
Noxious and Invasive Weed Program

2022 Annual Report

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Noxious Weed Law

Noxious Weed List

The Minnesota Department of Agriculture (MDA) added nine new weeds to the state's Noxious Weed List on January 1, 2023.

The nine new species added to the list are:

- Johnsongrass (*Sorghum halepense*) as Prohibited Eradicate
- Pale swallow-wort (*Cynanchum rossicum*) as Prohibited Eradicate
- Red hailstone/ goldencreeper (*Thladiantha dubia*) as Prohibited Eradicate
- Amur silvergrass (*Miscanthus sacchariflorus*) as Restricted
- Lesser celandine (*Ficaria verna*) as Restricted
- Saltcedar (*Tamarix ramoissima*) as Restricted
- Amur corktree (*Phellodendron amurense*) as Specially Regulated
 - Only sales of named male cultivars permitted. Sales of all other *Phellodendron amurense* are prohibited. All existing planted and escaped fruit producing trees must be controlled, by tree removal or other means, such that no seed is disseminated.
- Callery pear (*Pyrus calleryana*) as Specially Regulated
 - Three-year production phase-out period, after which sale of this species will be prohibited and the species will be designated as Restricted in 2026.
- Tatarian maple (*Acer tataricum*) as Specially Regulated
 - Sellers shall affix a label that advises "Tatarian maple should only be planted in areas where the seedlings will be controlled or eradicated by mowing or other means. Tatarian maple seed is wind dispersed so trees should not be planted closer than 100 yards from natural areas".

Four species changed category on January 1:

- Meadow knapweed (*Centaurea x moncktonii*) from Prohibited Eradicate to Prohibited Control
- Poison hemlock (*Conium maculatum*) from Prohibited Eradicate to Prohibited Control
- Round leaf bittersweet (formerly oriental bittersweet) (*Celastrus orbiculatus*) from Prohibited Eradicate to Prohibited Control
- Winged burning bush (*Euonymus alatus*) from Specially Regulated to Restricted

For legal descriptions of each category in the Noxious Weed List and descriptions of each species, please visit www.mda.state.mn.us/noxiousweedlist

New County Finds of Eradicate Species

In 2022, the MDA confirmed five Eradicate listed species for the first time in five counties. The MDA verifies the reports and, when possible, collects samples for the official University of Minnesota herbarium records. The new finds were:

Species	County
Brown knapweed (<i>Centaurea jacea</i>)	Carver
Common teasel (<i>Dipsacus fullonum</i>)	Carver
Japanese honeysuckle (<i>Lonicera japonica</i>)	Hennepin
Palmer amaranth (<i>Amaranthus palmeri</i>)	Freeborn
Round leaf bittersweet (<i>Celastrus orbiculatus</i>) *	Crow Wing and Mower

*As of January 1, 2023, round leaf bittersweet was moved to the Prohibited Control list.

Program Operations

The Noxious Weed Program collects data on various aspects, such as acres treated, Report a Pest inquiries, and management activities. The data is used to determine trends and in legislative reports. In 2022, the Noxious Weed Program:

- Trained 15 new County Ag Inspectors (CAI) on the noxious weed law, weed law enforcement, Seed law, and CAI duties.
- Conducted 10 terrestrial plant risk assessments with the Noxious Weed Advisory Committee (NWAC).
- Confirmed 309 reports of Prohibited Eradicate species, resulting in 1,042 infested acres.
- Responded to 96 Report a Pest inquiries, resulting in 14 positive identifications of noxious weeds.

State Weed Plan

In 2021, NWAC made a recommendation to the MDA that a statewide weed plan be developed that would establish priorities and measurable operational goals for the department. After discussion with the NWAC Management and Policy Subcommittee, it was agreed that the plan should be built on the four major outcomes from the Minnesota Invasive Species Advisory Council's (MISAC) Statewide Invasive Species Plan: 1) Prevention; 2) Early Detection and Rapid Response; 3) Containment: Management and Mitigation; 4) Leadership and Coordination.

Over the past year, Noxious Weed Program staff cataloged the noxious weed law statutes that authorize the MDA to address the four outcomes. The outcomes are organized into a framework that serves as a reference for the various authorities given to the MDA for terrestrial invasive plant management (including noxious weeds) and will be the template the MDA uses to prioritize goals in the annual work plan. The annual work plan will be designed based on the authorities described in the framework, resources available each legislative funding biennium, and through consultation with NWAC.

The framework of authorities, outcomes, and deliverables will be reviewed by the full member NWAC in the spring of 2023. If NWAC approves, the MDA will begin assessing resources and priorities at the end of the spring legislative session to develop the first ever state weed plan for the upcoming biennium.

