Hazardous and Toxic Plants in Wisconsin

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Overview

- Hazardous plants in Wisconsin
  - to YOU (human health)
  - Environment
  - Economy
- Invasive plants and resources

These are hazardous plants in WI, are they invasive?

Wild Parsnip

Poison Ivy

Giant Ragweed

Invasive Plant Species Defined in Wisconsin

- "A ***nonnative species*** including hybrids, cultivars, subspecific taxa, and genetically modified variants whose introduction causes or is likely to cause **economic** or **environmental harm** or **harm to human health**"

- Wisconsin Department of Natural Resources, WI Statute NR 40, 2013

Invasive Plant Species Defined in Wisconsin

"NR40 regulates 130+ invasive plant species in WI

PROHIBITED

- Not yet established or only in pioneer stands
- No person may transport (import/ move), **possess**, transfer (buy/ sell) or introduce a prohibited species without a permit

RESTRICTED

- Already established in state
- No person may transport (import/ move), transfer (buy/ sell) or introduce a restricted species without a permit

Hazardous plants in Wisconsin to YOU

Invasive

- Wild parsnip (restricted)
- Giant hogweed (prohibited)
- Japanese barberry (Restricted*)
- Bush Honeysuckles
  - Amur: Restricted south/prohibited north
  - Morrow, Tartatian, hybrid: restricted
- Poison hemlock
  - Restricted south/prohibited north
- Bittersweet nightshades
  - not regulated

Native but undesirable

- spotted water hemlock
- giant ragweed
- common ragweed
- poison ivy
- poison sumac
- stinging nettle
- Eastern black nightshade

Maybe a better way to differentiate

<u>dangerous if:</u>

Ingested

- Poison hemlock
- Bittersweet nightshade
- Eastern black nightshade
- spotted water hemlock

Touched

- Wild parsnip
- poison ivy
- poison sumac
- stinging nettle
- Giant hogweed

Other

- Pollen
  - giant ragweed
  - common ragweed
- Tick habitat
  - Japanese barberry
  - Bush Honeysuckles

Common Poisonous Plants in WI

if eaten

- Poison hemlock
  - 0.5% of body weight can be fatal
  - all plant parts are toxic,
    - young leaves and seeds have the highest toxicity
- spotted water hemlock
  - 8 oz ingested can result in death
  - stem are the most toxic. Leaves and stems lose toxicity as they mature, but roots are toxic year-round.
- Nightshades
  - Eastern Black and Bittersweet
  - Toxicity varies from relatively non-toxic to lethal
  - Most poisonings result from eating berries
    - Unclear when toxicity is highest in berries

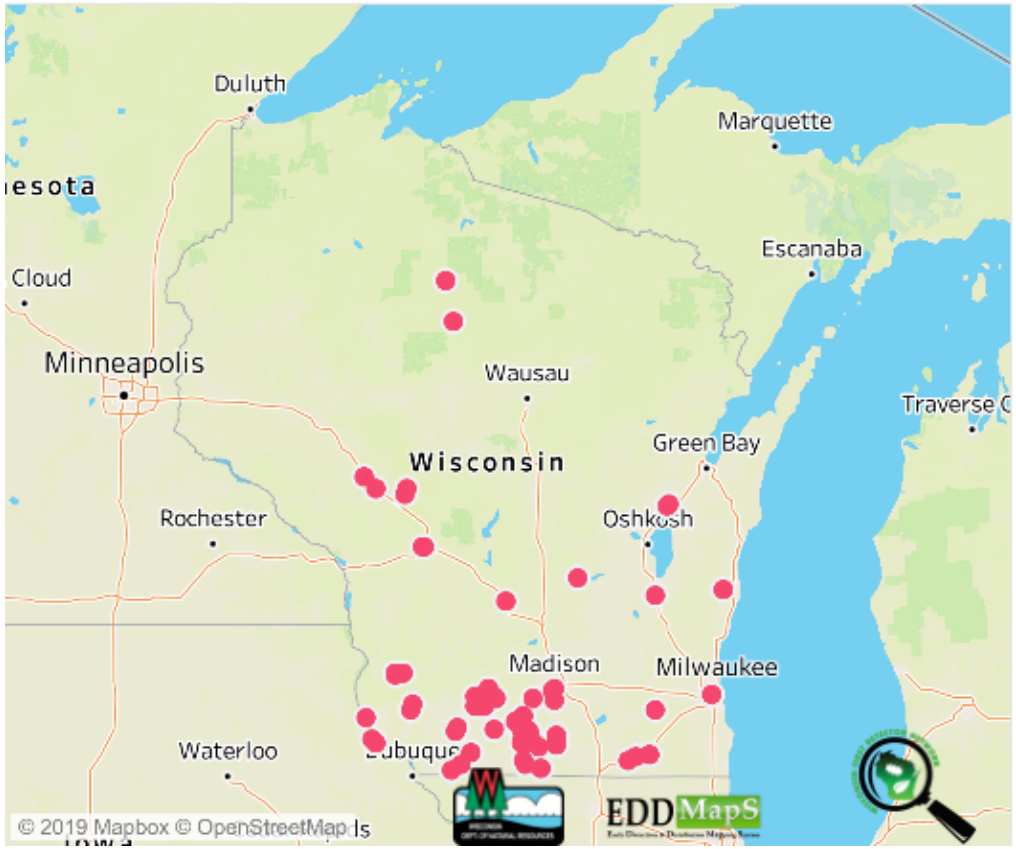
Don’t eat plants found in the wild unless you are POSITIVE of the identification

Poison Hemlock ID

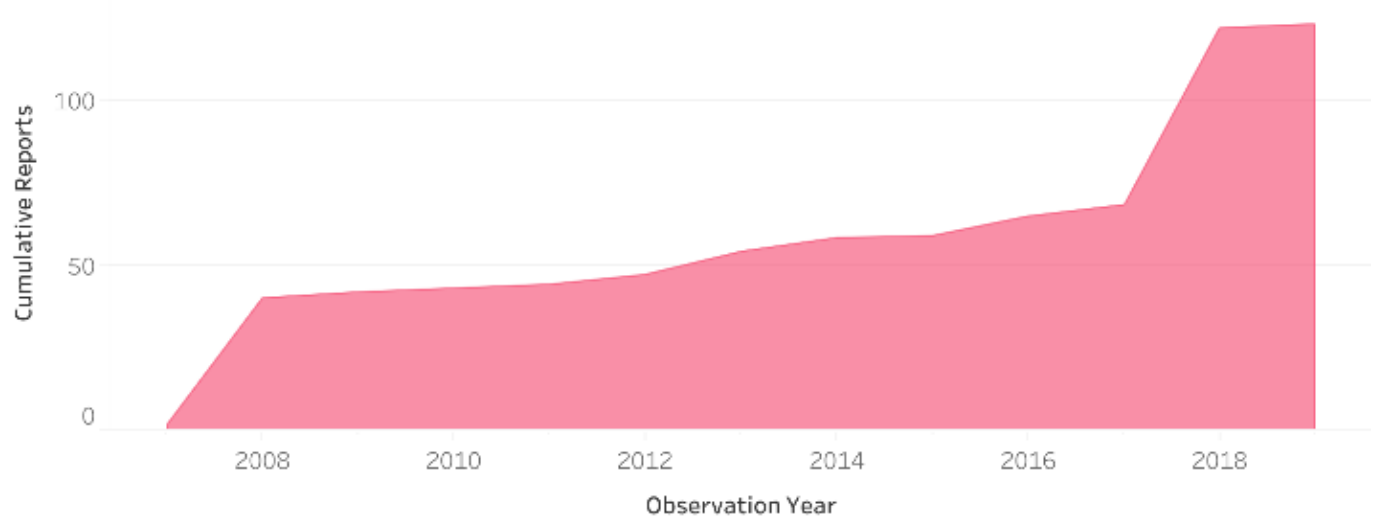
- **Biennial:**
  - Rosette 1st year
  - Flowers second year (dies)

Poison Hemlock Distribution in WI

Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



Cumulative Number of Reports Over Time[1]



WDNR Classification
All

Common Name
POISON HEMLOCK

Reporter (fill in, hit ente..
All

Year of Observation Date
1989 to 2019

[1]Due to internal policies, some wetland species locations are unable to be shared.

Last updated on 6/28/20..

Poison Hemlock ID

- **Leaves:**
  - Stem leaves are 8–16” long
  - triangular in outline
  - alternate,
  - pinnately compound 3–4 times,
  - When crushed, emit a musty odor reminiscent of mice.
  - Rosette leaves are similar to leaves found on the stem.

Poison Hemlock ID

- **Flowering stems:**
  - hairless, hollow, ridged, up to 10’ tall,
  - Lower stem have distinctive reddish-purple markings.
- **Flowers:** Late spring to midsummer.
  - White, umbels 1.5–2.5” across.
  - Umbels are found at the end of stems and are comprised of 12–16 smaller flowers.
- **Fruits and seeds:**
  - Fruit composed of two seeds 0.11–0.16” in length, ridged, and flattened on one side.
- **Roots:** White taproot

