

The Townships Versus Wild Parsnip

2020-2021 Report by the Cannon Valley Noxious Weed Collaboration



THE WILD PARSNIP CHALLENGE BEGINS:



- ▶ In the summer of 2016, a resident picked wildflowers from a road ditch and received serious skin burns which started an investigation as to the cause of these injuries. This began an all-out study and eradication plan on Wild Parsnip in our township. The original source of the infestation of this non-native plant is unknown, but its growth is rapidly spreading both in road right of ways and private lands.



CHALLENGE ACCEPTED:

- ▶ In 2018, Northfield and Bridgewater Townships of Rice County were awarded a Minnesota Department of Agriculture grant to study and mitigate Wild Parsnip. Due to the successful results of the 2018 grant in the two townships, an additional two townships were requested to join in a collaborative to apply for a 2-year, \$50,000, grant from the MN Department of Agriculture to be awarded in 2020. Through collaboration, the Rice County Townships of Bridgewater and Northfield along with the Dakota County Townships of Greenvale and Waterford sought to expand mitigation of the Wild Parsnip and other invasive noxious weeds. Together these townships adopted the name Cannon Valley Noxious Weed Collaborative Group.
- ▶ Upon receiving the grant, the Cannon Valley Noxious Weed Collaborative Group, worked throughout the 2020 season to educate and encourage all surrounding jurisdictions to reduce the spread of noxious weeds. While significant progress has been made, further coordination will be needed by all surrounding jurisdictions to reduce the explosive spread of old and new invasive species encroaching on our environment. Containment and mitigation of these species is possible with cooperative effort.



WORKING TOGETHER TO ACHIEVE RESULTS:

Positive results can be readily achieved by numerous jurisdictions working together to mitigate the spread of invasive noxious weeds.

What we have learned in these few years of remediation of Wild Parsnip and all Noxious Weeds:

1. Target Spraying is generally more effective than mowing and less destructive to nesting habitat. Broadcast spraying is not preferred due to greater inaccuracy and destruction of desirable plant growth
2. Timing of all treatment methods is critical
3. A clean mower is an **ABSOLUTE** necessity so as to not 'carry' seeds
4. Repeat treatment should be used
5. Removal of trees and brush from the right-of-way by a combination of chemical and mechanical means with treatment of cut stumps is more effective and longer lasting than mowing. This in turn can result in less mowing and less spread of unwanted seed.
6. Mowing only from the road to the bottom of the ditch helps to slow the spread of noxious weeds and reduces the area on the back-slope that requires treatment by other means to prevent spread to nearby crops and private property.



TREATMENTS TO ACHIEVE RESULTS:

- ▶ Past treatment efforts have included broadcast chemical application via commercial sprayer, modified ATV with sprayer, backpack sprayer, and hand pulling. Each of these methods has benefits and drawbacks. Commercial spraying was the first route used by the township as proper equipment was not readily available and chemical use carries risks. While the Township provided direction regarding which roads to spray, timing was limited to the applicator's availability. Commercial spraying can provide the desired result of eliminating all weeds in the ditches; however, they also eliminate native plants and are not as successful in reaching areas next to planted crops.
- ▶ In 2018, Bridgewater Township purchased a modified ATV that was capable of spraying chemicals. This allowed a township employee to control when and where the chemical was applied with greater accuracy. The ATV was utilized by the neighboring township also. This method was beneficial in targeting the wild parsnip, but did involve greater township planning and involvement.
- ▶ While use of both commercial broadcast spraying and smaller scale township spraying is effective in control of large infestations of noxious weeds, small scattered areas can be controlled by use of a backpack sprayer or hand pulling. These methods are time consuming, but effective in small areas to prevent the reinfestation of weeds.