Weed Biocontrol

After the 2021 drought, there was concern that biocontrol populations may have been negatively impacted. While this is likely true, we were pleased to observe bioagent populations at sites monitored for both leafy spurge and spotted knapweed in 2022. Decent numbers of leafy spurge beetles (22,500) were collected in western Minnesota enabling releases at new sites. Unfortunately, spotted knapweed root weevil populations were not collectible at sites for redistribution in Minnesota this year. To compensate for lack of collectible populations, MDA requested and received enough root weevils from Montana for 10 new release sites through a joint USDA and Montana Biocontrol program.

Figure 1. Spotted knapweed infestation in 2013 on the left and in 2022 on the right after biocontrol and planting seed mix.



08/20/2013



08/10/2022

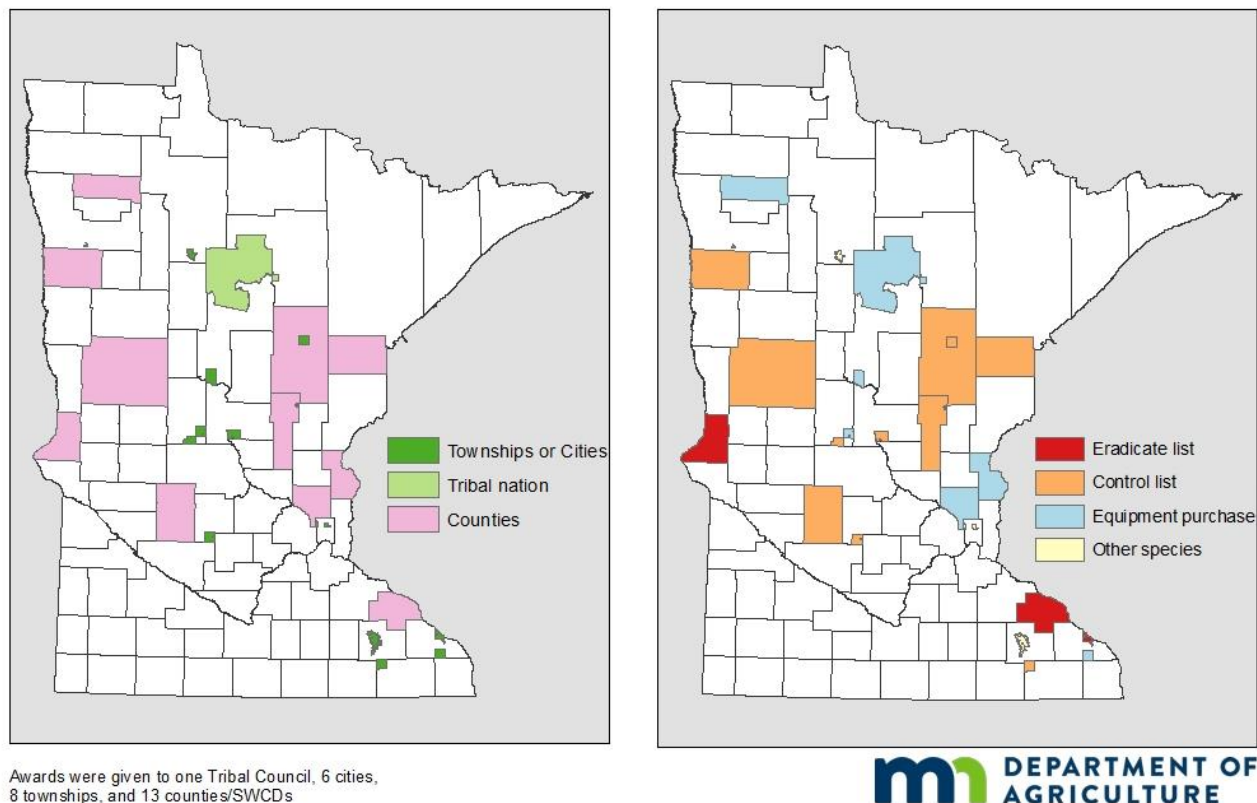
Survey

- A survey was done to map hybrid knotweed spreading along Maple Creek in Filmore County. The knotweed had spread over one mile from the origin.
- Revisits to Grecian foxglove sites were conducted. Twenty-seven new infestations were recorded, and 175 revisits to existing records documented approximately 65 acres of low-density infestations at these locations.

MDA Noxious Weed Grant Highlights

2018 was the first year the MDA received an appropriation to award grants for the Noxious Weed and Invasive Plant Grant fund. Between FY18 and FY22, the MDA awarded \$1,360,000 to 148 projects to municipalities and tribes for noxious weed work. In FY22, \$120,000 was available for the noxious weed grants and the MDA awarded 28 projects: one tribal council, six cities, eight townships, and 13 counties.

Figure 2. 2022 Noxious weed grant recipients.



As part of their grant closeout, grantees were asked to provide information about how many acres they surveyed, acres they treated, miles of roadsides surveyed, and miles of roadside treated using grant funds. Metrics include over 40,000 acres and roadside miles surveyed, over 20,000 acres and roadside miles treated, numerous trainings and workshops, and positive impacts with townships, counties, and landowners working on noxious weeds adjacent to grant projects.