Poison Hemlock ID

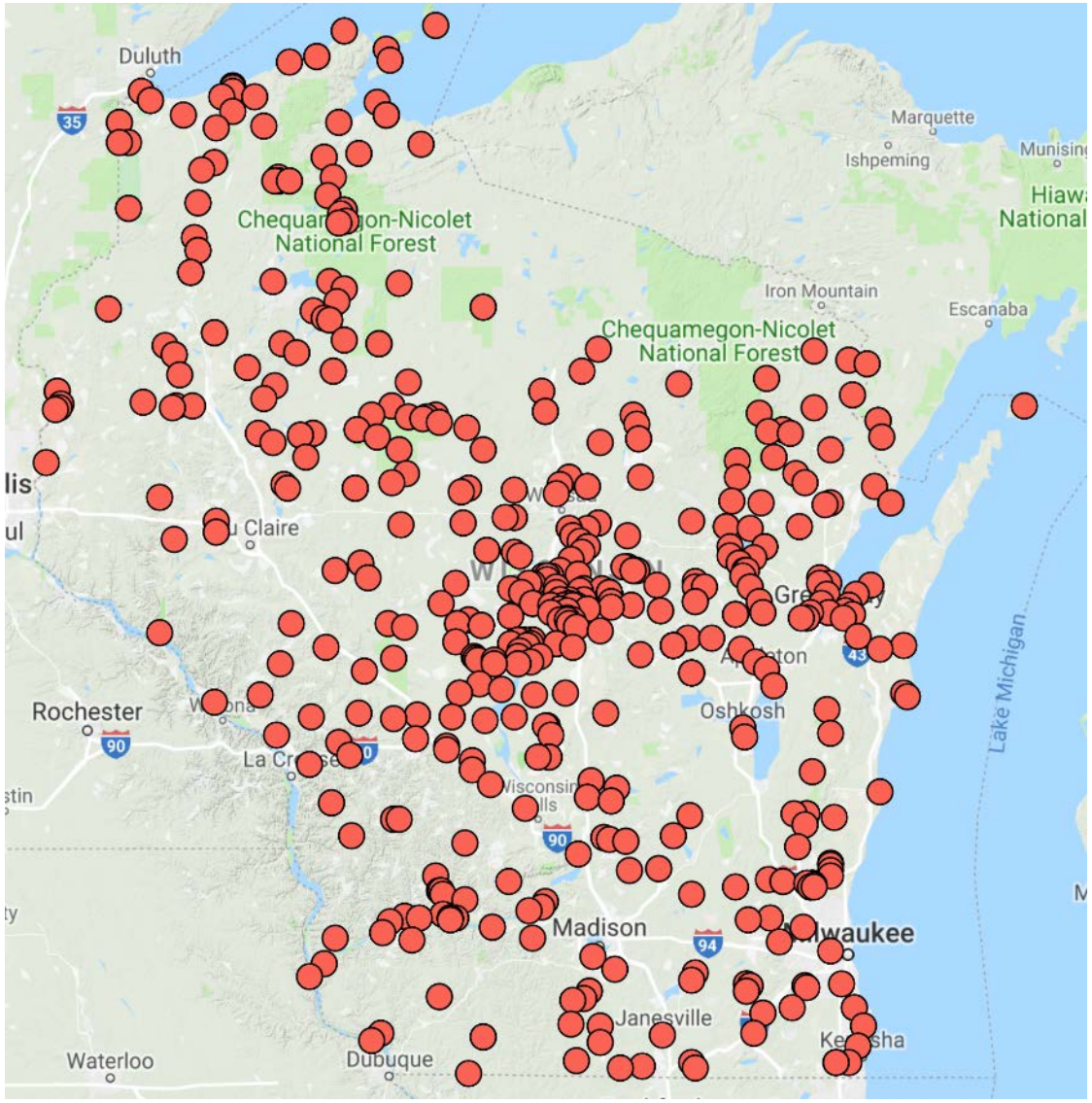
Similar species:

- Queen Anne's lace (*Daucus carota*)
  - no reddish-purple markings on the stem
  - hairy leaves
  - larger, less rounded umbels.
  - shorter than hemlock (1–3' tall).

- Cow parsnip (*Heracleum lanatum*)
  - palmately compound leaves
  - lacks reddish-purple coloring on its stem

- Spotted water hemlock
  - Leaves not as finely divided
  - Margin of leaves toothed

Spotted Water Hemlock ID



Spotted Water Hemlock ID

- Perennial
  - 2-6 feet tall

Leaves:

- twice pinnately compound
- Up to 1 foot long and 10.inches wide
- Sharp toothed along the edges

Flowers:

- umbels up to 6 inches with many flowers
- 1/8 inch across, have 5 white petals, notched at the tip, 5 long stamens and a greenish white center.

Spotted Water Hemlock ID

Fruit:

- Oval shaped, 0.08-0.16 inches long, 0.08-0.13 inches wide
- Reddish brown

Seeds: Flat

Roots:

- Fleshy tubers

Nightshades

Climbing nightshade

Perennial vine

Leaves: Lobed, near base

Flowers: 5 white petals

Fruits: green, turning red at maturity

Don’t eat berries found in the wild unless you are POSITIVE of the identification

Eastern Black nightshade

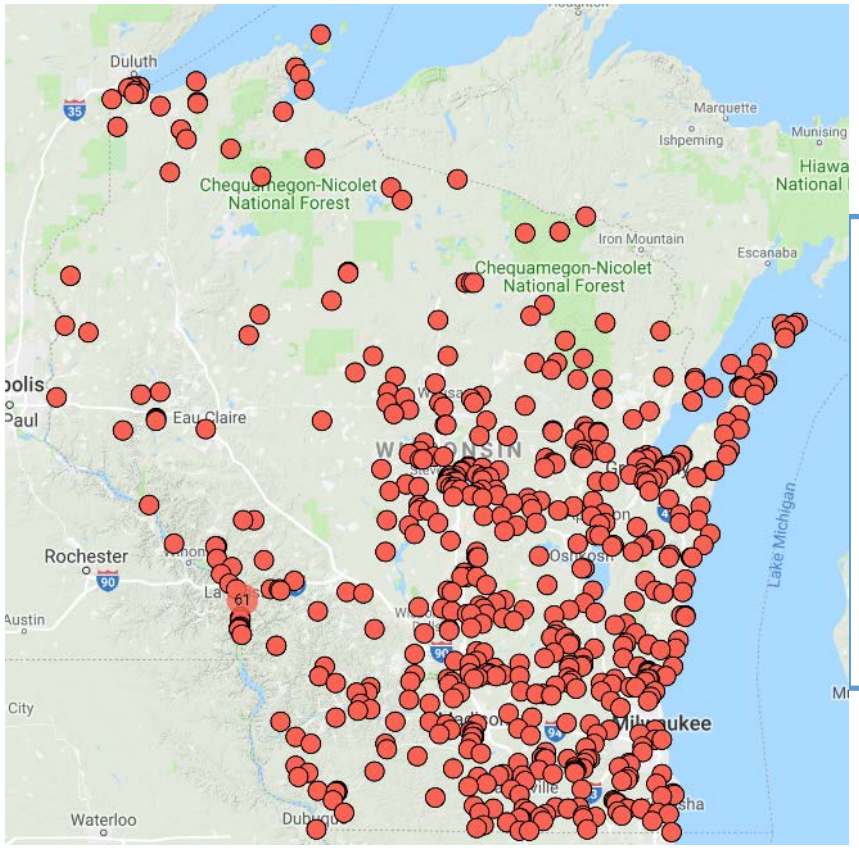
Leaves: purplish color on underside; often with “shot holes”

Flowers: 5 white reflexed petals

Fruits: green, turning black at maturity

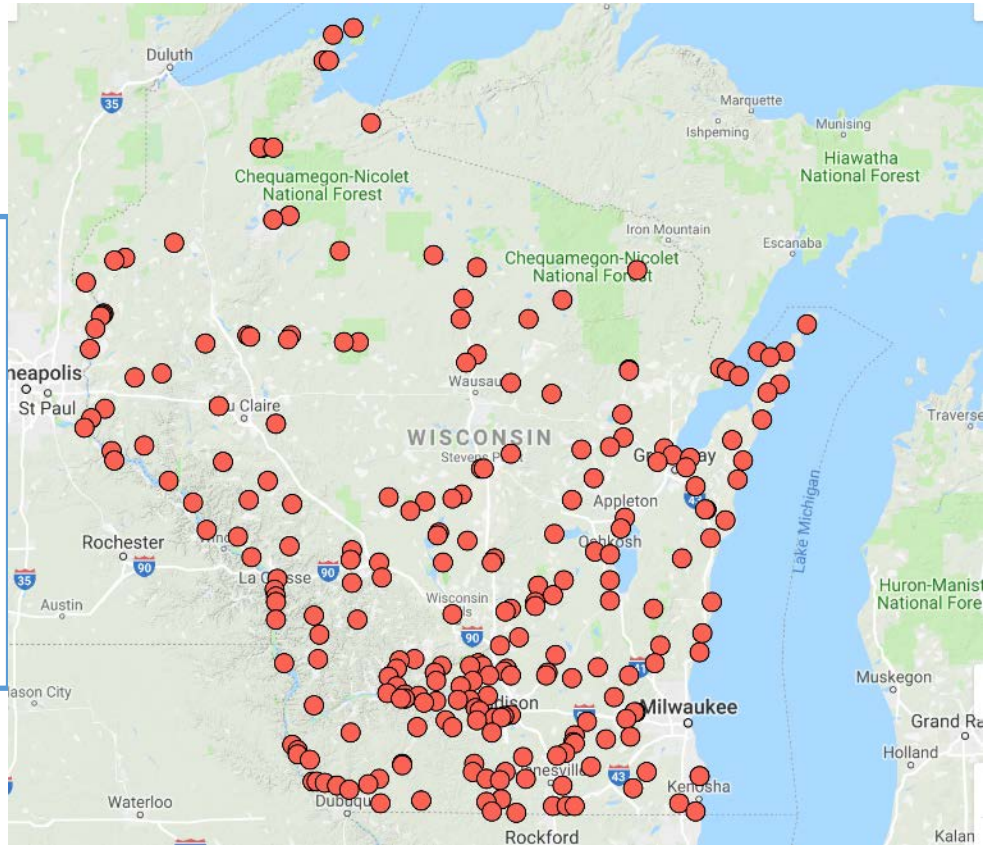
Nightshade distribution

Climbing nightshade



Don’t eat berries found in the wild unless you are POSITIVE of the identification