VOLUNTEERING TOGETHER:

- ▶ An army of volunteers from each township assembled to traverse the hundreds of miles of area roads identifying quantities and location of noxious weeds. These field observers were trained by Nancy Braker of the Carleton College Arboretum and Neil Silfka of the DNR. The observations were recorded in EDD Maps which is a national invasive species web-based inventory system used to track and monitor the presence of species over time. These maps provided the foundation of the project. After various treatments were administered, the results were entered into ISMTrack, a Minnesota/Wisconsin based web program to track not only efforts, but also the progress of remediation of invasive species.
- ▶ Information regarding wild parsnip was included in the Township newsletters. Following these publications, residents took note of the dangers of wild parsnip and provided input in locating areas of the noxious weed.

PROTECTING THE ENVIRONMENT:

- ▶ Protection of our native environment has been of the utmost importance throughout our endeavor. Signs requesting “Do Not Mow/Spray” were made available to residents with sensitive areas. Residents with these signs agreed to oversee removal of all noxious weeds within the protected areas.
- ▶ General use chemicals, such as 2-4-D and Escort, were used in treating noxious weeds. These chemicals were chosen as being the most efficient in eliminating the weeds while having an acceptable impact on the desirable plants and wildlife. While the majority of these chemicals were applied by sprayer from a motor vehicle, some areas were treated by backpack sprayer and hand pulling. Labor intensive techniques such as hand pulling and backpack sprayer were utilized in highly sensitive areas and where minimal noxious weeds were observed.





MOVING ON TO NEXT STEPS:

- We have made considerable progress in reducing the populations of wild parsnip and thistle. Other noxious weeds such as leafy spurge, wild carrot, and palmer amaranth are being monitored.
 - Private landowners need education and assistance in controlling noxious weeds on their properties. While the Collaboration had goals to address this, the pandemic made in-person contact limited.
 - Railroads are another point of concern as 'creepage' from the right-of-way to adjoining land is concerning and should be addressed.
 - All jurisdictions and land managers throughout the State of Minnesota have the authority and obligation under the MN State Statute 160.23 to eliminate noxious weeds. As a result, programs should be adopted to control Noxious Weeds as the spread continues with known and new unknown populations.
 - Progress has been made over the last two years in surrounding areas, and by working together, progress can continue.
- 



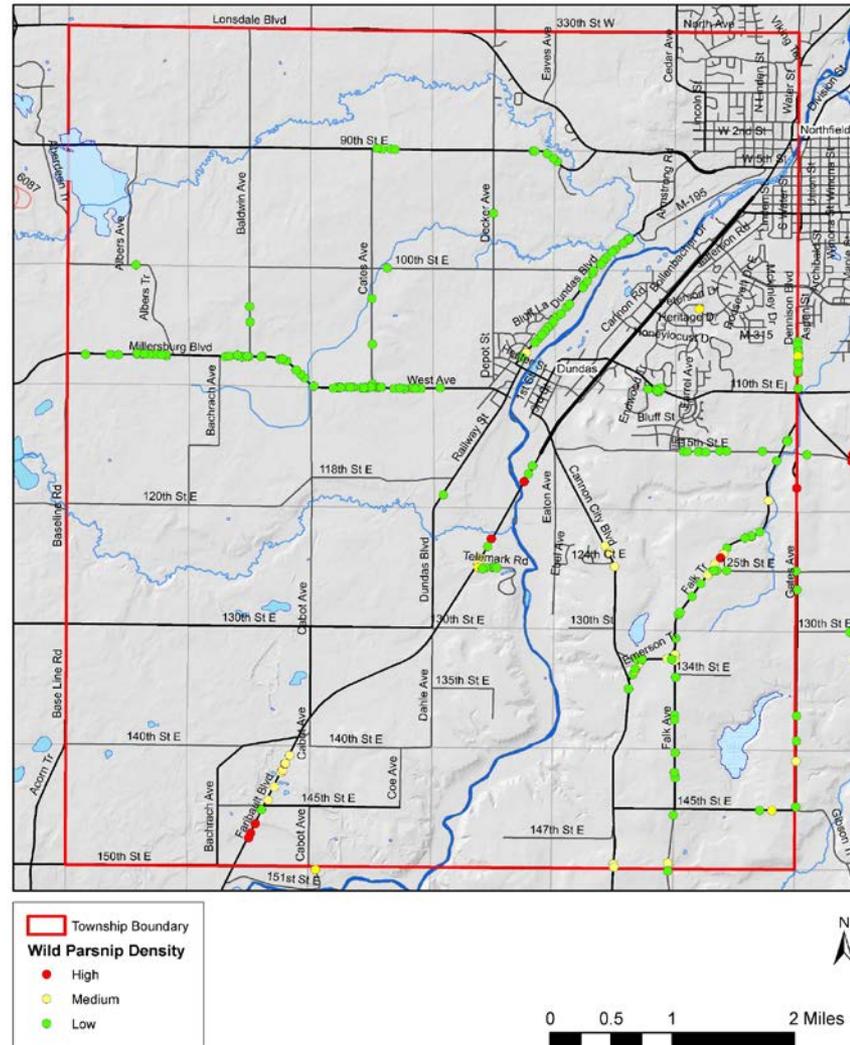
NEXT STEPS CONTINUED:

