Wild Parsnip

THE UNIVERSITY of WISCONSIN MADISON

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Wild Parsnip can invade

- Roadsides
- abandoned fields
- Some pastures
- edges of woods
- prairie restorations
- Riparian/floodplain

Wild parsnip phtyo-photo sensitivity

Phtyo-photo sensitivity

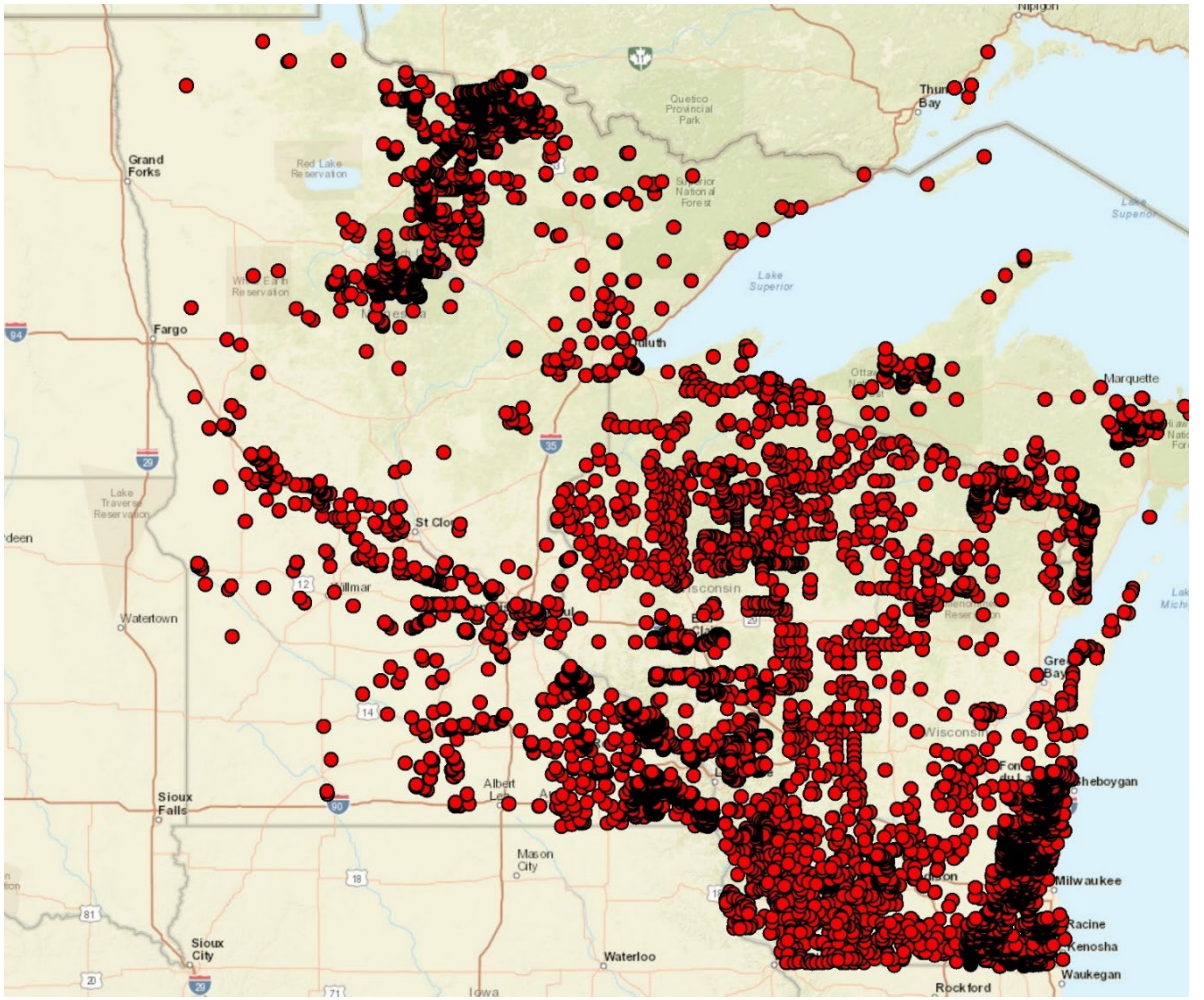
- Parsnip is only dangerous when the plant sap from broken leaves or stems gets on your skin.
- **Mild exposure:** areas turn red and feel sunburned.

- **Severe cases:** the skin first turns red and then blisters.