Eastern Black nightshade



Common Poisonous Plants in WI

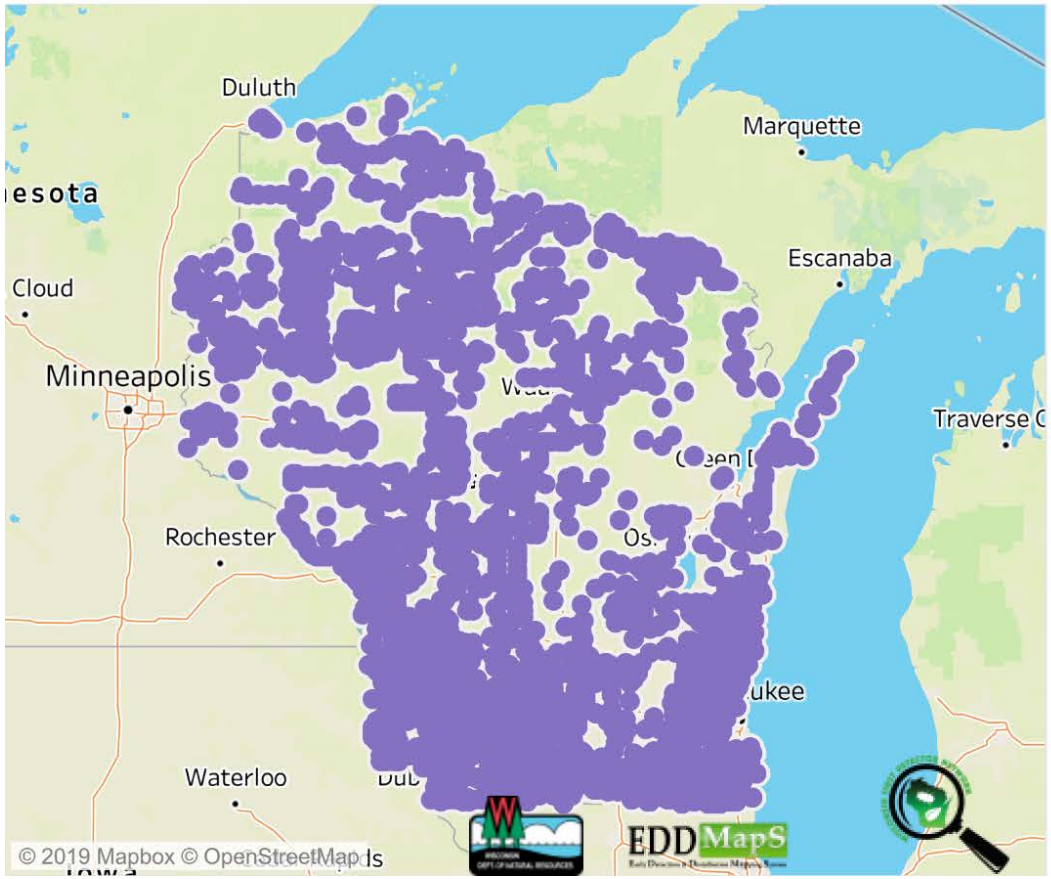
if touched

- Phytophotodermatitis
  - Wild Parsnip
  - Giant Hogweed
- Oils
  - Poison ivy
  - Poison sumac
- Stinging nettle

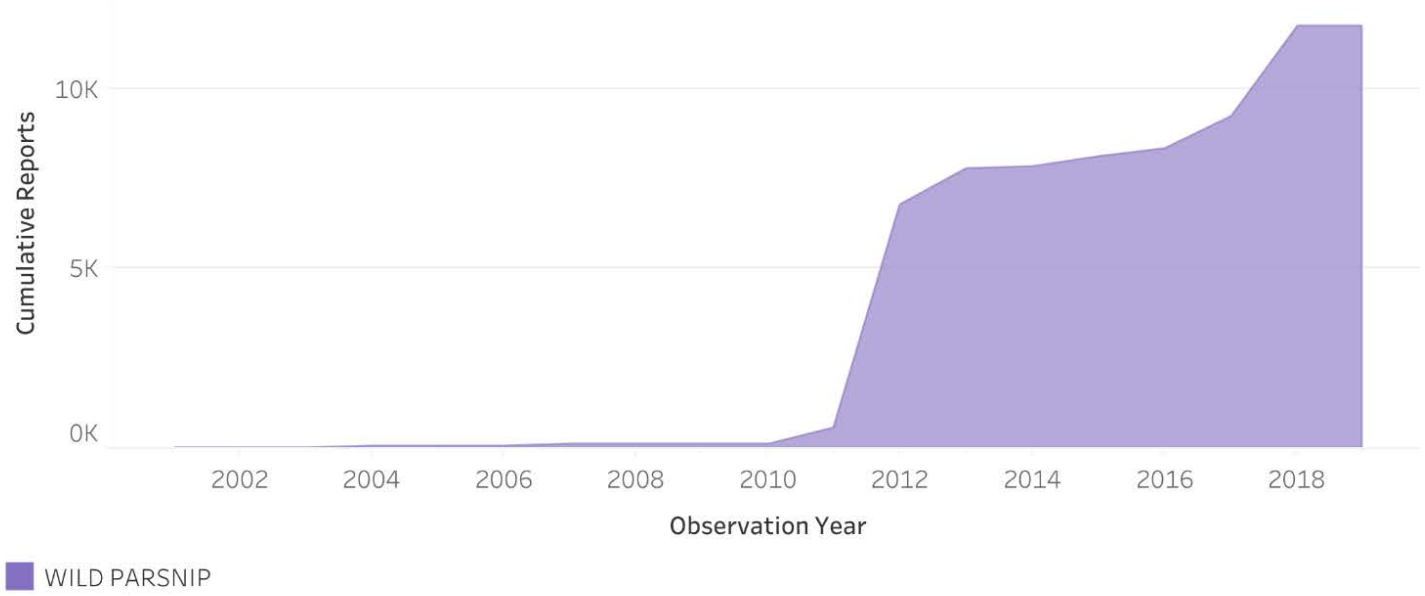
Wild Parsnip

Wild Parsnip Distribution in WI

Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



Cumulative Number of Reports Over Time¹



WDNR Classification
All

Common Name
WILD PARSNIP

Reporter (fill in, hit ente..
All

Year of Observation Date
1989 to 2019

¹Due to internal policies, some wetland species locations are unable to be shared.

Last updated on 6/28/20..

Wild Parsnip Identification: Leaves

- Leaves pinnately compound
- Leaves have 2 – 5 pairs of leaflets
- Leaflets are opposite, sharply toothed, lobed
- Leaves have yellow-green color

Wild Parsnip Identification: Stems & Flowers

- Stems: Smooth, hollow, grooved, up to 5 feet tall
- Flowers: yellow, flat-topped umbel clusters. Multiple clusters per plant.

Wild Parsnip Look Alikes

Cow Parsnip

Golden Alexanders

Wild Parsnip Hazards: Phytophotodermatitis

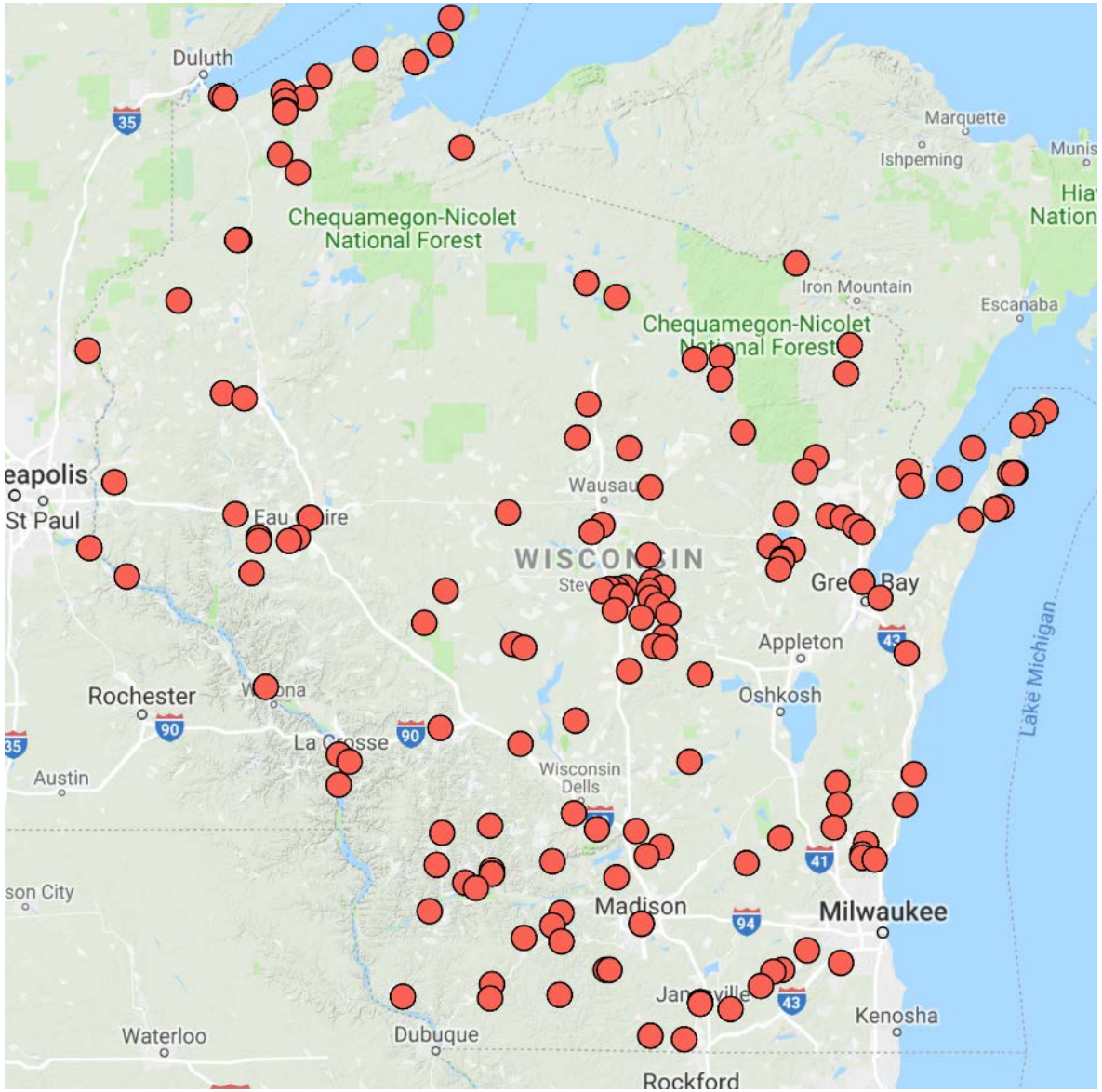
- Blistering appears 1 – 2 days after Wild Parsnip sap + sun exposure.
- Burn scars can persist for 1 + years
- Long sleeves & pants provide good protection
- Do NOT need to wash clothing after exposure

Wild Parsnip First Aid

- Wash sap off of skin if exposed!
- Cover affected areas with cool, damp cloth
- Do **not** puncture blisters
- Adding Domeboro powder to damp cloth can help
- Consult a doctor if blistering is severe or infected

(Wisconsin Department of Natural Resources)

Poison Ivy Distribution



Poison Ivy Identification: Leaves

- “Leaflets three, let it be”
- Smooth to slightly toothed leaf margins
- Central leaflet has longer stalk
- Stems on leaflets often tinged red

Poison Ivy Identification: Stems, Fruit, Flowers

- Flowers: white clusters from 2 to 12 inches long. Individual flowers 1/16th – 1/8th inch across
- Stems: woody, smooth
- Fruit: round, green – white berry 1/8th inch across

Poison Ivy Hazards: Urushiol oil

- Contact with plant or contaminated clothing causes redness, itching, swelling, blisters

- Difficulty breathing if smoke from burning plant inhaled

- Long sleeves & pants provide protection BUT **skin contact with clothing that touched Poison Ivy can cause rashes**