Great Lakes Restoration Initiative Project

The Great Lakes Restoration Initiative (GLRI) Project “Detect and Control Emerging Invasive Plant Populations” is a strategic project that involves a collaborative effort with tribal, federal, state, and local partners to target isolated populations of six species in the Lake Superior Basin region. Small infestations of less than a half-acre in size, or smaller density over a larger acreage will be targeted for control to limit the spread into high quality natural areas.

Maggie Barnick was hired in spring 2022 to work on this project. She met with project partners to discuss their priorities and jointly identified some target infestations for control. Many project partners changed after the initial grant proposal, so Maggie also spent time reaching out to new project partners and updating the list of project partners. Control work on the six target species will begin in spring 2023. Maggie has been updating target species data and continues this effort in 2023. In anticipation of controlling isolated wild parsnip infestation before they spread, the Duluth Collaborative Invasive Species Management Area organized a multi-organization coordinated survey on July 27th to update records and look for additional wild parsnip. Ten volunteers and staff working in teams of two, surveyed over 100 miles of trails and roadside. Fourteen records were updated, and 17 new infestations were recorded during this survey.

The public was invited to participate in two knotweed identification and management workshops organized by the Duluth Collaborative Invasive Species Management Area, Carlton Cooperative Weed Management Area, and the MDA. Maggie Barnick presented at both workshops. The first was held on August 4, 2022, in Duluth (16 participants). The second was held on August 11, 2022, in Cloquet (13 participants).

CAI Annual Report from 2021*

In cooperation with the Minnesota Association of County Agricultural Inspectors (MACAI), the MDA Noxious Weed Program sent a survey at the end of 2021 to all the County Agricultural Inspectors (CAIs) and Designated Employees (CDEs) to collect information regarding their duties and noxious weed management activities. These metrics are important to gain a better understanding of the amount of weed work each county contributes statewide and the estimated annual costs for cities, townships, and counties.

The MDA created an online survey, and the link was emailed to inspectors. The survey was open until June 30, 2022, and asked questions related to duties of CAIs/CDEs, estimated costs of weed control, and violations of the noxious weed law. Twenty-one inspectors responded to the survey.

The MDA has collected data since 2016 and has included prior years’ data as comparison. From 2016-2021, the MDA had an average of 32 (37%) counties reporting data.

*2022 data will be available at the end of 2023.

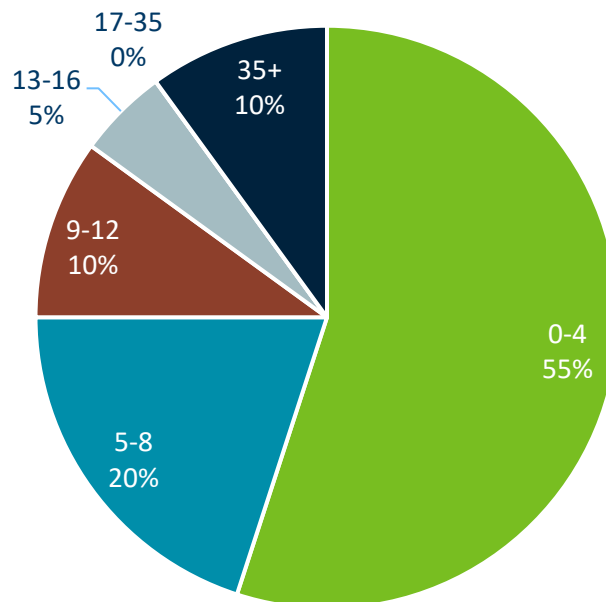
Table 1. Survey responses from townships, cities, and counties 2016-2021.

Year	Number of townships reporting	Number of cities reporting	Number of counties reporting
2016	344	131	32
2017	327	130	30
2018	374	153	38
2019	354	161	34
2020	268	88	34
2021	271	93	21