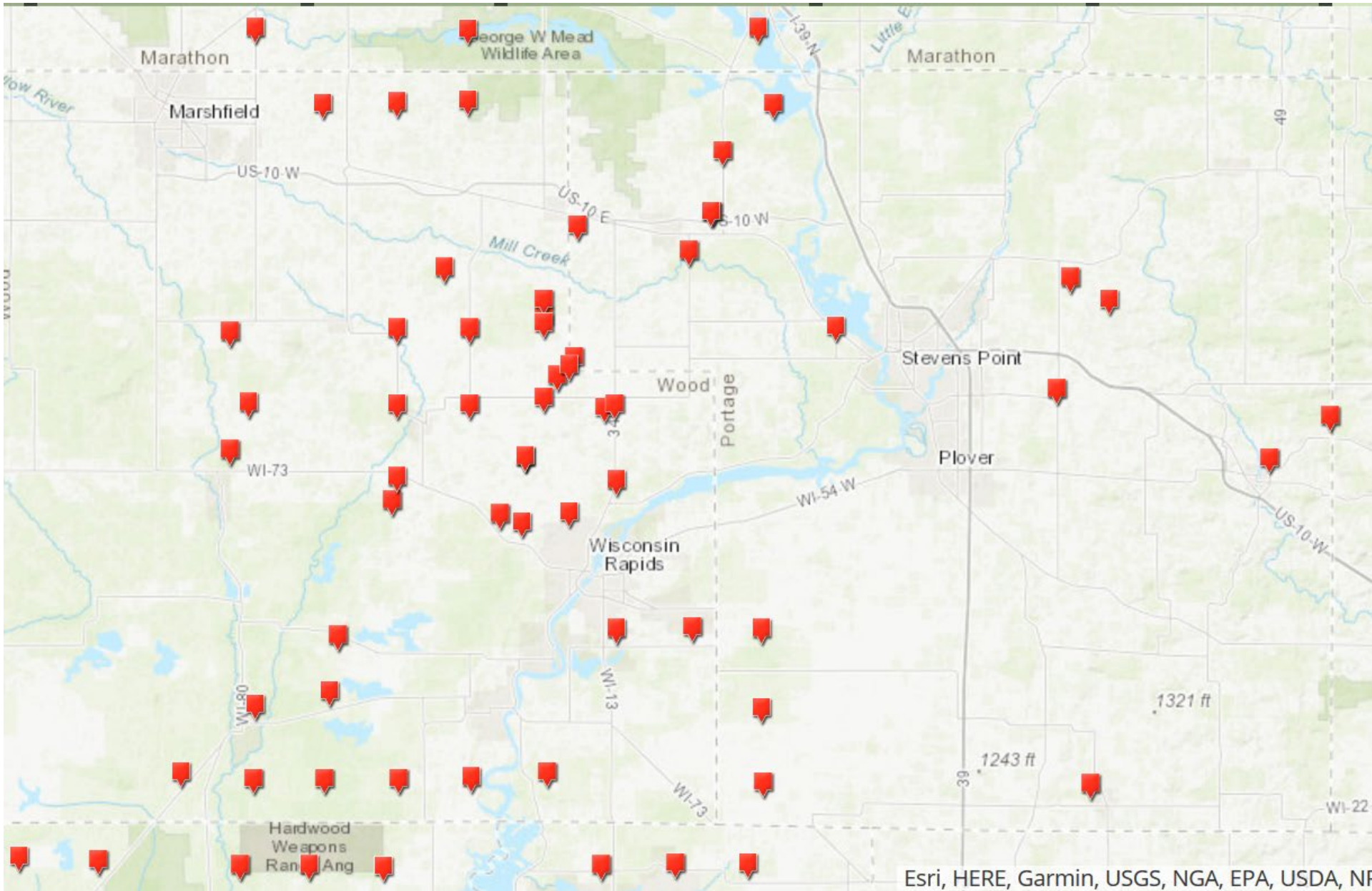
- **Tips to avoid exposure:**
  - Wear gloves, long pants, and long-sleeved shirts.
  - Plan control activities when minimal sunlight present
  - If you are exposed to the plant sap/juice, wash the contaminated areas thoroughly as soon as possible.