- DO need to wash clothing after exposure

Poison Ivy First Aid

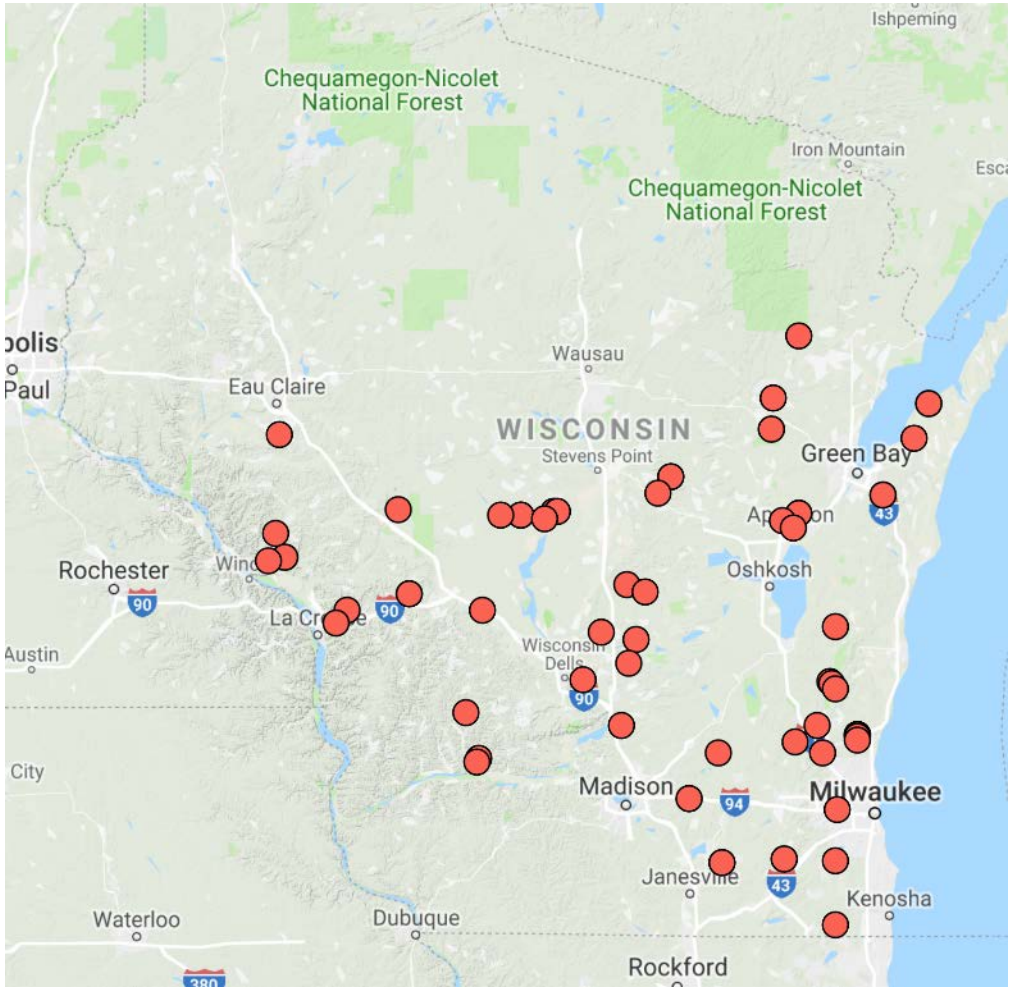
- Within 30-60 minutes of exposure, wash exposed skin with soap and water
- Apply soothing lotions or take a cool shower or bath if rash appears
- Wash exposed clothing (ideally in a washing machine)
- Consult a doctor if blistering is severe or infected

(Mayo Clinic)

Climate Change Impacts on Poison Ivy Spread

- Poison ivy – Duke studies (Mohan et al. 2006; Ziska et al. 2007)
  - Chamber and open air studies to increase CO_2 concentrations
  - Increased biomass production, urishiol production

Poison Sumac



Poison Sumac

- small tree that grows to about 30 feet tall
- It has pinnate leaves with 9 to 13 leaflets on it. (no serration)
- The stems of the leaf are **reddish**, but the bark of the rest of the plant is greyish.
- berry-like fruits that grow in loose clusters. They are white and each is 4-5 millimeters across.

Poison sumac look-alike

Staghorn sumac

- **has fuzzy fruit and stems**. The fruits are generally red, serration on the leaves

Smooth sumac

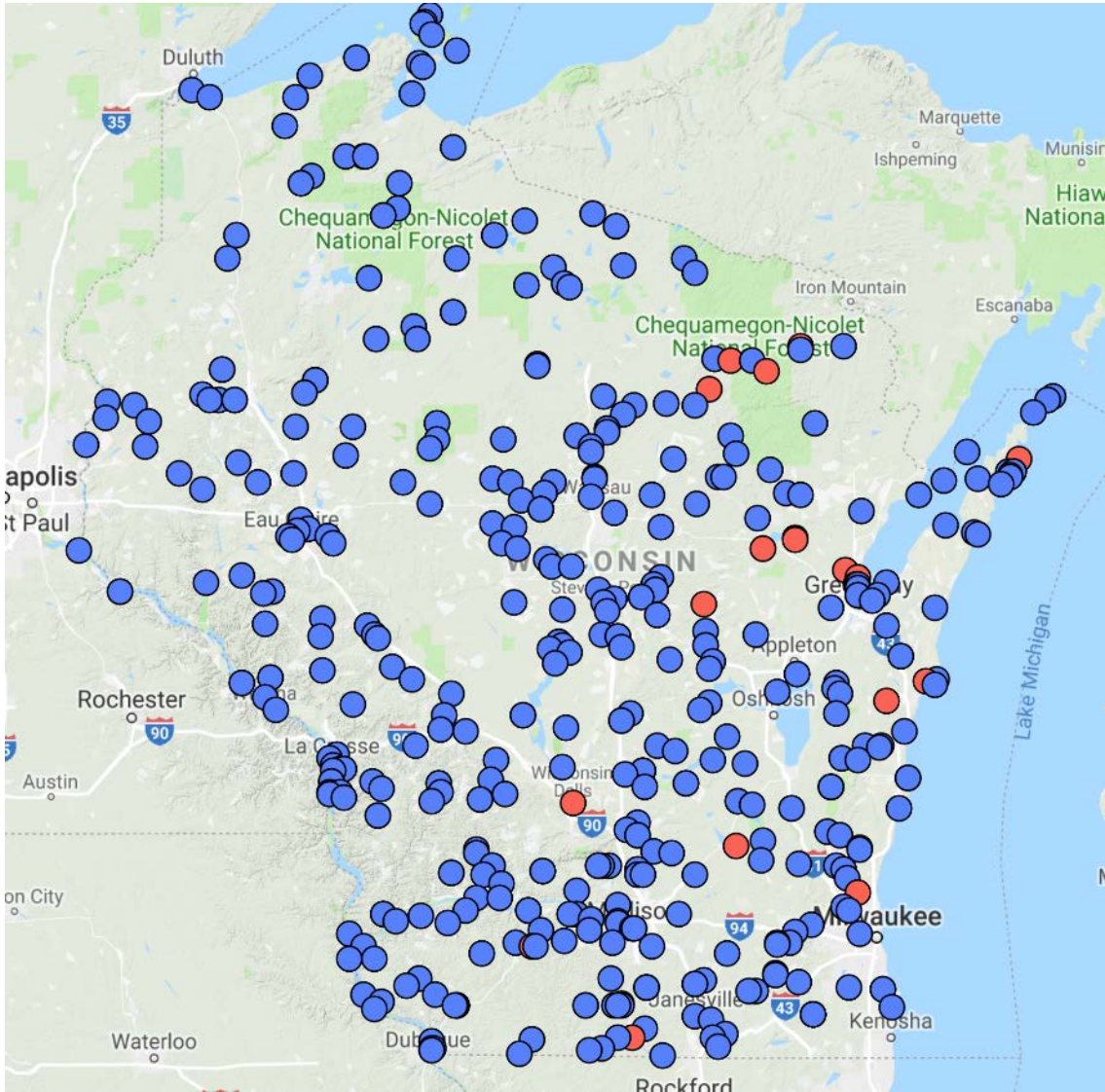
- **berries grow in dense clustered spikes**

Shining sumac

- has **grooved stems between the leaflets**.. Poison sumac has smooth, round stems.


This is NOT Poison Sumac.
This is Staghorn Sumac.
www.poison-ivy.org

Stinging nettle



Stinging nettle

Life cycle

- perennial 2-5 ft tall

Leaves

- Opposite,
- egg- to lance-shaped with a rounded base and pointed tip.
- toothed margins
- smooth long, stinging hairs on the lower surface.
    - Contact with stinging hairs can cause a skin irritation.

Stinging nettle

- **Stems**
  - Four-angled, stems
  - erect and unbranched, up to 6 feet tall
  - covered with stinging hairs.
    - Contact with stinging hairs can cause a skin irritation.
- **Flowers and fruit**
  - Inconspicuous, green to yellow flowers are formed in clusters in the upper leaf axils..

Stinging Nettle

- Each hair is like a hollow needle filled with formic acid,
  - the same chemical in ant saliva.
- This acid can redden the skin and cause a non-spreading rash that can last up to 24 hours.