Highlights of the Survey Responses

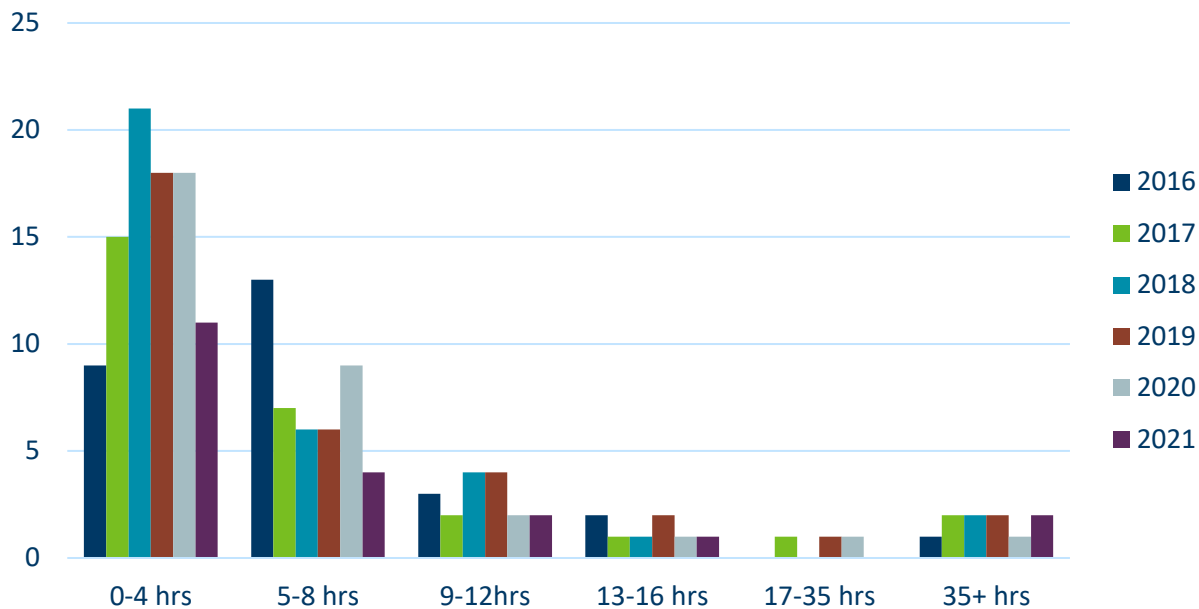
Inspectors were asked the number of hours per week they spent performing their duties. More than half of respondents performed 0-4 hours per week. Twenty percent of respondents performed 5-8 hours per week. Ten percent of respondents performed 9-12 hours per week; 5% performed 13-16 hours per week. Ten percent of the respondents performed more than 35 hours per week.

Figure 3. 2021 Number of hours per week performing CAI/CDE duties.



Since 2016, inspectors have self-reported how many hours per week they perform their duties, and most spend less than 10 hours per week on noxious weed duties.

Figure 4. Number of hours per week spent on CAI/CDE duties.



Since 2016, townships, cities, and counties have reported estimated total costs of weed control per year.

Figure 5. Estimated total costs of weed control reported by townships, cities, and counties.

