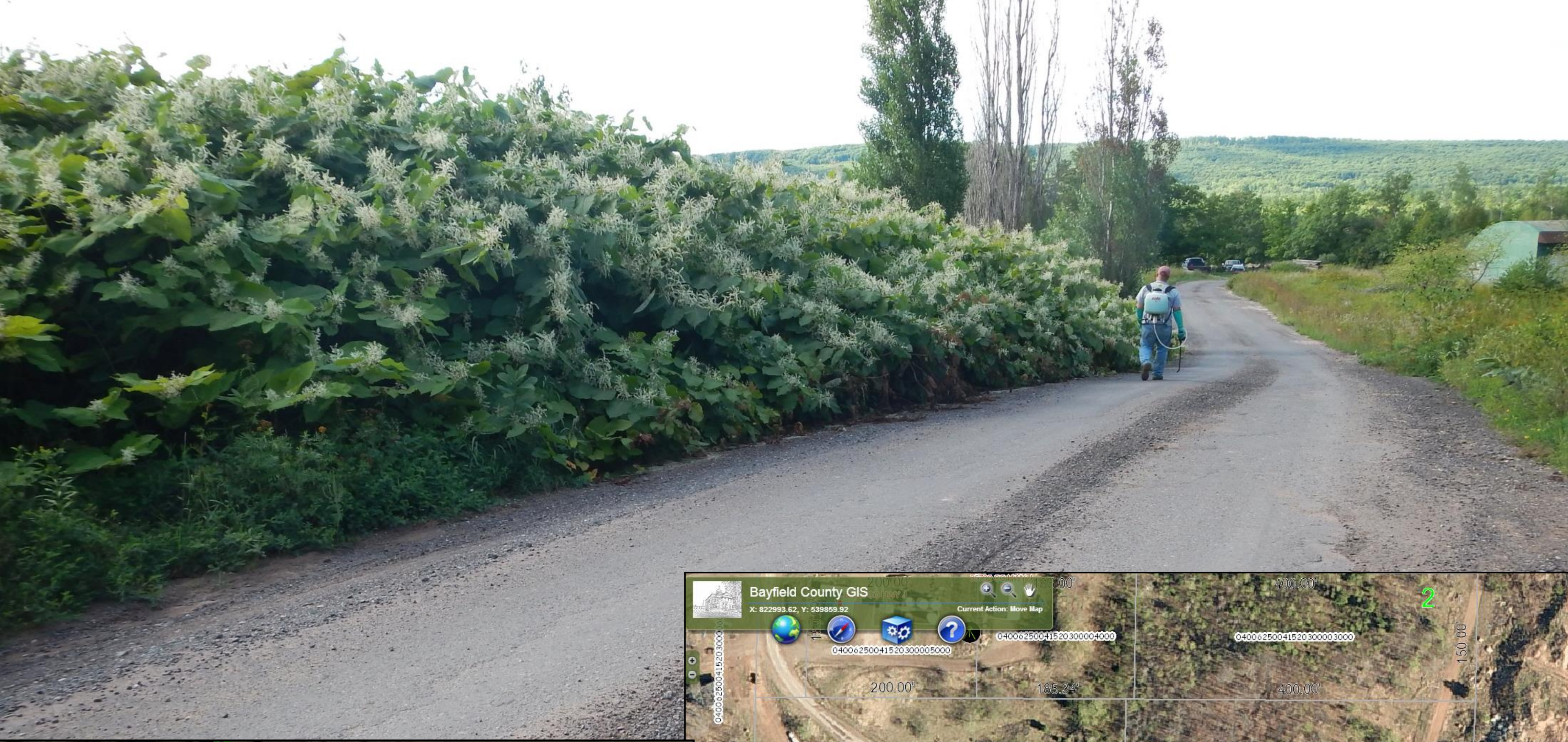
Milestone foliar Spray

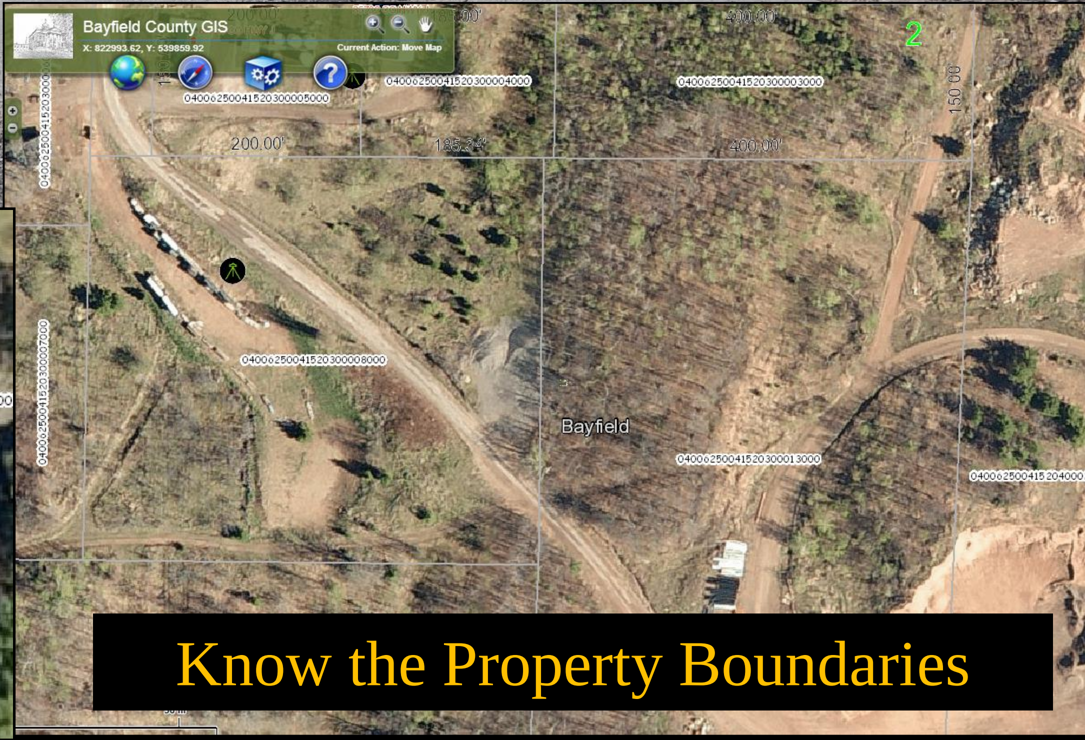
Cut Stump with glyphosate/aminopyralid

2013

2014

Challenges we have faced…





Know the Property Boundaries

Gravel pit: a possible vector with lots of knotweed and challenging slopes

Utilizing partners with better equipment

After and after shot

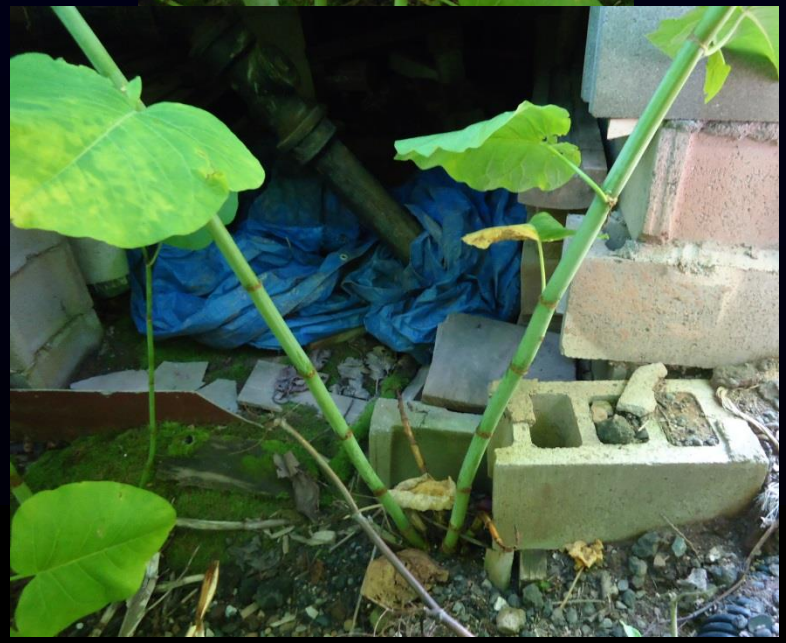
Resort on Lake Superior

Privately owned sites visited by the public :

- B & B's, Resorts, Motels
- Campgrounds
- Orchards
- Waste Transfer Sites

These high traffic sites are sometimes unwilling to comply with WI DNR NR 40

Potential damage to valuable physical structures and still refuse assistance



Project Support = Partners, volunteers, landowners, interns, experts, town road crews

Site visits with Mark Renz, Extension Weed Specialist/UW-Madison Assistant Professor

Conclusions:

- Aminopyralid (Milestone) foliar treatment works best
- The more above ground plant/leaf tissue, the more effective control
- Cutting stimulates wider rhizome growth, but shorter stem growth
- Continuous monitoring and persistence essential in control

Questions:

- What accounts for such wide variety in results?
  - Weather, expanse of Rhizome tissue, accuracy of mix, amount of surfactant, sprayer used
- Effectiveness of other treatments (mechanical)?
- Where else is knotweed being controlled, methods used, results?



Special Thanks To:

Mark Renz (Extension Weed Specialist/UW-Madison Assistant Professor)
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Rick Schulte, Crop Production Services
Carmen Chapin, National Park Service
Charly Ray, Northern Ecosystem Services

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Questions?

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NORTHWOODS COOPERATIVE WEED MANAGEMENT AREA