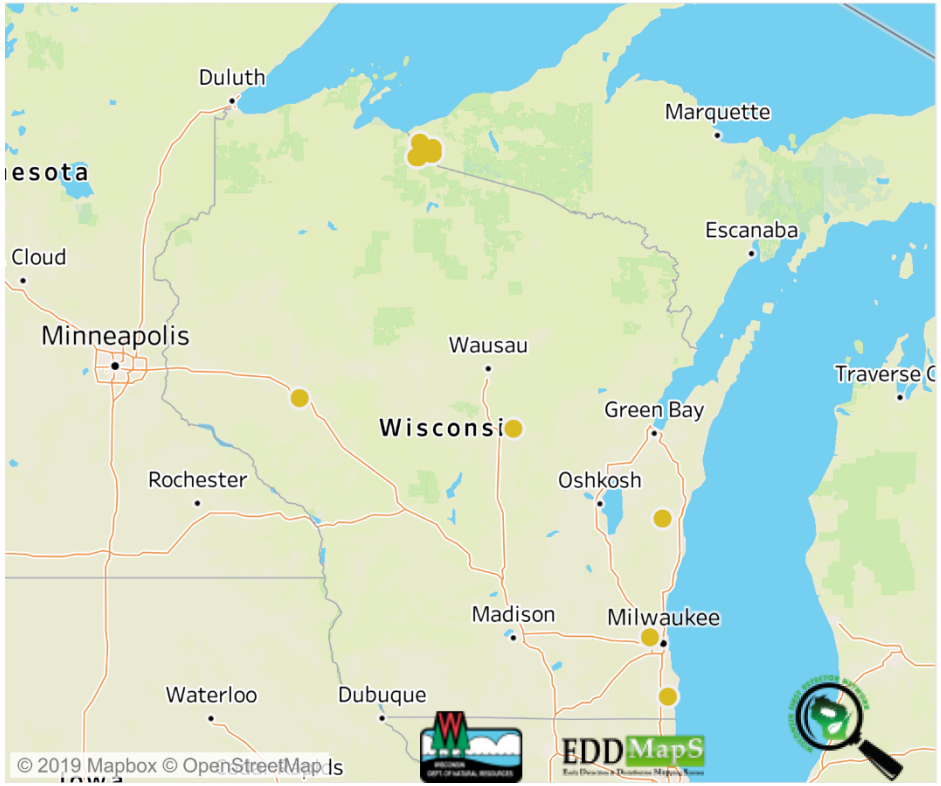
- Wash the area with soap and water as soon as possible to relieve the **sting** and remove the **nettle**hairs. ...
- Apply a paste of baking soda and water.
- Avoid scratching or rubbing the itchy areas.
- Use cool, light, bedding and clothing as this will help relieve itching.

Giant Hogweed

- Herbaceous perennial that can get over 10 ft in height
- Contact can cause burns
  - Same as parsnip
  - Response is worse than parsnip (reportedly…..)

Giant Hogweed Distribution

Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



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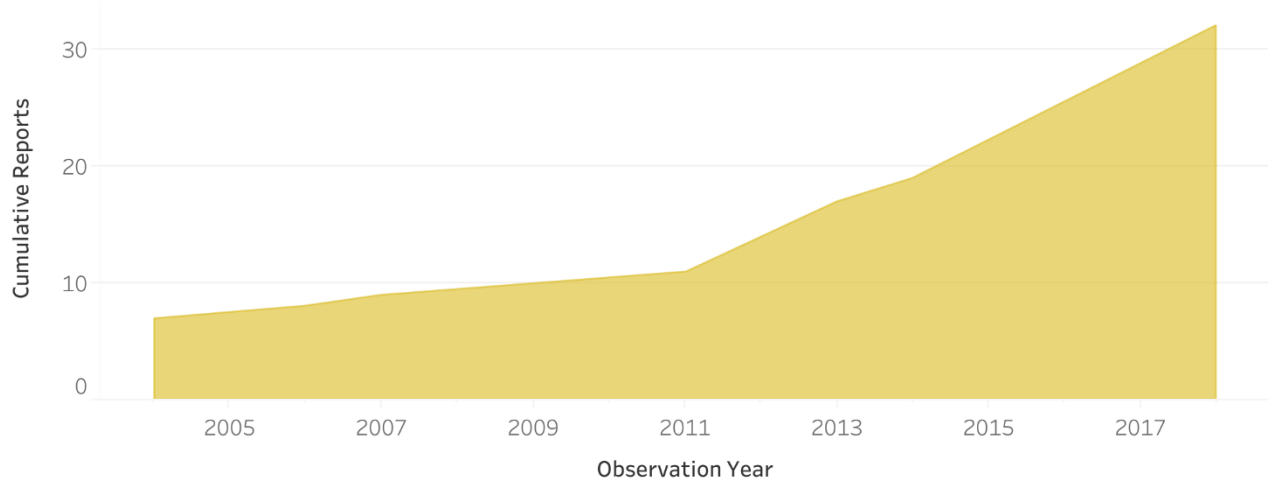


WDNR Classification
All

Common Name
GIANT HOGWEED

Reporter (fill in, hit ente..
All

Year of Observation Date
1989 to 2019

[1]Due to internal policies, some wetland species locations are unable to be shared.

Last updated on 6/28/20..

Giant Hogweed

- Huge leaves, incised and deeply lobed up to 5 feet across
- Between 7 and 14 feet tall (depending upon growth stage)
- Stems are green with extensive purple splotches and coarse white hairs.
- Stems are also hollow, ridged, 2-4 inches in diameter

Giant hogweed look alikes

- Angelica
  - Spherical infloresences

- Cow parsnip
  - Smaller
  - Leaves not as large, more rounded

What about the Ragweeds?

Common Ragweed

Giant Ragweed

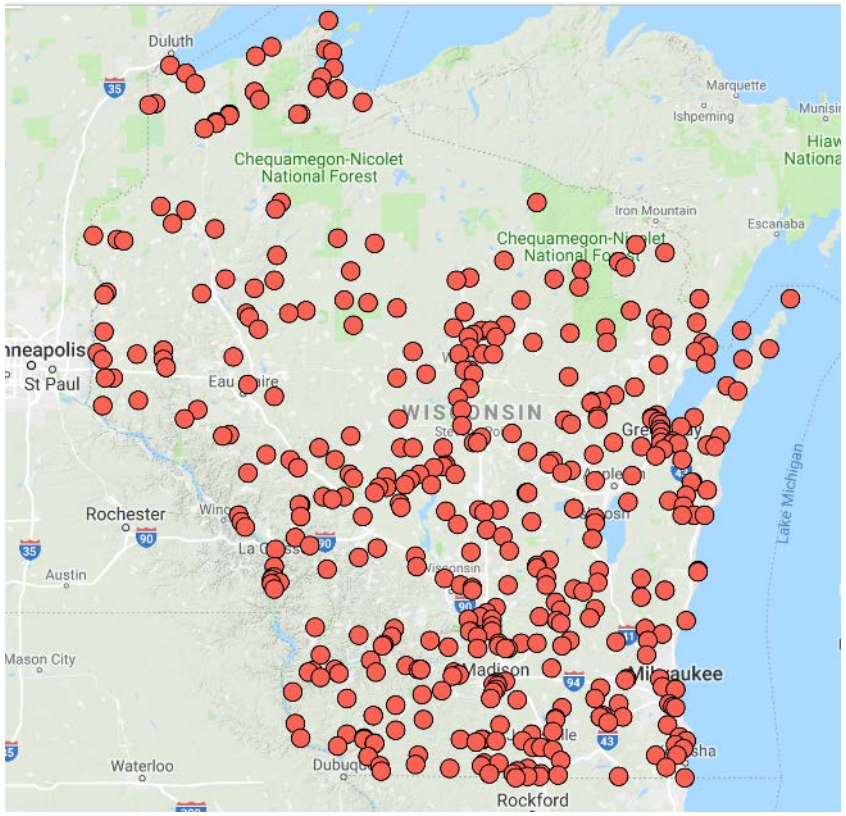
What about the Ragweeds?

Common Ragweed

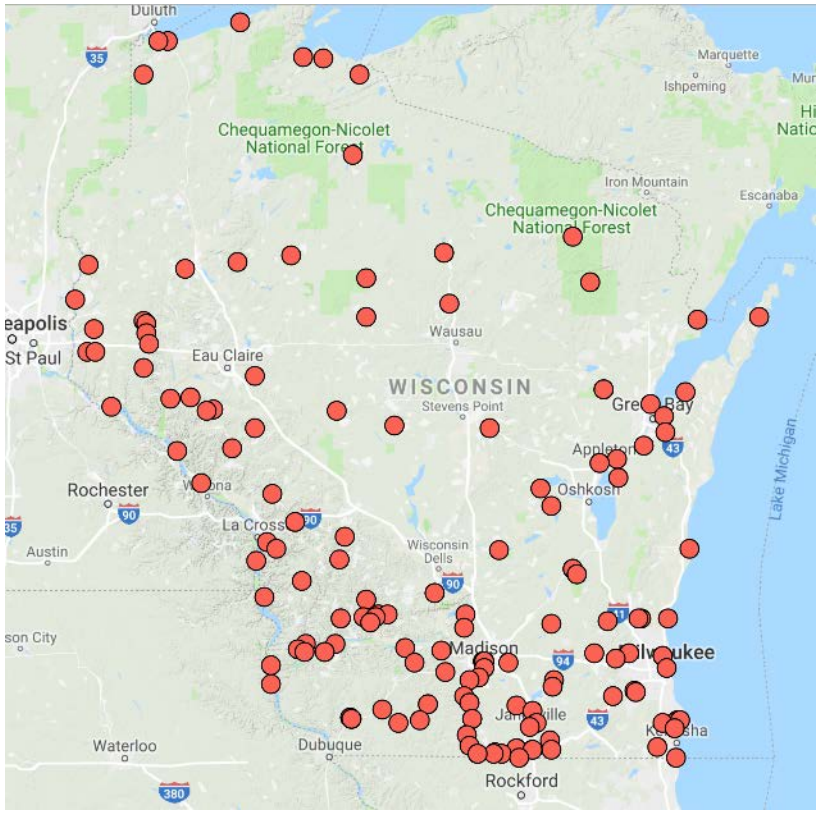
Giant Ragweed

What about the Ragweeds?

Common Ragweed



Giant Ragweed



Ragweed pollen and hay fever

- Large amount of pollen released in summer – fall
- affects as many as 23 million people in the U.S.

- Symptoms:
  - Sneezing, Runny nose, Nasal congestion, Headaches, Irritated eyes, Itchy throat
  - can aggravate asthma symptoms, (increased coughing and wheezing)

- Treatment:
  - antihistamines and other allergy medications.
    - starting your medication two weeks before you expect your symptoms to be at their worst. Ask your allergist Two immunotherapy options are available for severe cases of ragweed allergy:
  - avoid pollen; Highest in late summer and early fall.
  - Keep your windows closed at all times, both at home and in the car.

Ticks and invasives……

- Studies have documented increases in ticks and tick related diseases from two woody species

1. Japanese barberry = Deer ticks and lyme disease
2. Bush Honeysuckles = Lone star tick and **ehrlichiosis**

Japanese barberry
A highly invasive plant in forests

- Can dominate forest understories
- Displaces native plants/animals
- Difficult to penetrate thickets
  - Recreation
- Supports ticks and lyme disease

Japanese barberry
Stem characteristics

- Compact shrub
  - Round with many dense, spiny stems
- Stems grow in a zig-zag form
  - reddish-brown
  - deeply grooved
  - single sharp spine at each node

Japanese barberry
leaf characteristics

- Small, spatula shaped leaves
  - Alternate 0.5-1.5” long
  - Color varies
  - Leaves are arranged in clusters above a spine.

