

Pesticide Use on Public Land

Cass-Clay Community Snapshot

March 2020

Introduction

In the summer of 2017, a coalition of local food organizations was searching for land for a community garden and incubator farm. The non-profit organizations Growing Together and FARRMS worked with the City of Fargo to select flood buy-out land in South Fargo. When they reached the point of holding a public hearing to use this land for their programs, Cass County Weed Control reached out with the news that the land had been sprayed with an herbicide which remains in the soil a few months to a few years. They were not able to use this land for farming activities and had to find a new location.

This local narrative highlights how synthetic pesticides for weed and insect control can affect the local food system. It can be challenging to track down who is spraying what and where, and how long those chemicals remain in the soil. The information below can be used as a guide for citizens and public officials to understand which department in each jurisdiction makes decisions about these chemicals and the jurisdictions' processes in controlling for pests on public land.

The term *public land* is broad in nature, but for this community snapshot, it will include parks land, flood buy-out land, road ditches, and the city and county right-of-way (ROW) systems, which is primarily boulevard areas next to parks, ponds, or other city- or county-owned properties. The main type of public land absent from this snapshot is the school system, which will be featured in a separate document so it can be fully addressed.

Also included below is how local nonprofits are helping reduce pesticide use by planting prairie grasses, trees, and pollinator habitats, and a section of possible community actions related to pesticides. The resource section provides some helpful websites, while the appendices lists the local jurisdictions' pesticide products and the steps for residents in townships if they find noxious weeds on their property.

Cass-Clay Pesticide Use

Cass County Vector Control

As a unit of Cass County Government, Vector Control aims to control the mosquito population to reduce the potential for transmission of diseases like the West Nile Virus as well as decrease the number of nuisance mosquitoes which have the potential to chase residents indoors on hot summer nights. Vector Control uses Integrated Pest Management (IPM) to reduce pests while causing minimal effects to the public and the environment. A three-member board appointed by the County Commission governs Vector Control and the day-to-day operations are carried out by the Vector Director.

Larval control in standing water is the most effective way to reduce mosquito populations, and it also reduces the need for aerial or truck-mounted spraying. Vector Control spends about 80% of its resources on treating breeding sites for mosquito larvae and pupae.

Vector Control uses data from 40 different trap sites in Cass and Clay Counties to determine if there is a need to spray for adult mosquitoes. When the threshold is hit, they utilize truck-mounted spraying and, if weather conditions are appropriate, they can use aerial spraying as well. The spray droplets are

extremely small (micron-size) and must make contact with a mosquito in flight to be effective. The active ingredient in this sprayed chemical (Permethrin) is derived from the chrysanthemum plant.

In recent years, Cass County Vector Control has actively worked toward better practices, such as:

1. Changing to chemicals with lower toxicity.
2. Spraying for adult mosquitoes fewer times per season. Twenty years ago, the department would spray 15-16 times per season and now they usually spray 3-4 times per season.
3. Having a pollinator protection plan, which provides buffer areas for commercial beekeeping zones.
4. Educating the public on how to help reduce mosquito populations, such as getting rid of standing water on their property and keeping the grass mowed.

Residents can receive notifications on spraying schedules by signing up on their website or by checking Vector Control's social media accounts (Facebook and Twitter).

Contact: Ben Prather, Vector Director, PratherB@casscountynd.gov
www.casscountynd.gov/our-county/vector-control

Cass County Weed Control

Cass County Weed Control is overseen by a five-member board which is appointed by the County Commission, and the Weed Control Officer is in charge of day-to-day operations. The main areas they control for noxious weeds are rural road ditches and flood buy-out land. The road ditch land is fixed while the flood buy-out properties may change annually based on a list provided by the County Commission. Other local agencies can also submit work orders to Weed Control for their services.

The Weed Control Officer checks the weed control areas in the spring and once in the summer and sprays as needed. Many of the weeds are perennial, so he only needs to spray them once per year. The Officer contracts out for the road ditch system and these renew every two years in the winter. For the flood-buyout land, the Officer himself monitors the land since only small equipment is needed.

Interesting to note: residents adjacent to a flood buy-out property can release the County for care of the land and take responsibility for mowing and weed control, although the Officer will still monitor to make sure that neighbor is taking care of the property.

They also provide the following services: reimbursement of herbicide application to private landowners for non-crop and non-CRP lands as a means to promote noxious weed control, Weed Seed Free Forage inspection and certification for hay and mulch, weed identification, and assisting in developing weed management plans.

Cass County Weed Control strives to minimize its impact on wildlife and neighboring residents using procedures such as:

1. Always following the chemical label when they spray, such as not spraying on standing water in a ditch,
2. Spraying selectively only when noxious weeds are present, and
3. Starting this year to flag flood buy-out land that has been sprayed to notify the public.