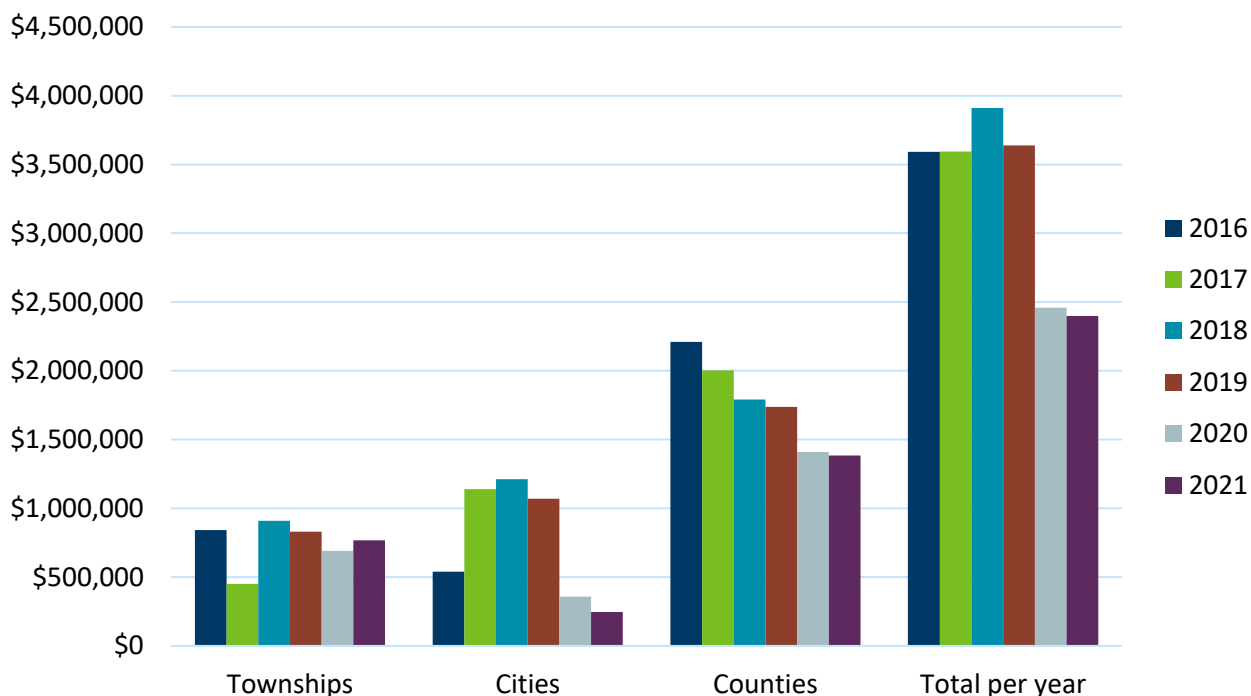
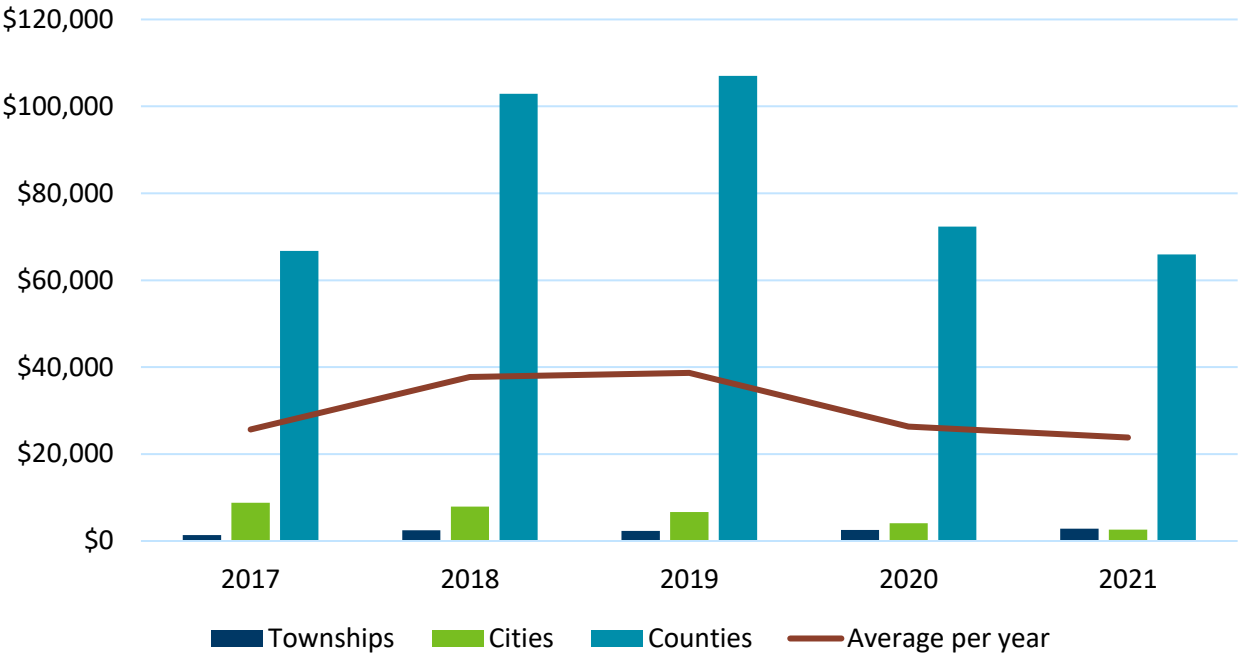
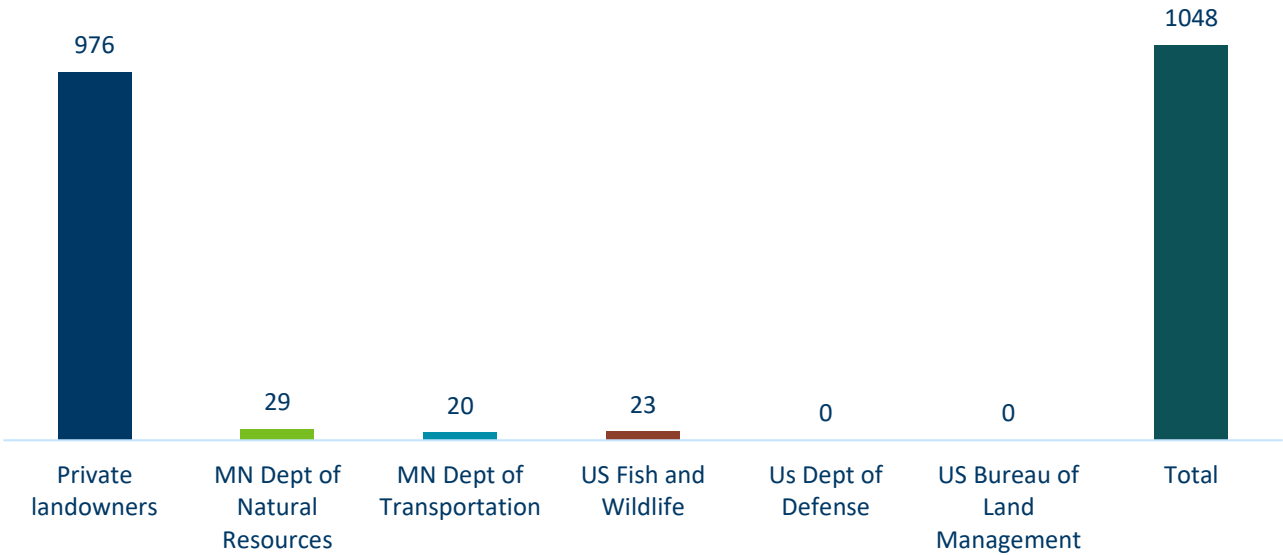


Figure 6. Estimated average costs of weed control reported by townships, cities, and counties.