Japanese barberry
Flower/Fruit characteristics

- Yellow flowers (mid-spring)
  - umbrella-shaped, 0.25” wide with 6 petals.
  - Found along the stem individually or in clusters of 2-4.

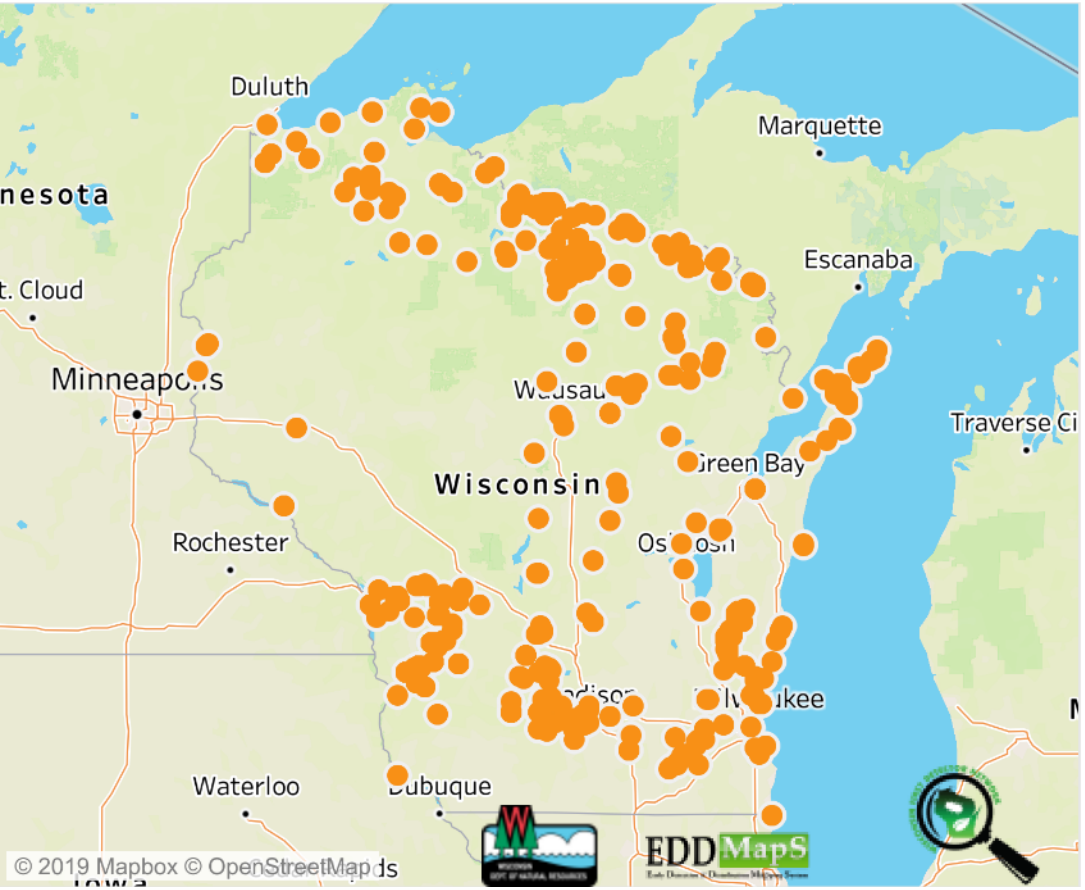
- Bright red oblong fruit
  - 0.3” long
  - Fruit mature in mid-summer and can persist through winter.

Form of Japanese barberry can look different in the natural areas

It can get dense in forest understories

Japanese barberry Distribution in Wisconsin

Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



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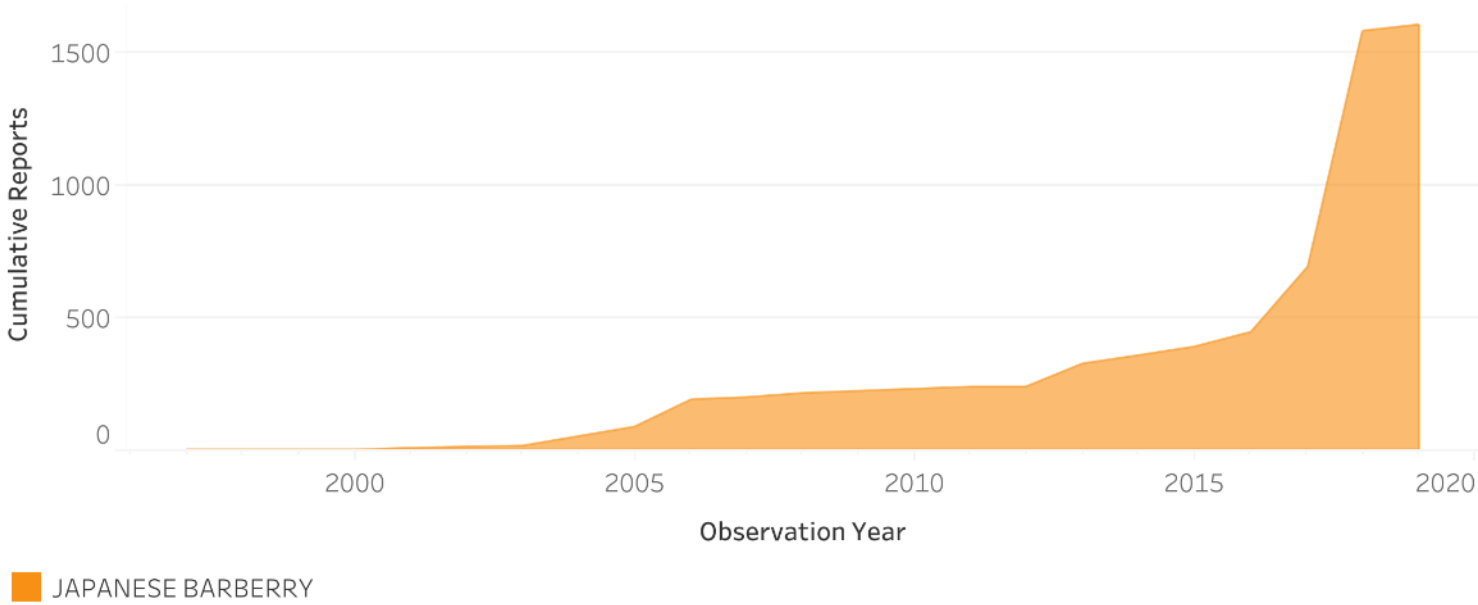

WDNR Classification
All

Common Name
JAPANESE BARBERRY

Reporter (fill in, hit ent..
All

Year of Observation Date
1989 to 2019

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Last updated on 6/28/2..

Similar Species

- European barberry (*Berberis vulgaris*)
  - sharply toothed leaf margins
    - Japanese barberry no teeth on margin
  - 3- pronged spines lining the branches.
    - Japanese barberry has 1 spine
  - Taller than Japanese barberry with more loosely arranged branches

Exotic bush honeysuckles *(Lonicera* spp.*)*

Exotic bush honeysuckles *(Lonicera* spp.*)*

- Multi-stemmed shrub.
- Shaggy bark and hollow stems as they age.
- Opposite leaves with entire margins.
- Paired flowers.
- One of the first shrubs to leaf out and flower. Keeps leaves longer than most other shrubs in fall.

Winter ID of Bush Honeysuckles

- Multi-stemmed
- One of the first species to green-up in spring
- Shaggy bark, tan bark
- Hollow stems

Amur honeysuckle *(Lonicera maackii)*

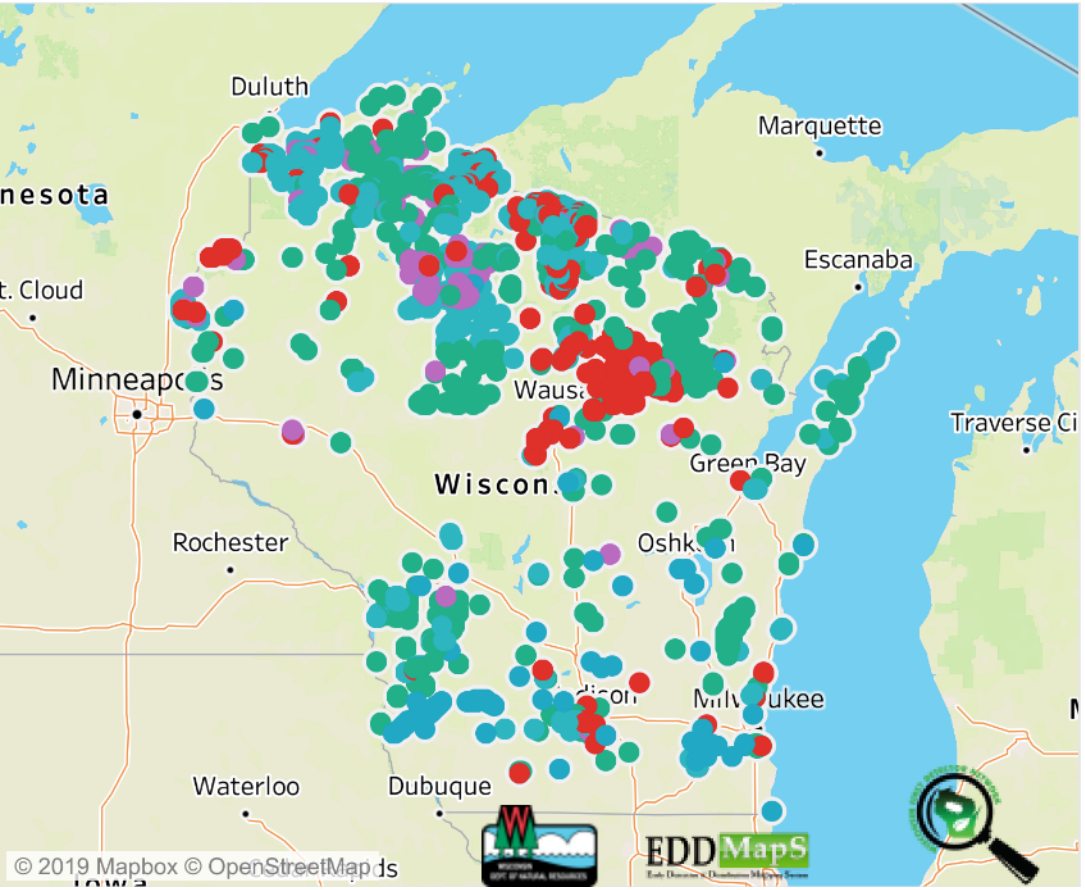
Morrow honeysuckle
(Lonicera morrowii)