The other ways they notify the public of spraying is by putting it in the paper and communicating with other local media.

Contact: Stan Wolf, Weed Control Officer, WolfS@casscountynd.gov
www.casscountynd.gov/our-county/weed-control

City of Fargo

The Public Works Department contracts out most of its weed control (currently to Valley Green), but the department does a little spraying internally as well. Their flood buy-out land is on a three-year contract, and the contractor only sprays up to the toe of the levee (where the levee meets the natural ground) and leaves the levee to the river as natural grasses. They do not typically notify the public when they spray.

They have worked with Audubon Dakota in the past to convert some land to native grasses, such as near Lions Conservancy Park.

Contact: Ben Dow, Fargo Director of Public Works, BDow@fargond.gov
fargond.gov/city-government/departments/public-works

Fargo Parks District

With over 2,100 acres of land, the Fargo Parks District has a vast amount of land to manage. How they control weeds can resonate throughout the natural spaces in the area. They are overseen by a five-member committee of elected citizens, and the day-to-day operations are managed by the Executive Director.

Trained and certified Parks staff spray in the spring and fall on a set schedule, once weeds are actively growing and weather permits. They put a notice in the paper when they will be spraying. Applications may occur outside of this schedule based on monitoring each site. After they spray, the areas are marked with signage that tells individuals to stay off the area until the turf is dry along with the application date. To limit the effects on residents, they do not spray when people are in the area and they adhere to the conditions of the product label.

They try their best to keep the turf healthy so it can outcompete the weeds, which reduces the need to spray. If there is an area where weed seeds tend to blow in, they attempt to mow that area to keep weeds at bay or work with nearby neighbors to try to reduce the seeds blowing onto Parks' maintained areas. Their partnership with Audubon Dakota to convert areas of Parks land into prairie grasslands and riparian wooded areas has reduced the need for spraying and mowing and has saved Parks an estimated \$150 to \$200 per acre each year.

Contact: Dave Bietz, Operations Director, DBietz@fargoparks.com
www.fargoparks.com

West Fargo Parks Department

A five-member elected Parks Board oversees the West Fargo Parks District while the Executive Director manages the day-to-day operations overseeing its 30 parks, bike paths, and facilities.

For weed control, they have a seasonal schedule with local weed control contractors to spray on groomed grass areas, which are locations where grass is kept mowed to around 3 inches. Their contracts are annual and are reevaluated each year. There are some small areas that internal staff sprays for weeds as well.

When spraying has occurred, they post signs around the property to notify residents. They do not make an application if people are in the park area. As far as reducing the need for herbicides, they have not worked with Audubon to convert prairie grasses, but they do make it their practice to keep their grass cut higher to help keep weeds from becoming established.

Contact: Josh Mathern, Parks Operations Manager, josh@wfparks.org
www.wfparks.org

City of Horace

The City of Horace regularly monitors public areas for weeds and sprays very minimally for weeds in their right-of-ways. The City uses social media to notify the public of spraying. Most spraying is done internally, except some mosquito control done by Cass County Vector Control and Airborne Custom Spraying. The City would consider partnering with Audubon in the future to convert land around retention ponds to prairie grasses.

Contact: Adam Carpenter, Public Works Supervisor, acarpenter@cityofhorace.com
<https://www.cityofhorace.com/2186/City-Shop>

Horace Parks District

The Parks Department sprays when the weed plants are young, and they reduce exposure to residents by spraying when no one is around.

Contact: Todd Pillen, Maintenance Employee, tpillen@cityofhorace.com
<https://www.cityofhorace.com/2159/Park-Board>

Clay County Soil & Water Conservation District

The Soil & Water Conservation District (SWCD) runs the County Ag Inspector Program, which manages the insect and weed control in Clay County. For weed control, the County Ag Inspector, Highway Department, and the spray contractor (currently L&M Road Services out of Ulen, MN) meet each year to contract and plan for spraying. They have a network of 150 miles of county roads to spot spray annually for noxious weeds. They start in the spring and spray throughout the summer as needed. They spray again in the fall, but wait until crops are harvested to minimize the impacts on nearby land. The Highway Department mows twice per year - once around August 1st and again in late fall.

- Not all of Clay County's flood buy-out land is sprayed every year, only if they have noxious weed issues. Most of the time, the reason they spray is due to a complaint from a neighboring landowner, so they have increased their monitoring in the past few years to stay on top of the noxious weeds and avoid complaints. For this spraying, they hire the same spray contractor who does the highway system.

- In 2019, SWCD worked with Pheasants Forever and Clay County to make a pollinator habitat out of eight acres of flood buy-out land (Crestwood Addition), and they are interested in creating more pollinator habitats on flood buy-out land in the future.
- The department does not have a notification system for residents, as the time they spray varies from year to year.
- There is a leafy spurge biological control program in Minnesota using leafy spurge beetles, but it has to be a couple of acres or larger to be effective; therefore, it does not work for most of the road system.
- There is no mosquito control in rural Clay County.