A combination of vigilance and a solid program of preventive actions can result in the ongoing reduction of invasive plant growth. These actions can include:

- ▶ Joint planning between neighboring jurisdictions that results in uniform processes and procedures.
- ▶ Mowing according to MDA guidelines found in Mn DOT's Minnesota Noxious Weeds Booklet.
- ▶ Obtaining collaborative funding to provide education for both public and private land owners.
- ▶ Joint Powers agreements created to further collaboration between adjoining jurisdictions.
- ▶ The creation of quality control measures to ensure that the roadside 'seed mixes' utilized in reseeding the road right of way do not contain noxious or invasive plant species.

Results of 2020 Bridgewater Wild Parsnip Survey

2020 Roadside Wild Parsnip Surveys: Bridgewater Township

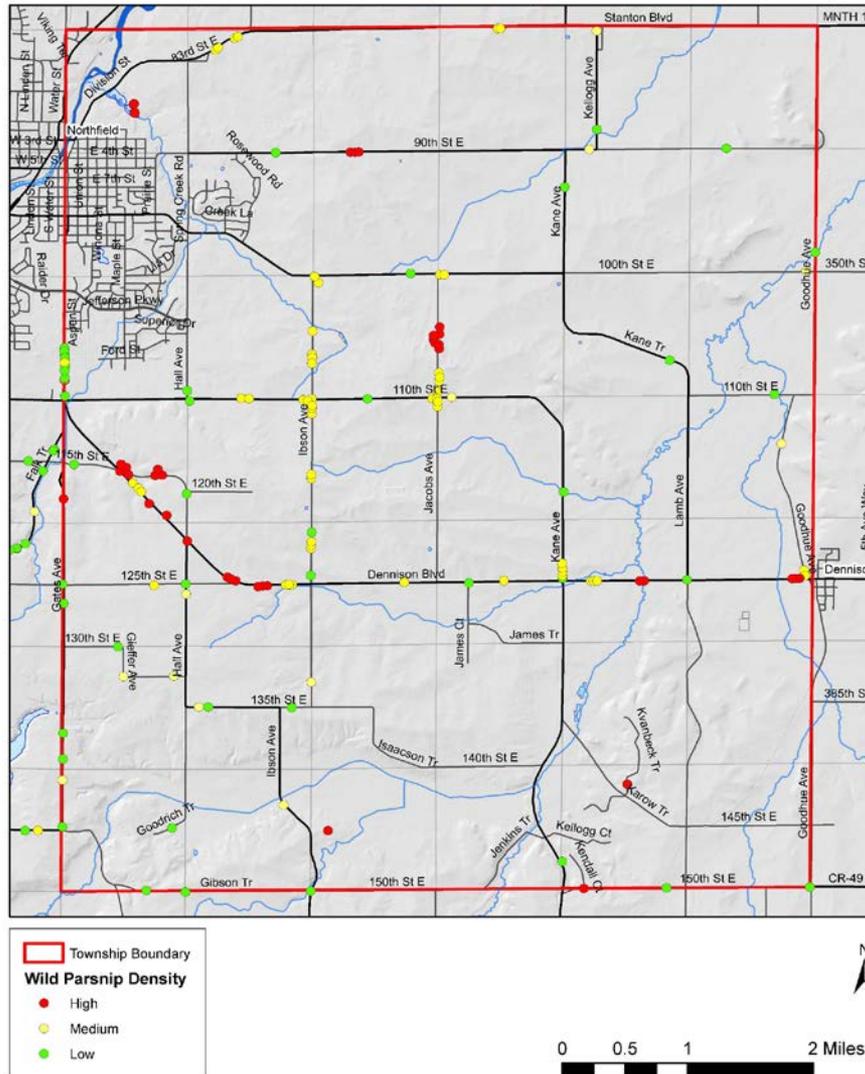


Through a team of volunteers, the presence of noxious weeds was mapped throughout the townships.

Rice County maps were developed by Neil Slifka, DNR Regional Nongame Wildlife Specialist.

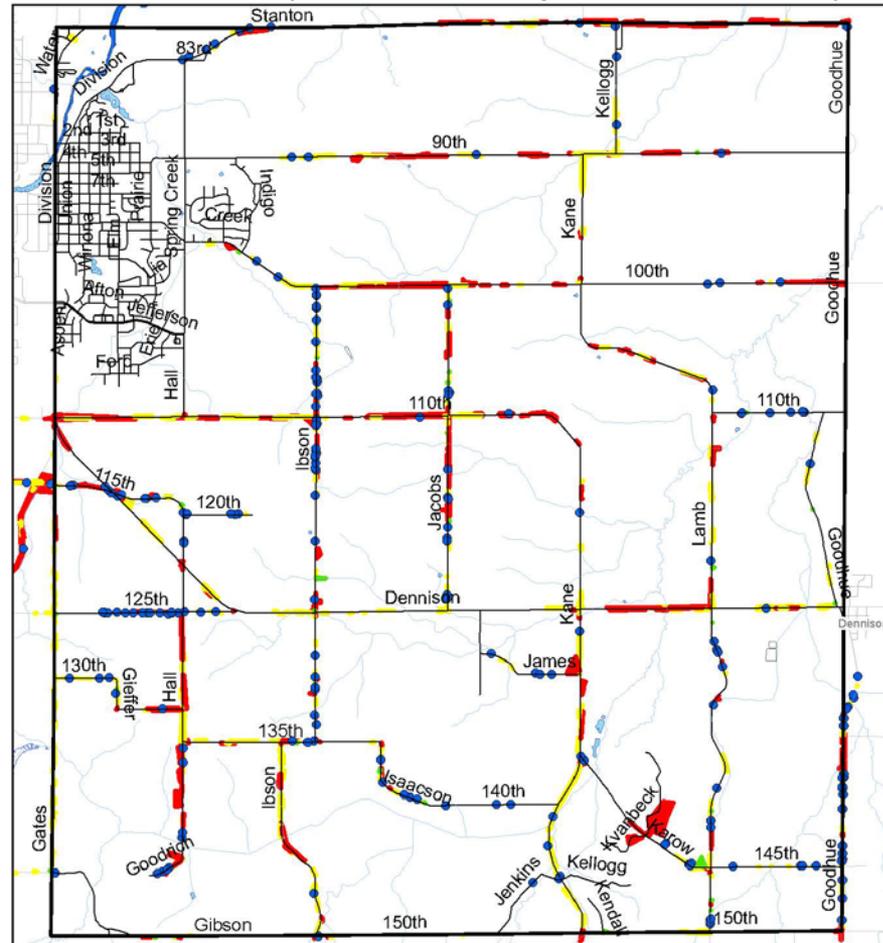
Results of 2020 Northfield Twp Wild Parsnip Survey