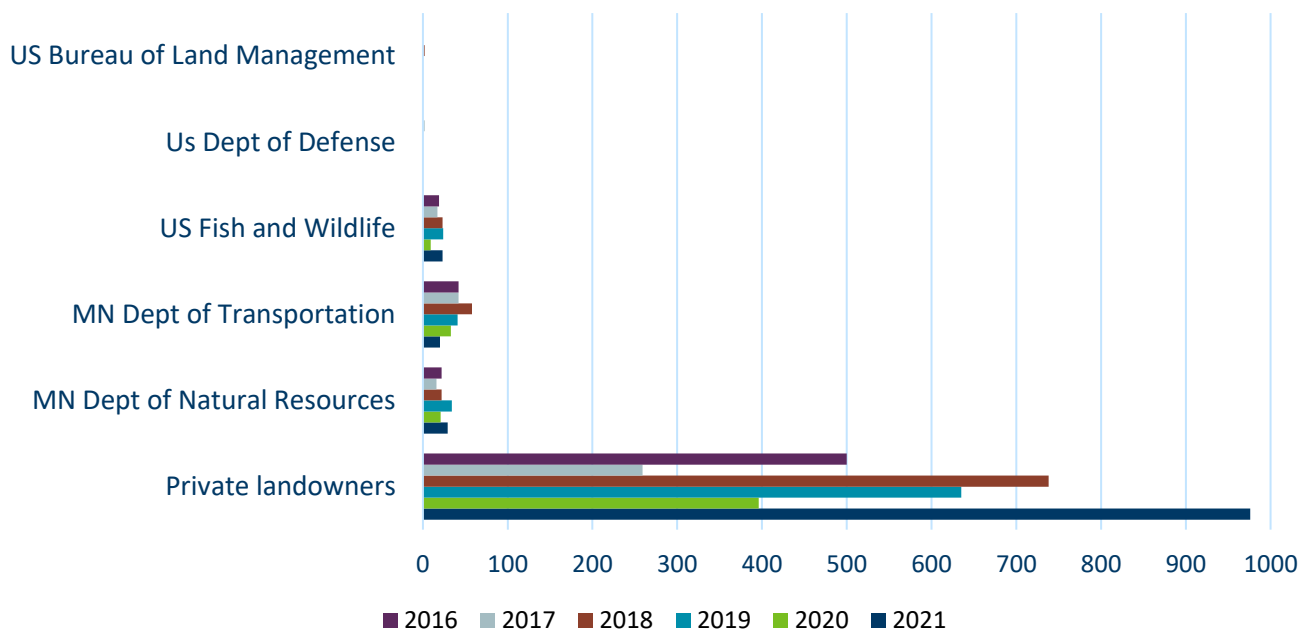
In 2021, CAIs had 1,048 total contacts with private and public landowners regarding weed issues.

Figure 7. 2021 Number of contacts regarding weed issues.



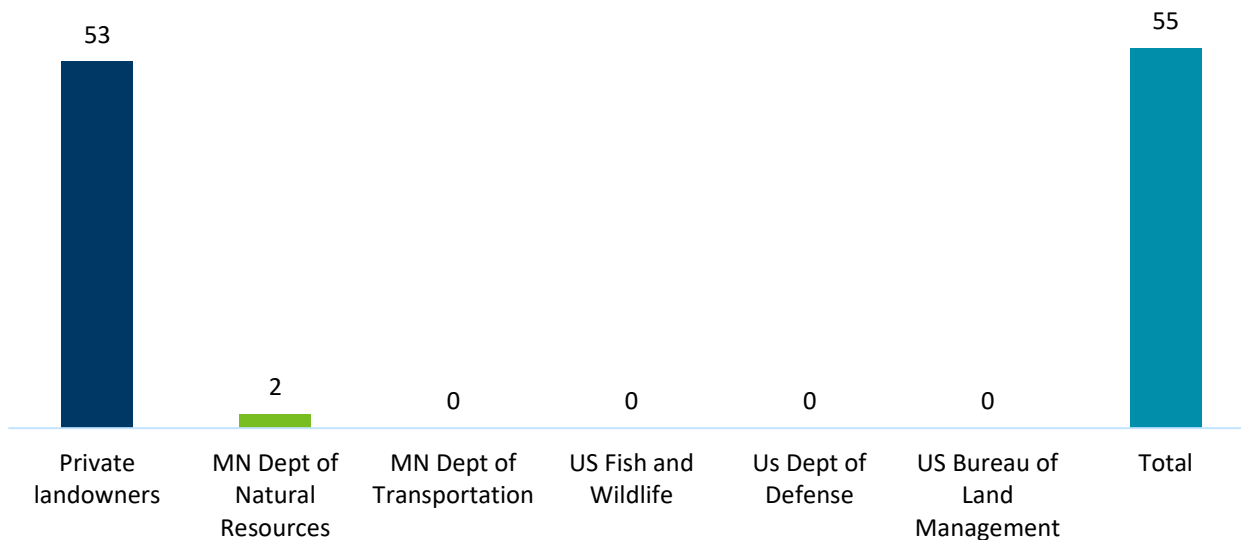
Since 2016, the number of contacts with private landowners has varied, while the number of contacts with other entities has remained stable.