Wild Parsnip Distribution

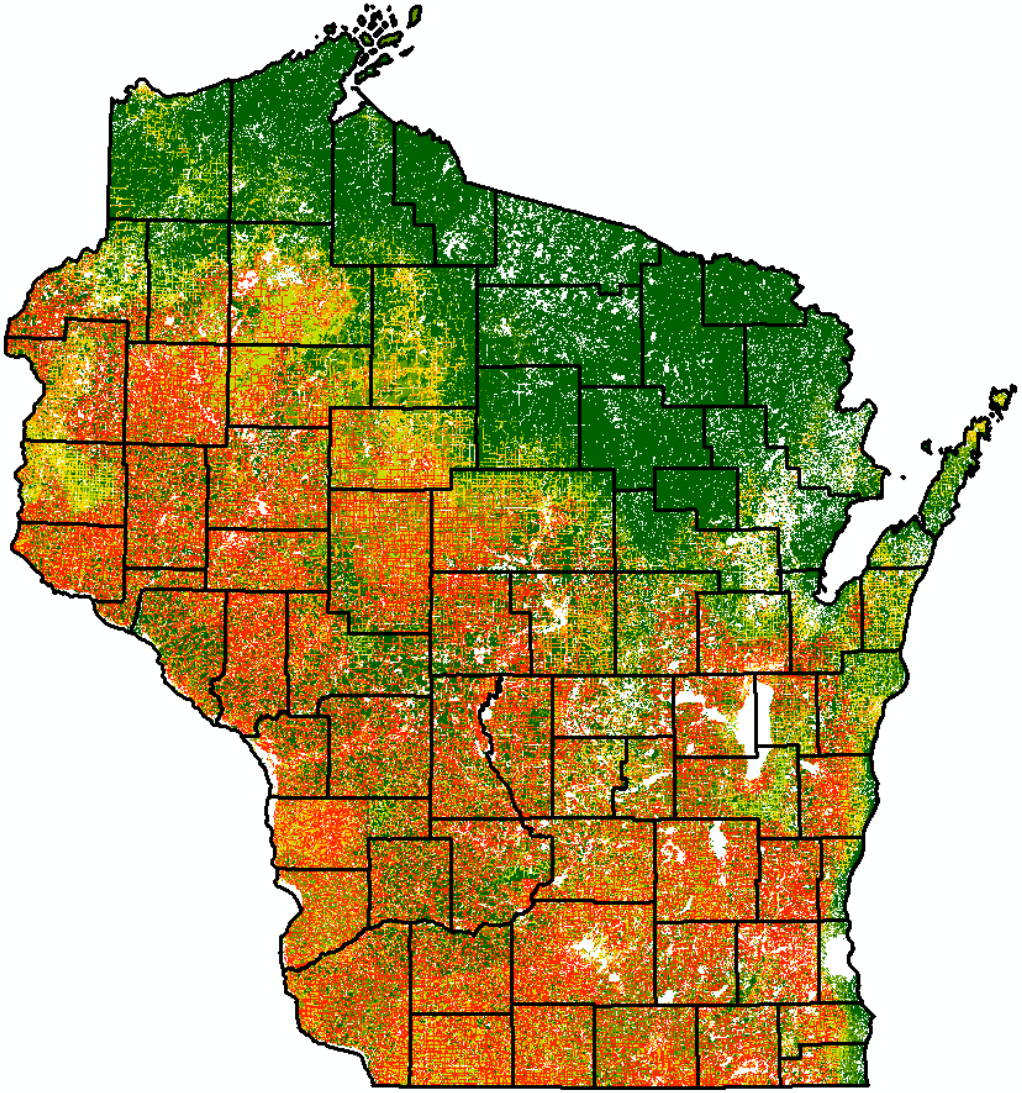
- Common in Minnesota and Wisconsin
- Present in IA/IL
  - Under-reported
- It is nearby….
  - West
  - East
  - South
  - North