2020 Roadside Wild Parsnip Survey: Northfield Township



Results of 2019 Northfield Twp Wild Parsnip Survey

2019 Wild Parsnip Roadside Survey: Northfield Township



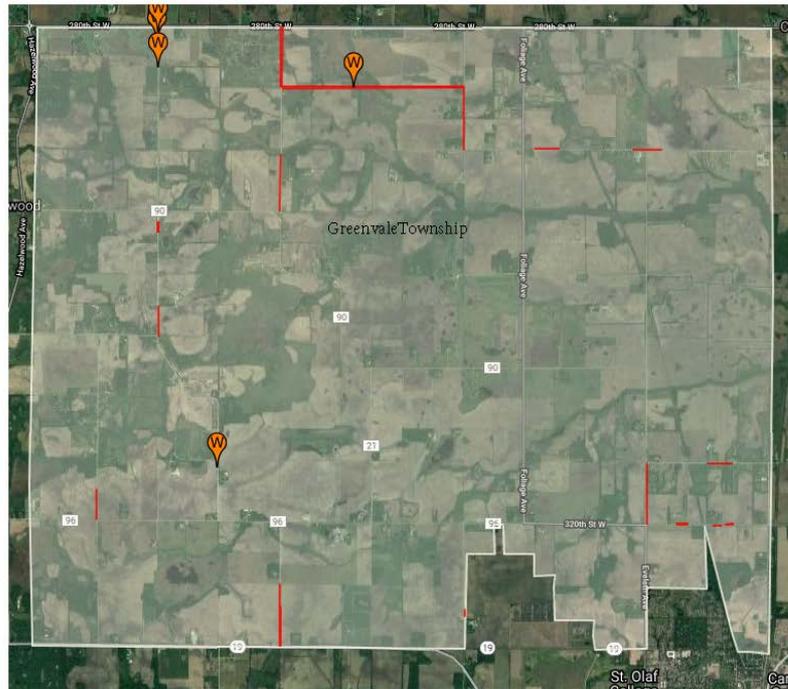
Wild Parsnip: Density Classes (Estimated #)

- 1-10
- 11-100
- >100
- Single Plants

0 0.5 1 2 Miles



Results of 2020 Greenvale Twp Wild Parsnip Survey



Dakota County maps were developed by Todd Matzke of the Dakota County SWCD office.

Results of 2020 Waterford Twp Wild Parsnip Survey



Work Safely Around Wild Parsnip

Wild parsnip sap contains toxins and humans can be poisoned through actions such as removing plants by hand pulling, weed whipping or working under a mower deck/These activities may result in wild parsnip sap contacting bare skin and can cause problems, if in addition, there is continued exposure to sun light/

The resulting reaction ranges from a sunburn like rash to a potentially serious blistering rash which can result in loss of time at work/ Wild parsnip sap contains a chemical which upon exposure to sunlight can cause chemical burns on skin/ Simple precautions can be taken to prevent wild parsnip injuries/ First and foremost people working outdoors are at risk and should be able to identify wild parsnip in all of its life stages/

Identification

Plant: Herbaceous, biennial (monocarpic perennial), first year as a cluster of leaves growing directly from the ground and second year wild parsnip is a branched, 2-5 feet tall, robust plant/Stems typically lack hairs, are hollow, grooved and are light green/

Leaves: !lternate, pinnately compound with 5-15 leaflets/Three inch long by two inch wide leaflets are often cleft with coarse teeth on the margin/ Basal leaves tend to be larger with longer stalks and more leaflets than upper stem leaves/ Petiole to stem attachments are covered by a sheath/

Flower: Numerous small yellow flowers arranged in compound umbels (umbrella shaped clusters)/ Each flower is small and has 5 petals/ Petals remain tightly curled/

Typically, floral bracts at the base of umbels aid identification of carrot family members to species/ However, wild parsnip does not have floral bracts under umbels and umbellets/

Bloom time varies from June through July (typically 1-2 months late spring to mid-summer), then plant parts wither/



Leaves of first year rosette and green grooved stem.



Flowers are yellow and petals remain tightly curled.