Tartarian honeysuckle
(Lonicera tatarica)

Bell's honeysuckle
(Lonicera x bella)

Exotic honeysuckle Distribution in Wisconsin

Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



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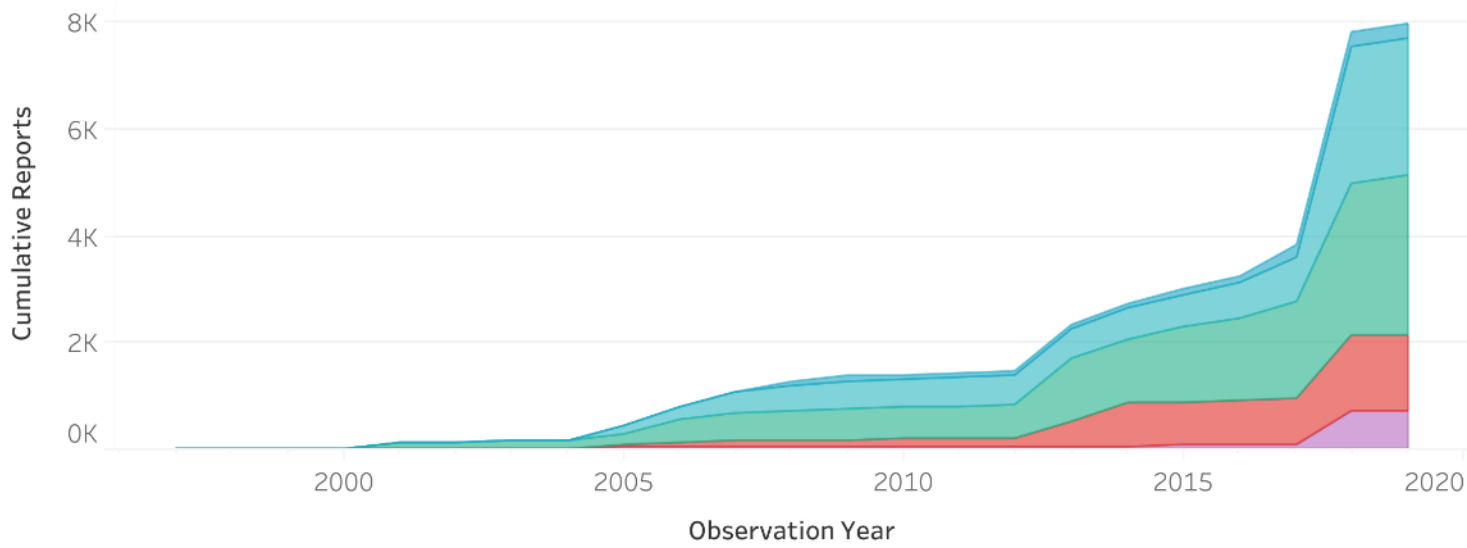

- AMUR HONEYSUCKLE
- BELLS HONEYSUCKLE
- BUSH HONEYSUCKLES ..
- MORROW'S HONEYSU..
- TATARIAN HONEYSUC..

WDNR Classification
All

Common Name
Multiple values

Reporter (fill in, hit ent..
All

Year of Observation Date
1989 to 2019

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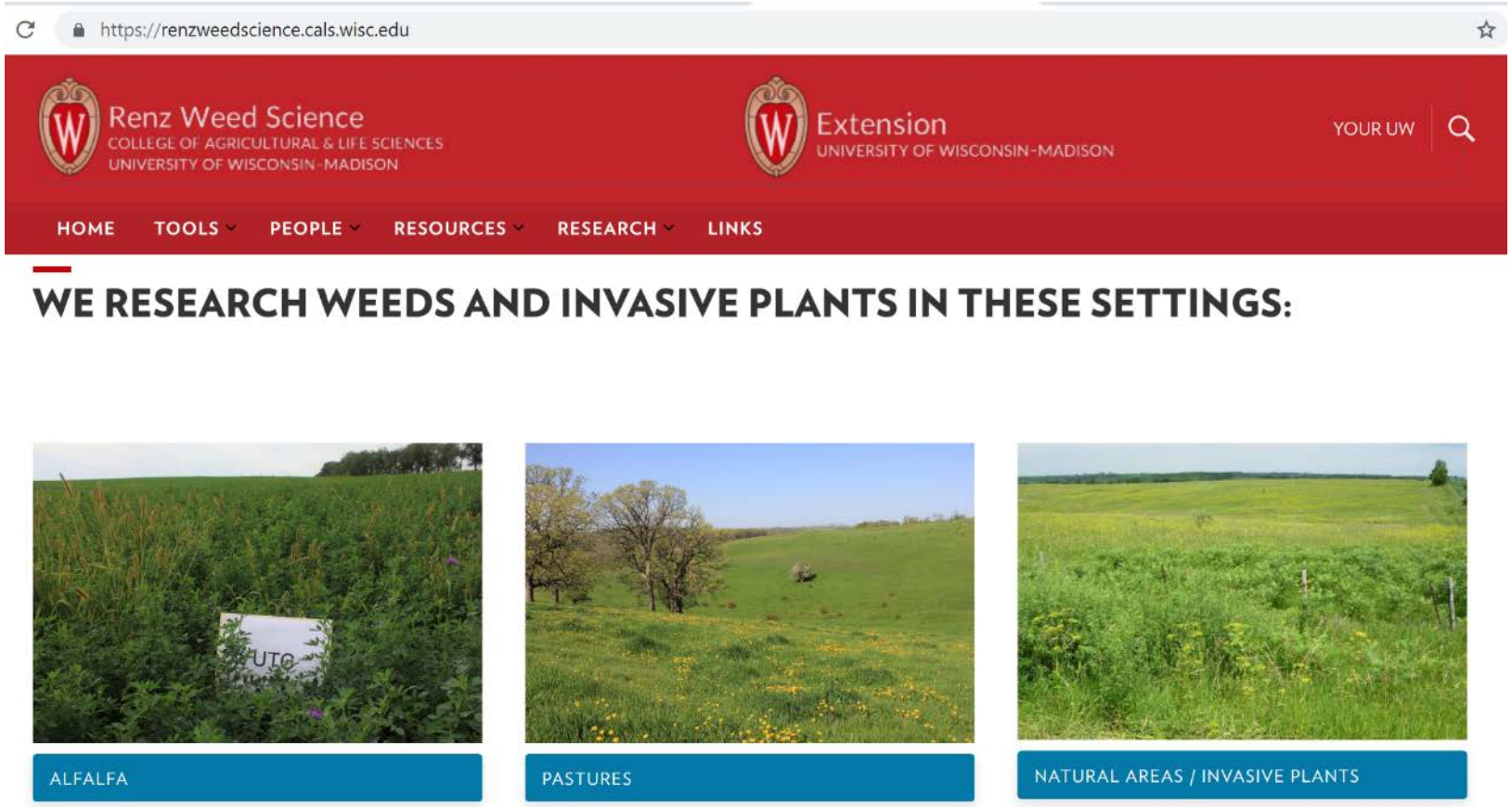
Last updated on 6/28/2..

Resources

https://Renzweedscience.cals.wisc.edu

- General weed id/info
  - Factsheets on identification
  - Weedometer
  - Weed ID website
- Invasive Plants
  - Factsheets/videos
  - WISTIPP viewer
  - Phenology calendar
- Research summary/reports



Wisconsin First Detector Network (WIFDN)

ESTABLISHED 2013

A statewide citizen science network for invasive species detection and education

https://fyi.extension.wisc.edu/wifdn/

University of Wisconsin-Madison | Extension

Wisconsin First Detector Network

Division of Extension

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- What are invasive species?
- Invasive Species I.D. and Impacts
- Managing Invasive Species

Welcome to th ork!

The Wisconsin Firs science network that empowers people to take action against invasive sp ng, management, and outreach. WIFDN provides training and resources through a combination of webinars, instructional videos, and hands-on workshops, in addition to providing volunteer opportunities to citizen scientists.

News

New Species Alert! Look for Purple Carrot Seed Moth in your garden

The purple carrot seed moth (PCSM) is a relatively new insect to Wisconsin. It can be found on flower/seed heads of plants in the carrot family, so you may find it in your vegetable/herb garden. Take 10 minutes to watch this

https://fyi.extension.wisc.edu/wifdn/learn/ ntify PCSM, keep an eye on your garden this year, and please let us know if you find this

I WANT TO:

- Report invasive species
- Access fact sheets and I.D. videos
- Report a Pigweed