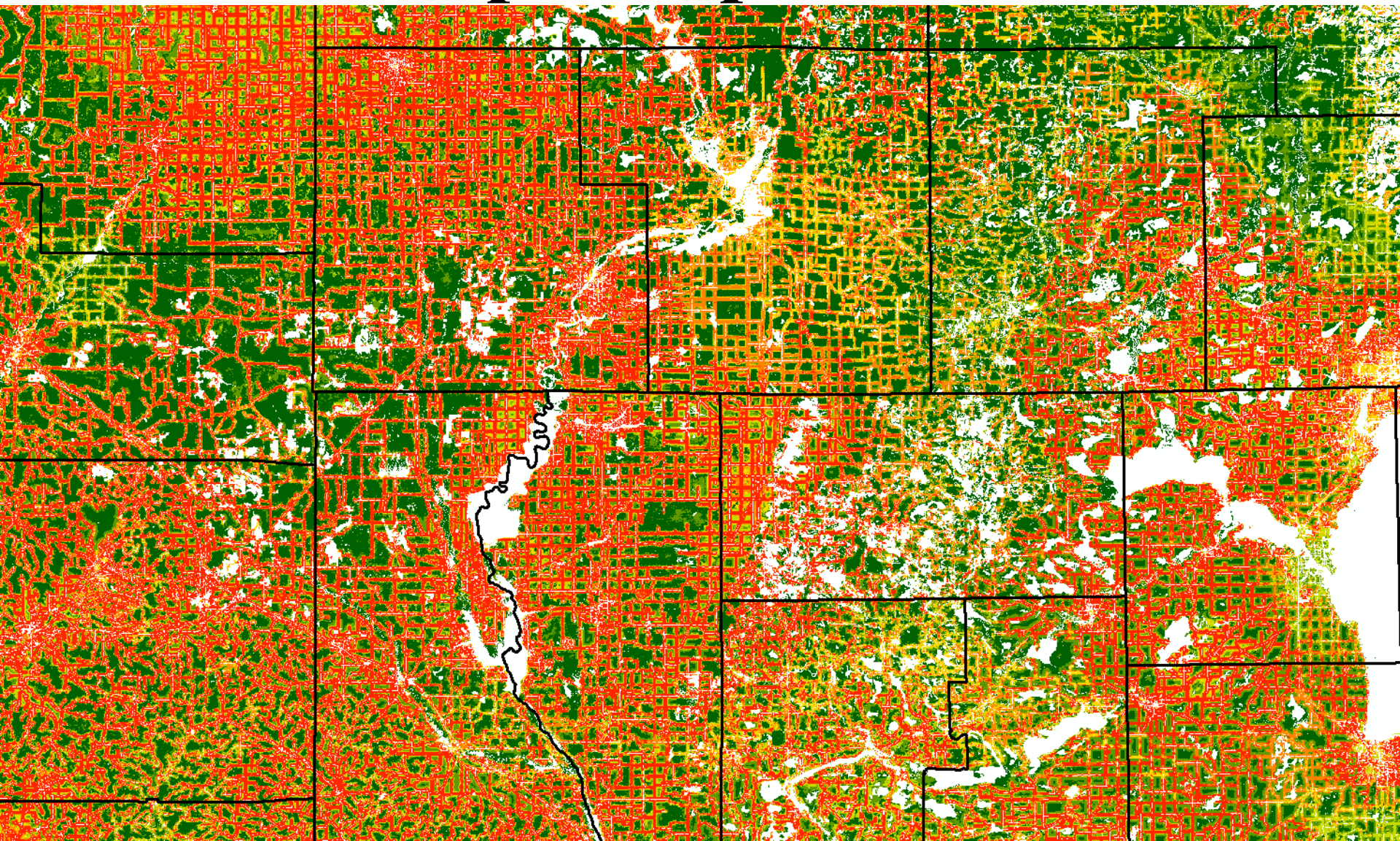
Wild Parsnip in central sands



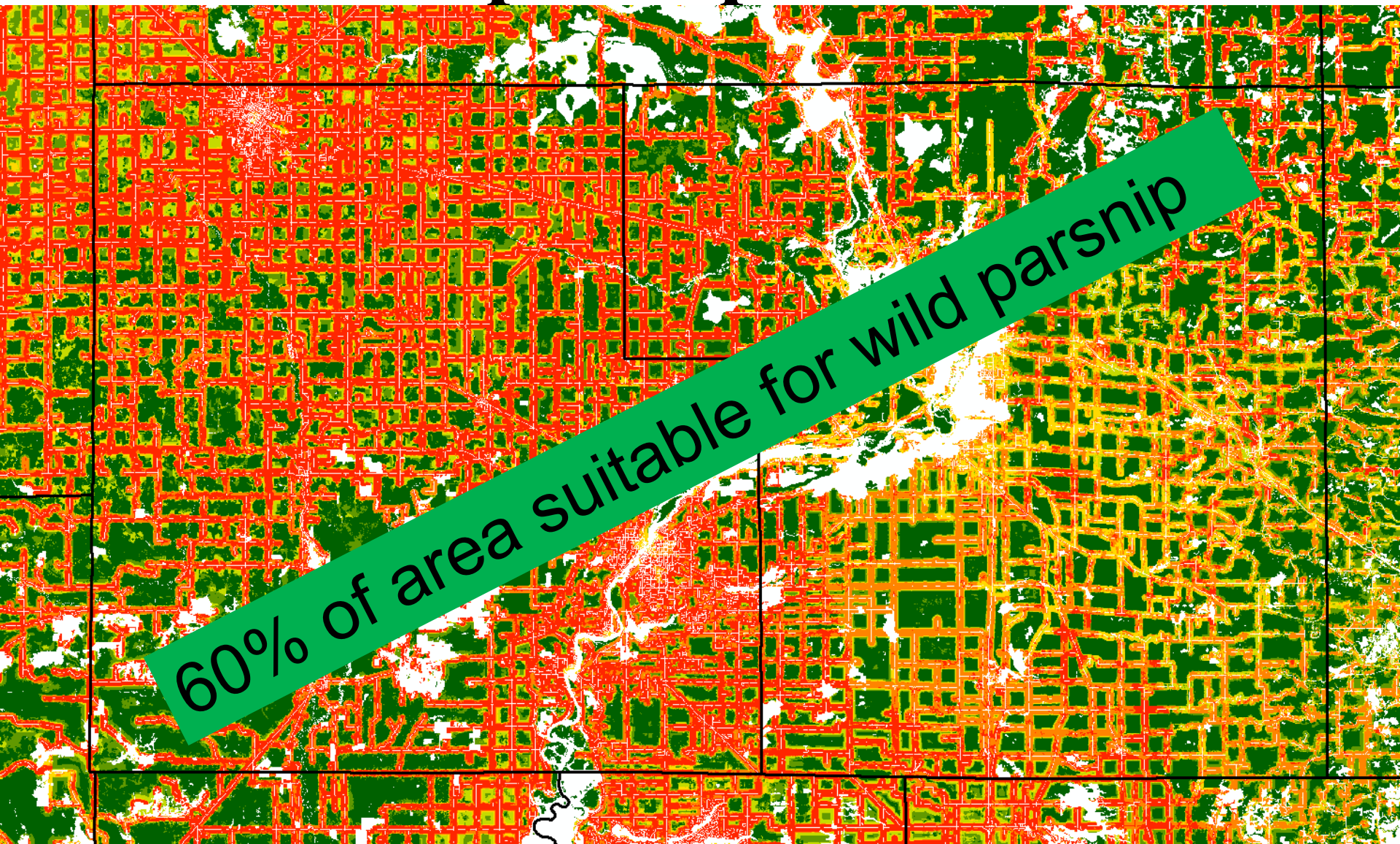
Susceptibility of WI to wild parsnip invasion



Susceptibility of central sands to wild parsnip invasion



Susceptibility of wood/portage to wild parsnip invasion



Wild parsnip ID

Leaves

- Alternate, pinnately compound leaves
- Leaves have 2 to 5 pairs of
  - opposite, *sharply toothed, lobed* leaflets.

Wild parsnip ID

Stems/Flowers

- **Stems:** Smooth, *hollow, grooved* that can reach 5 feet in height
- **Flowers:** Yellow, in flat-topped umbel clusters. Primary, secondary, and tertiary flower-heads can occur

Wild parsnip ID
Seedlings

- **Seedlings**: seedling leaves are small and ovate

Look alikes to Wild Parsnip

- **Golden Alexander (*Zizia aurea*)**
  - Flowers before parsnip
  - typically shorter than parsnip
  - its umbels are less open
  - leaves have only 2-3 pairs of leaflets (7).

Look alikes to Wild Parsnip

- **Prairie parsley (*Polytaenia nuttallii*)**
  - leaflets are oblong with few teeth.
  - rounded umbels, unlike the flat umbels of wild parsnip.

Management options

- Mechanical methods:
  - **Mowing** has shown success *in Wisconsin*
  - Cutting root 1-2 inches below soil surface effective

- Grazing:
  - grazed by cattle and other animals, but potential for photosensitization

- **Herbicides:**
  - Many herbicides are effective


plot #
Nam
A-1
Field
A-2
Yell
A-3
St
A-4
Qu
A-5
Wi
B-1
Ye
B-2
H
B-3
W
B-4
B-5
C-1
C-2
C-3
C-4
C-5
D-1
D-2
D-3
D-4

Mowing to control Parsnip

Mow when flowering, but before seeds present

End of June – early July

- parsnip increases after the first mowing because you are releasing the vegetative parsnips.
- **should be successful in reducing the population after 3-4 years mowing at the correct timing**.