Working safely around wild parsnip

- Unlike Poison ivy (an allergic reaction), everyone is susceptible to wild parsnip sap reactions/
- You can touch and/or brush past wild parsnip without causing sap flow- thus, no exposure to sap/
- Wild parsnip sap is not an oil like poison ivy sap (urushiol)/ Soap and water or plain water can effectively remove or dilute the sap and prevent skin damage if done in a timely manner/
- Skin that is protected from sun exposure (UV rays) should be effectively protected from skin damage even if sap were to get under clothing/

Proper clothing: Boots, long sleeves, long pants and good gloves/ Cover the gap between glove and sleeve!

Laundering clothing: Unlike poison ivy, mixing contaminated clothing into the family wash is not an issue/

!void wiping sap onto your bare skin: Mosquitos, flies and other biting insects may have you swatting and or itching your bare face/ If there is sap on your hand or glove, it will be effectively transferred to sun-exposed skin on your face and neck/ Hot, sweaty skin means open pores - sap can then penetrate deeper and result in more severe damage/

Removing plants: Effective removal can be accomplished with a shovel or similar cutting tool/ Cut the plants approximately 2 inches below ground/ Leave plants in place to dry/

Mowing or cutting: Effectively knocks height down, but does not kill plants/ Use caution around green, still moist plant material and cut stems that may ooze sap from cut surfaces/ Leave plants in place to dry/

Herbicide: Given time, herbicide applications will kill plants/ However, while plant material is green and not dry the sap still presents a hazard/

Wild parsnip and native cow parsnip

Wild parsnip is not native to Minnesota/ It is related to other members of the carrot family such as native cow parsnip, which can also cause skin reactions/

Wild Parsnip (non-native)



Key Difference.
Flowers are yellow
Leaves are compound with 5-15 leaflets
Stems are green with definite ridges (grooves)/



Cow Parsnip (native)



Key Difference.
Flowers are white
Leaves are 3-parted and can be 18 inches across and long
Stems are hairy, green to purple in color/



For more information

Visit MnDOT's [Roadside Vegetation Management](#) website or contact Dave Hanson, MnDOT Office of Environmental Stewardship, 651-366-3632

[MnDOT's Minnesota Noxious Weeds Booklet](#)



Caution - Use protective clothing, goggles or face mask. Contact with the sap of the plant (i.e., phyto) when combined with exposure to sunlight (i.e., photo) can cause severe blistering and swelling (i.e., dermatitis) - phytophotodermatitis.

See MnDOT factsheet: [Work Safely Around Wild Parsnip](#).

Identification: Compare to [golden alexanders](#) (*Zizia aurea*) and [heart-leaved golden alexanders](#) (*Z. aptera*), both native. See page 62.

Plant: Herbaceous, often stated to be biennial but is classed as a monocarpic perennial (plant dies after bearing fruit). Early life form is a basal rosette with mature stems developing a hollow, grooved flowering stalk potentially reaching 5 feet.

Leaves: Basal rosette leaves can be 6 inches in height and are pinnately compound with 5-15 leaflets. Flowering stalk leaves are alternate, 2-5 leaflets that become smaller near the top of the stem. Leaflets are coarsely toothed, sinuses cut to varying depths creating lobes of various sizes. The base of the leaf stalks wrap or clasp the grooved stem.



Flower: 12-35, 5-petaled, small yellow flowers on wide, flat umbels of 15-25 umbellets approximately 2 to 6 inches across.

Bloom time is June to July.

Fruit and Seed: Flattened, yet ridged, oval seeds.

Life History: Typical life span is two years, first year a basal rosette. One of the first plants to green up in spring and one of the last to brown down in autumn providing good opportunities for scouting and treating. Mid to late summer, mature second-year plants will bolt, flower and set dozens of seed per plant. Seeds are moved off infested sites by animal and human activity or wind and water movement. Seed is reported to be viable in soil for up to 4 years.

Habitat: Disturbed sites such as roadsides and abandoned fields or lots. Can occur in wet meadows but dry to mesic soils are more typical. Full to partial sun is a must for this species.