Figure 8. 2016-2021 Number of contacts.



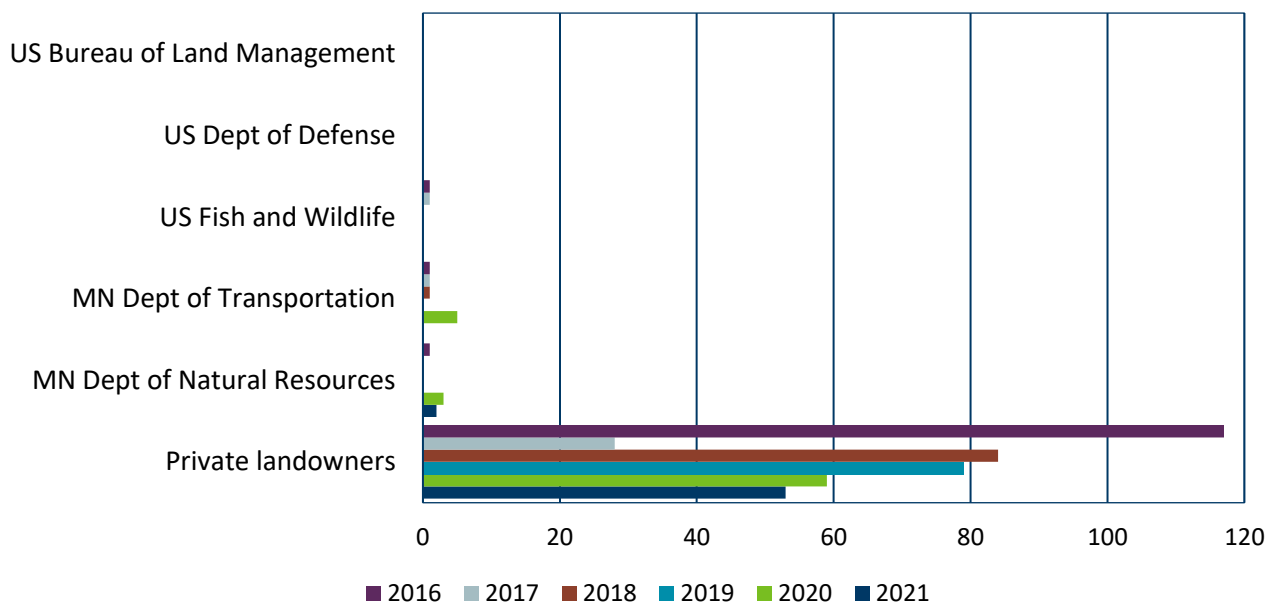
CAIs issued 55 total official notices or violations in 2021. Fifty-three were issued to private landowners, and two were issued to the Department of Natural Resources.

Figure 9. 2021 Number of official notices/violations issued.



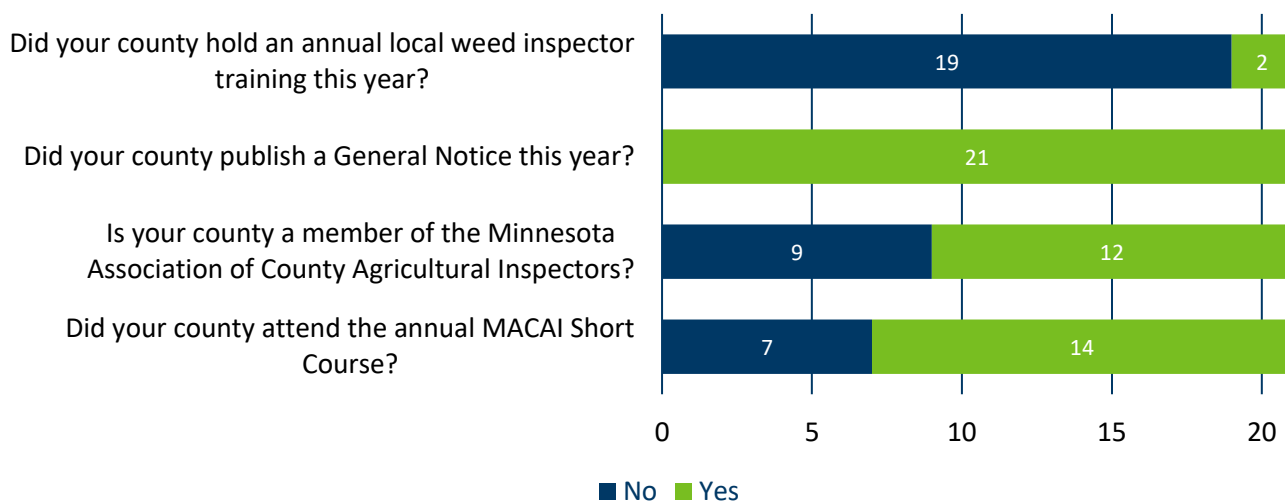
Since 2016, the number of violations issued to private landowners has varied, while the number of violations issued to other entities has remained stable.