What happens when you mow too early!

Wild Parsnip herbicide studies

- Can be controlled spring, summer or fall
  - Plants most sensitive in fall
    - New seedlings germinate in spring (1.5 years control)
  - Spring applications kill plants that flower and seedlings
    - 2 years of no flowering!
- Wide range of herbicides available
  - Match herbicide application to site

How much control can you get from one application?

- Effective herbicides applied
  - in **spring** provide 90-100% control 1 year after treatment (Rosettes)
  - In **summer** provide 95-100% control 1 year after treatment (Rosettes)
  - In **fall** provide 100% control following spring
  - But seedlings are not controlled so need to be retreated following year

Which herbicides work the best

- Herbicides that include the following have been documented to be very effective
- Metsulfuron (escort
- 2,4-D (many)
- Dicamba (banvel)
- Aminocyclopyachlor (method)

Experiments

- Conducted in cool season grassland in SW Wisconsin
- Applied treatments
  - Spring rosettes (May 14th)
  - Spring bolting plants (May 15th, June 10th)
  - Summer to flowering plants (June 15th)
  - Fall to rosettes (October 23rd)

Does spraying in spring work? YES

Herbicide	7-31 Cover 80 DAT		10-28 Plants/m^2 169 DAT	
Ally/Escort 0.3 oz/A	6	AB	10	B
Ally/Escort 0.5 oz/A	2	B	8	B
Milestone 7 fl oz/A	12	AB	21	AB
Forefront 2.6 pt/A	2	B	0	B
24D 2 qt/A	4	B	6	B
UTC	21	A	43	A

How about rosette vs bolting?

	SPRING ROSETTE (5/15)		SPRING BOLTING (6/10)	
Herbicide	***Cover 1 YAT***		***Cover 1 YAT***	
Forefront 1.5 pt/A	13	AB	19	AB
Forefront 2.0 pt/A	18	AB	11	AB
Chapparal 1.5 oz/A	6	B	3	B
Chapparal 2.0 oz/A	7	B	1	B
Weedmaster 2.0 pt/A	3	B	9	AB
Cimarron Max 1.0 pt/A	4	B	0	B
Untreated	28	A	28	A

What about flowerbud to flowering treatments?

Herbicide	10-1 Plnts/m^2 72 DAT		5-23 Plnts/m^2 346 DAT		10-28 Plnts/m^2 504 DAT	
Ally/Escort 0.3 oz/A	0	B	0	B	7	B
Ally/Escort 0.5 oz/A	0	B	0	B	10	B
Weedmaster 2 pt/A	0	B	0	B	8	B
Forefront 2.6 pt/A	0	B	0	B	6	B
24D 2 qt/A	0	B	0	B	4	B
UTC	7	A	19	A	33	A

Fall is the most effective timing, but don't control seedlings the next spring!

Herbicide	5-23 Rosettes / m2 213 DAT		6-6 seedlings/ m2 227 DAT	
Ally/Escort 0.3 oz	0	B	59	
Ally/Escort 0.5 oz	0	B	59	
Milestone 7 fl oz	0	B	84	
Forefront 2.6 pt	0	B	69	
24D 2 qt	0	B	83	
UTC	16	A	91	

Wild Parsnip Results

1. 2,4-D and Escort, were the most effective
   - Other auxinic based herbicides effective

2. Wild parsnip was most sensitive in the fall just prior to the frost, but……

3. Fall applied herbicides did not prevent germination of all seeds following spring

Other things to consider involving herbicides

- **Non-target impacts (soybeans)**

- Herbicide product restrictions
  - Application restrictions near/in water
  - Where they can be applied (habitat)

- Cost of application

Where are the seeds coming from?

Sources of spread of wild parsnip

1. Mowing (when seeds are present)

2. Water
   - Rivers, streams, creeks, ditches

3. Movement of soil

4. Wildlife?

What do we know about wild parsnip?

Seed biology/ecology

- A plant on average produce 975 seeds
- Dispersed on average 10 ft but up to 42 ft
- Seeds reported to last 4 yrs in the soil
  - Most will germinate within 2 years
- Seeds germinate in Spring (April)
  - States to the south of us do see some fall germination
    - Kentucky, but only 20%

Summary

- Determine location of infestations *and sources*
- A range of control methods are effective
  - Prevent seed production to eradicate
  - Targeting infestations early will be more efficient
- Need to develop a long-term plan to address eradication or will need to retreat every 3-4 years