Management: See Minnesota Department of Agriculture web for [Lifecycle and Treatment Timing poster](#).

When possible plan early **mowing** at first inflorescence, then monitor and repeat as plants will likely re-sprout, bolt and flower. If **cutting** or **mowing** after seed set, clean equipment to leave seeds on the infested site. Preferably, propagating plant parts should be disposed of onsite or when necessary contained (e.g., bagged) and removed to an approved facility. For more information on disposal options, please read [MDA's guide on removal and disposal](#).

Prescribed fire can be used to encourage stands of native grasses for competition. However, follow-up treatments (herbicide or cutting) are still required to prevent seed production.



Herbicide controls include foliar applications of 2,4-D or metsulfuron-methyl to the rosette stage during May and June and again in September or October. If glyphosate is to be applied to rosettes, it is recommended to hold off until late fall to prevent damage to desirable plants that should then be dormant.



| | | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec.-Mar | |
|-----------|------------------|---|-----|------|------|------|-------|------|------|----------|--|
| | Burn | Use fire to improve native plant community. | | | | | | | | | |
| Herbicide | Foliar | | | | | | | | | | |
| | Mow | | | | | | | | | | |
| | Don't mow | | | | | | | | | | |
| | Flowering Period | | | | | | | | | | |

Four area townships band together to eliminate wild parsnip

By ANDREW DEZIEL
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The Minnesota Department of Agriculture has awarded a \$50,000 grant to help four area townships eradicate a dangerous invasive species.

The local grant is one of 35 projects statewide, for a total of \$537,000 from MDA to be used for equipment and supplies, mapping and outreach activities, and other efforts to reduce noxious weed populations.

Currently, 48 different plant species are defined by the MDA as "noxious weeds." According to the agency, these plants have the potential to inflict harm on human or animal health, the environment, roads, crops, livestock or property.

The noxious weed which has caused so much trouble locally is known as wild parsnip. John Holden, a former Bridgewater Township supervisor who is helping to lead the Cannon Valley Noxious Weed Collaboration Group, said that it was likely introduced locally by road crews.

Since then, it's rapidly spread to become a regular presence in local roadside ditches. That's a serious issue because wild parsnip contains highly toxic oil which can cause severe burn-like effects and even permanent skin damage. Unlike poison ivy, wild parsnip-related inflammation is caused by a chemical reaction, not an allergic one. That means that while many people are immune from poison ivy-related skin damage, no one is immune to wild parsnip.

In recent years, Bridgewater Township residents have found that out the hard way. Holden said that it first came to the township's attention in 2016, when a resident went to pick wildflowers in a local ditch and came back with severe skin burns. An investigation was launched and quickly determined the culprit. Unfortunately, it also showed that wild parsnip had not only arrived in the region, but was spreading rapidly, and quickly becoming a feature of public and private lands alike.

Under Minnesota state law, local jurisdictions are required to control noxious weeds on public lands. However, getting the state to devote resources to wild parsnip eradication has been a challenge, Holden said, and precious time has been lost.

"None of us addressed it until the last few years and as a result it's exploded all over," Holden said. "Now, it's evident in many, many places."

Holden said the likely culprit is in-



Steve Albers examines a large wild parsnip plant in Northfield Township. The noxious weed can leave awful burns on the skin of anyone who touches the plant. (Andrew Deziel/Faribault Daily News)

expensive seed mix purchased by M-DOT and county highway departments and laid after the completion of a road project. Once it arrives in an area, it can quickly spread onto public and private lands alike.

In 2017, Bridgewater Township joined with neighboring Northfield Township to begin an annual survey documenting where wild parsnip exists. The following year, they received funding from the MDA for further documentation and eradication efforts.

Holden said that while the townships don't have the resources to eliminate the noxious weeds entirely, nor the power to remove them from most private property, they have been able to implement efforts carefully targeted at wild parsnip and designed to mitigate its spread.