Figure 10. 2016-2021 Number of violations issued.



Inspectors were asked questions about annual meetings, publishing a General Notice, if they are a member of the Minnesota Association of County Ag Inspectors (MACAI), and whether they attended the MACAI annual short course.

Figure 11. 2021 CAI survey responses.



Palmer Amaranth

Palmer amaranth (Palmer) was first found in Minnesota in the fall of 2016. Since its introduction, Palmer has been documented in 34 sites in 14 counties throughout the state. Additionally, 66 sites in 14 counties were suspected of being exposed to a contaminated source of Palmer, but no plants have been found at those locations to date. The MDA, with assistance from the University of Minnesota Extension and other stakeholders, began an aggressive zero-tolerance program for Palmer amaranth beginning in 2014 by listing the species on the Prohibited Eradicate Noxious Weed list two years prior to the plant first being discovered in the state. The goal was to develop early awareness among farmers, landowners, and land managers so that once it was discovered, immediate action could be taken. In fact, the first and subsequent findings in the state have occurred through farmers and crop consultants informed about Palmer amaranth through MDA and Extension outreach efforts.

For an infested location to be considered eradicated, Palmer amaranth must not be found growing for three consecutive years. To date, 17 infested sites in seven counties have been considered eradicated. Fourteen infested sites in seven counties are still being managed (they have not reached three years of having no Palmer found on them). However, of these 14 sites, only three sites have had Palmer reoccur after the initial documentation and management. This is most likely because the sites were infested with Palmer for several years prior to plants being discovered and an extensive seed bank developed. The MDA will continue its robust management plan for these three sites in 2023.

Highlights

- The MDA began working with a business in Goodhue County where Palmer was documented growing on-site and having a potential for spread through its operations. A site-specific plan to address plants growing at the site and potential pathways of spread has been developed and will be implemented in 2023. This will benefit both the business and its clients.
- A seed company self-reported to the MDA that they had purchased Japanese millet that was contaminated with Palmer. This was not known at the time of purchase; however, after further genetic testing of the seed, it was discovered that it was contaminated with Palmer. The MDA collected samples and utilized genetic testing to confirm the presence of Palmer. The contaminated seed was sold to a farmer in Freeborn County and planted at two locations. The MDA monitored those fields and confirmed Palmer growing at one of the two locations. All plants were destroyed before seed was allowed to set and a monitoring plan has been developed for 2023.
- The MDA learned about a unique protein processing plant in Dakota County that processes a variety of waste protein sources (including grain and screenings) to make high-quality livestock feed products. The company grinds and heat-treats the protein materials during processing, eliminating seed viability in the final products. The MDA is currently working with several companies in the region that produce large volumes of grain screenings, to utilize this protein processing plant as an outlet for reducing unintended spread of Palmer through other pathways.

Palmer amaranth detection and eradication will continue to be a top priority for the MDA Noxious and Invasive Weed Program in 2023. All sites from 2019, 2020, 2021 and 2022 will be the top priority for scouting. All sites from 2016, 2017, and 2018 are deemed eradicated.

Summary

In 2022, we made progress on building community with local partners, and made significant progress on the development of a state weed plan that will help the MDA increase the efficiency of its Noxious Weed Program. Our staff continue to support CAIs, CDEs, Tribes, and local units of government by attending virtual and in-person meetings, talking through issues via phone, and communicating through email and newsletters, as well as field and site visits. Our program is committed to serving the needs of all Minnesota Citizens and will continue to serve our diverse stakeholders as a valuable resource for prevention, detection, and management of noxious weeds and invasive plants in the state.

The Noxious Weed Program would like to thank the Minnesota Legislature, the Legislative-Citizens Commission on Minnesota Resources, the Noxious Weed Advisory Committee, County Agricultural Inspectors and Designated Employees, Township and Municipal Weed Inspectors, landowners, and all our stakeholders for continuous support of our program.