SUBSCRIBE TO WIFDN UPDATE

Type here to search

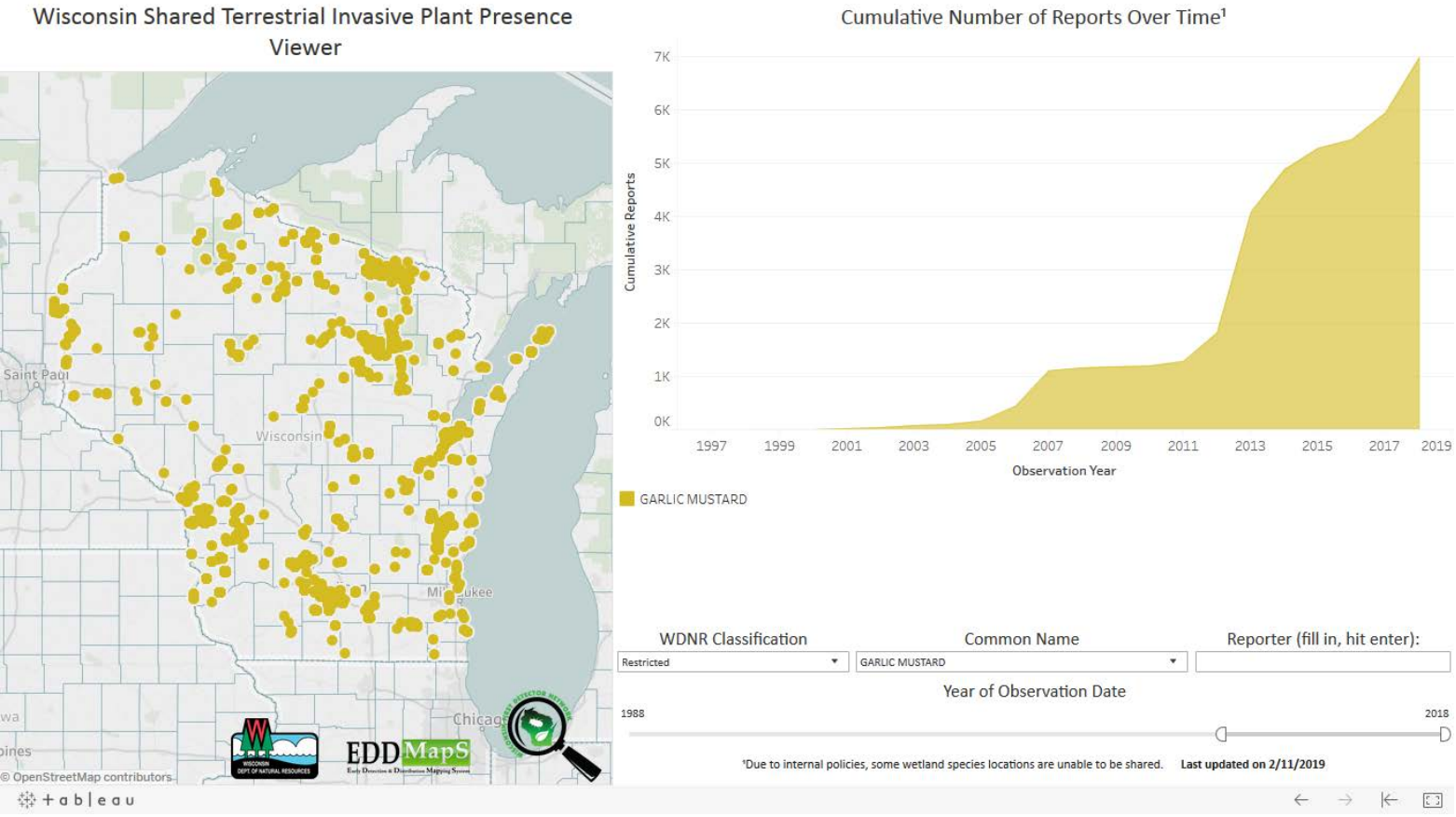
12:52 PM
7/15/2019

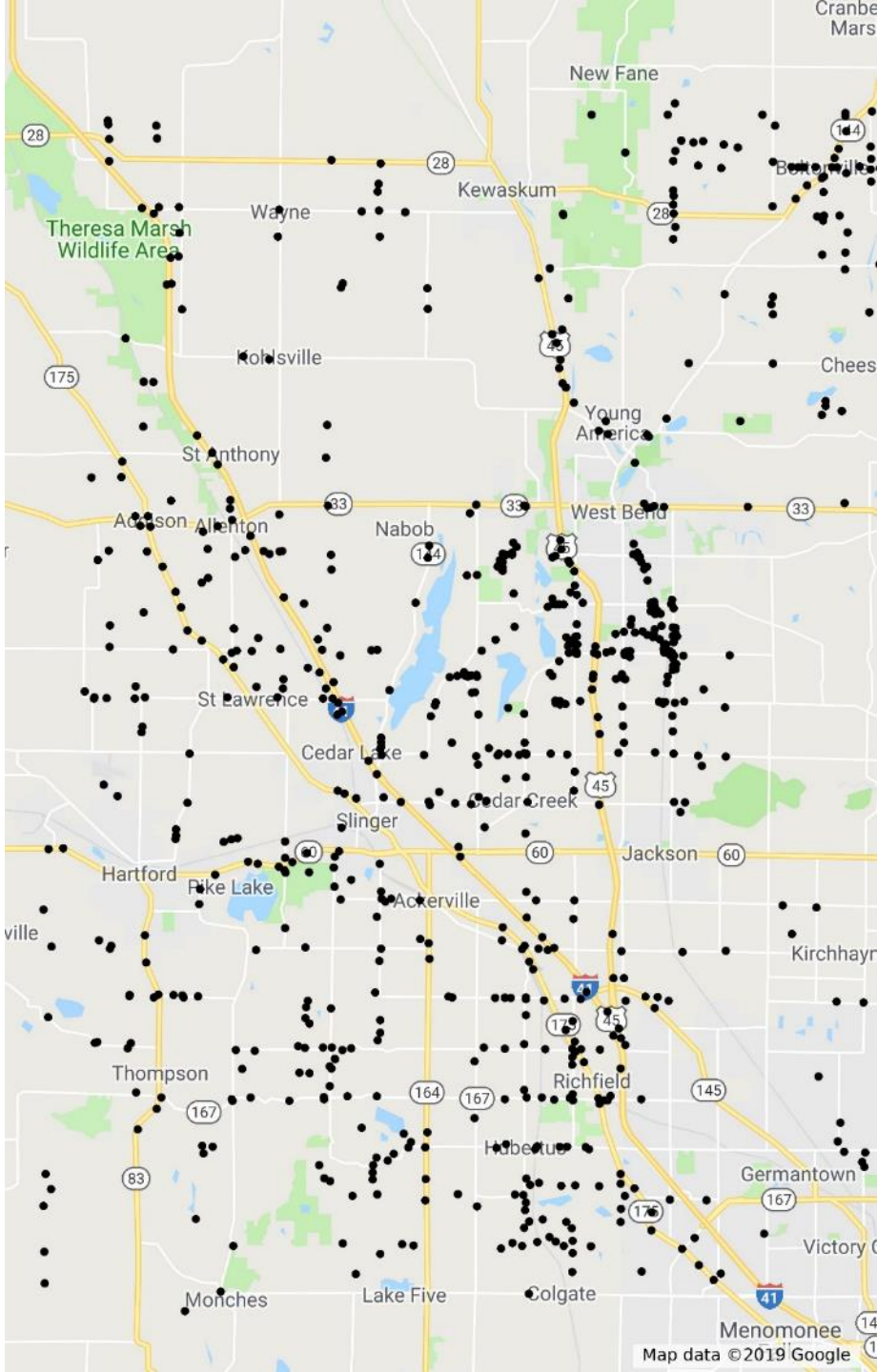
Reporting Invasive Plants

Great Lakes Early Detection Network (GLEDN) App

- Map invasive species
- Take photos for verification
- Built-in field guide
- Reports verified and shared on EDDMapS online invasive plant database (https://www.eddmaps.org/midwest/)

Mapping Invasive Plants





Wild Parsnip point locations in Washington County. Data courtesy of [WISTIPP Viewer](), [EDDMapS Midwest]()

Factsheets on Invasive Plant Management

MANAGEMENT OF

INVASIVE PLANTS IN WISCONSIN

A3924-15

Wild parsnip

(Pastinaca sativa)

Brendon Panke, Ryan deRegnier, and Mark Renz

Invasive plants can thrive and aggressively spread beyond their natural range, disrupting ecosystems. The *Management of Invasive Plants in Wisconsin* series explains how to identify invasive plants and provides common management options. Management methods recommend specific timings for treatment, as well as expected effectiveness. For more

Wild parsnip is an herbaceous plant that establishes as a rosette with upright leaves persisting for at least one year. Plants flower in subsequent years (typically 2nd or 3rd year), but after plants flower, they die (monocarpic perennial). Flowering stems are stout, hollow, grooved, and up to 5' tall.

Caution: Sap contact with skin in the presence of sunlight can cause a rash that often leads to blisters and discoloration of the skin (phytophotodermatitis). Wear gloves, long sleeves, and pants when handling.

Legal classification in Wisconsin: Restricted. The garden parsnip vegetable is the same species as the invasive form. The garden form is not restricted.

Leaves: Rosette leaves are pinnately compound with 5–15 broad, ovate to oblong leaflets. Stem leaves are alternate, with 2–5 pairs of opposite, sharply toothed leaflets. Petioles wrap around the stem. Upper stem leaves are reduced to narrow bracts.

Similar species: Wild parsnip is distinguished from other species in the parsley family by its yellow flowers and pinnately compound leaves, which are divided once into more than five leaflets. Golden alexander *(Zizia aurea;* native) can be distinguished from parsnip by its earlier flowering time, shorter stature, less open appearance, and 2–3 pairs of leaflets. Prairie parsley (*Polytaenia nuttallii;* native) can be distinguished from parsnip by its oblong leaflets with few teeth and rounded umbels.

Ecological threat:

- Invades prairies, oak savannas, fens, old fields, pastures, and roadsides.
- Thrives in disturbed habitats and along edges of many habitat types.
- Can invade undisturbed grasslands.
- Seeds are readily transported by water.

- Identification
  - Hazards
  - Similar-looking plants
- Mechanical management (mowing, hand-digging)
- Chemical management (herbicides)
- Listed on Renz Weed Science website (https://renzweedsci.webhosting.cals.wisc.edu/)

Management – Wild Parsnip

Removal

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Pulling or cutting the root from the stem are effective individual plant control techniques. Pull if soil conditions allow for the removal of the taproot. Alternately, cut the entire taproot with a sharp shovel or spade 1–2" below the surface. If flowers are present, bag material and dispose of it in a landfill to avoid potential for seed spread.

Mowing

Effectiveness in season: 90–100%
Season after treatment: 50–70%

Mowing can be effective if timed after the emergence of flower heads, but before seeds enlarge. Plants may resprout and still flower, but rarely produce viable seed. Monitor populations and repeat mowing if concerned about seed production. Care must be taken not to mow when mature seeds could be present as this will spread the seed. Parsnip populations may increase after the initial mowing, but repeating annually at the recommended timing for 3–5 years will reduce populations.

dicamba + 2,4-D*

Effectiveness in season: 90–100%
Season after treatment: 90–100%

Common name: Weedmaster

Rate:
broadcast: 16–32 fl oz/A (dicamba: 0.14–0.27 lb a.e./A + 2,4-D: 0.18–0.36 lb a.e./A)
spot: 0.8% (dicamba: 0.009 lb a.e./gal + 2,4-D: 0.011 lb a.e./gal)

Timing: Apply to rosettes in fall or spring, bolting, or flowering plants.

Caution: Do not apply directly to water or to areas where surface water is present. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided, as even minute quantities of the spray may cause severe injury to plants. Rates > 16oz/A (0.5 lb a.e./A) may cause stunting and discoloration of sensitive grasses, such as smooth brome.

- <u>Considerations:</u>
  - Effectiveness in season and after
  - Repeat Treatments
  - Application Rates

- <u>Objective:</u>
  - interrupt seed production and spread
  - Correct timing management is **critical**

Questions?

Next slide for CEUs……

Need CEUs?

Hazardous and Toxic Plants in Wisconsin

- Mark Renz

CEU Code: WI – 19 – 068

CA: 1.0 BCMA-S: 1.0 CTSP: 1.0