Each May and June, the townships now mow the right of way to limit the spread of Wild Parsnip. Mowing the right of way later in the year would lead to increased spread, as seeds from the flowering plants stick to lawnmowers and then are deposited elsewhere.

From May thru July, the townships also engage in spraying efforts, carefully targeting wild parsnip and other invasive species while seeking to allow continued growth of desirable vegetation, especially pollinators.



By the end of June, wild parsnip begins to flower and the tiny yellow flowers are visible on tall stalks. If not cut, the seeds will mature and fall to the soil, setting the stage for the invasive plant to spread even more in the coming years. (APG Media file photo)

Township residents are allowed to opt out of the program, but have to sign an agreement to eliminate the noxious weeds themselves, so as to prevent further spread. Holden expressed gratitude that many Township residents have put in their own time and labor to help.

At first, the Townships hired a contractor to spray the entire ditch, but that caused significant damage to the native ecosystem. In addition, it had to be undertaken early in the year, to avoid killing soybeans in neighboring fields. This limited its effectiveness, as some of the weeds had not yet begun growing for the season.

Now, local retired farmer Steve Albers spot sprays the ditches instead, targeting the pesky weeds while leaving the other plants alone. Albers said the method is much more effective because he is able to spray later in the season, when the weeds are at their most vulnerable.

Last year, Greenvale and Waterford townships, which sit across the Rice County line from Northfield in Dakota County, joined the collaborative and applied for the joint funding together, with Bridgewater as the grant administrator.

Both Dakota County townships have enthusiastically joined in the effort. Waterford Township Clerk Elizabeth Wheeler said that she works assiduously to identify potential infected properties, and has sent out information about the invasive species to the township mailing list.

Holden expressed optimism that the collaborative approach could be a

PLANT ID

Appearance: Wild parsnip spends one or more years as a clump of low-lying leaves with no vertical stem. The next year, it grows up a flowering stalk, blooms, and then dies. It is 6 inches tall in the rosette stage and 4 feet tall in the flowering stage, with yellow flowers.

Leaves and Stem: Alternate leaves are made up of 5-15 egg-shaped leaflets. Leaflets have variously-sized lobes and coarse teeth along their edges. On flowering stalks, upper leaves are smaller than leaves closer to the base. The stems are stout and hollow, with distinctive grooves.

Flowers: Second-year plants produce a stalk topped with flat-topped broad flower clusters 2-6 inches wide, with numerous five-petaled yellow flowers. The plant blooms from June to late summer.

Seeds: Each plant can produce dozens of small, oval, disc-shaped, slightly ribbed, straw-colored seeds. Seeds remain viable in the soil for up to four years.

Roots: Wild parsnip has a long, thick, taproot that looks and smells similar to cultivated parsnips.

model for future efforts against noxious weeds within Minnesota. As the jurisdictions share boundaries, he noted that it's very difficult for any particular one to deal with the issue without cooperation.

"To ensure that wild parsnip levels stay as low as possible, Holden said that private property owners may need to make investments to remove wild parsnip from their land. To ensure that happens, the townships plan to continue their education efforts.

"We need to educate our landowners, so that they understand the dangers of it," Holden said. "It reduces the land values where it exists because it's so prevalent and dangerous."

Reach Reporter Andrew Deziel at 507-333-3129 or follow him on Twitter @FDNAndrew. © Copyright 2020 APG Media of Southern Minnesota. All rights reserved.



THE VOLUNTEERS THAT MADE THIS PROGRAM POSSIBLE:

- ▶ Cannon Valley Noxious Weed Group
 - ▶ John Holden – Bridgewater Township
 - ▶ Tony Rowan – Greenvale Township
 - ▶ Ron Sommers – Northfield Township
 - ▶ Steve and Elizabeth Wheeler – Waterford Township
- ▶ Professional Guidance
 - ▶ Nancy Braker - Director of Cowling Arboretum, Carleton College
 - ▶ Neil Slifka - DNR Regional Nongame Wildlife Specialist
 - ▶ Todd Matzke - Dakota County SWCD Office
 - ▶ Steve Albers