Contact: Gabe Foltz, District Technician / County Ag Inspector, gabriel.foltz@clay.mnswcd.org
claycountymn.gov/272/Soil-Water-Conservation-District

City of Moorhead

The City of Moorhead Public Works Department maintains over 1,000 acres of parks and right-of-way (ROW) property within the City limits and along the river corridor. For ROW property, the City does the spraying internally twice per year. They have been working with Audubon Dakota since 2015 to restore prairie in the ROW system so it is more low maintenance which equals fewer herbicide treatments and a better habitat for pollinators. They do not post spraying schedules on the website, but mark the area being sprayed with signs to notify nearby residents.

- Moorhead is different from Fargo and West Fargo in that Parks is a Department of the City, so the weed control function is performed by the Public Works Department.
- The Public Works Department has partnered with Audubon Dakota to establish nine sites of about 175 acres of restored natural landscape where they no longer have to mow or apply herbicides. It saves money and is better for the environment.
- The herbicides Public Works uses are the same types used by commercial lawn companies and homeowners.
- Cass County Vector Control performs the aerial spraying for mosquito control in Moorhead.

Contact: Steve Moore, Public Works Director, steve.moore@ci.moorhead.mn.us
www.cityofmoorhead.com/departments/public-works

City of Dilworth

The City of Dilworth does not contract out for pest or weed control - everything is done internally. They do not have a determined schedule for weed control; instead, it is based on regular monitoring. They spray for mosquitoes regularly when they become a nuisance. For weed control, they do not notify residents, but for mosquito spraying, they use social media, their website, and contact the media.

Contact: Peyton Mastera, City Administrator, peyton.mastera@ci.dilworth.mn.us
www.cityofdilworth.com

Non-profit Involvement

Audubon Dakota

Audubon Dakota is a local non-profit striving to conserve and restore natural ecosystems, especially focused on birds and their habitats. In 2015, they partnered with Fargo Parks Districts, Buffalo - Red River Watershed District, and the cities of Fargo and Moorhead to create the *Urban Woods and Prairies Initiative*. The project began with the goal of restoring grassland and woodland areas in the Fargo-Moorhead area, but now has extended across North Dakota with 2,000 acres to be enrolled in this year. It takes about 3-5 years to establish the prairies with minimal spot spraying for weeds, but after this period, there is virtually no need to spray because the weeds cannot beat out the prairie grasses.

The benefits of this project are numerous. They help residents connect with nature, enhance woodlands, restore wetlands, and create animal habitats, especially for the declining populations of grassland birds and pollinators. These areas reestablish water filtration, help prevent floods, and cut down mowing expenses and herbicide applications for the jurisdictions. In its short lifespan, the project has done incredible work to revitalize the prairies in the Fargo-Moorhead community and now the state of North Dakota.

Contact: Mike Bush, Outreach Coordinator, mbush@audubon.org
dakota.audubon.org/conservation/urban-woods-and-prairies-initiative

Longspur Prairie Fund

Education is crucial for a community to make changes regarding its weed control methods. Enter Longspur Prairie Fund. This local non-profit works to restore local prairies and wetlands, educate residents about the area's ecology and wildlife, and assist local businesses and organizations in creating habitat adoption strategies. Established prairies need fewer herbicide treatments and provide critical habitats for local wildlife and pollinators.

Contact: Peter Schultz, Executive Director, schultz@longspurprairie.org
www.longspurprairie.org

Pheasants Forever

Pheasants Forever is dedicated to the conservation of pheasants, quail, and other wildlife through habitat improvements, public awareness, education and land management policies and programs. A local chapter partnered with Clay County, River Keepers, and Clay County Soil & Water Conservation District to create pollinator habitat on flood buy-out land.

Contact: Tony Nelson, Pheasants Forever Biologist, 218-287-2255 ext 3475
www.pheasantsforever.org

River Keepers

Established in 1990, River Keepers hosts river- and water-related activities so Fargo-Moorhead area residents understand the value and importance of the Red River, properly maintain it, and safely enjoy it. Their event called *Reforest the Red* works in conjunction with the cities of Fargo and Moorhead and the local Parks Districts to bring volunteers together to plant trees and shrubs near the river. The event builds up the riparian area on public land near the Red River, which is then no longer mowed or maintained.

Contact: Christine Holland, Executive Director, christine@riverkeepers.org
www.riverkeepers.org

Community Actions

Local governments can:

- Assure inter-agency communication remains high to reduce the risk of future farmland being sprayed with chemicals with long soil residuals.
- Assure government pesticide applicators and contractors are wearing the appropriate safety gear when applying pesticides to reduce their exposure.
- Educate residents on how to reduce weeds in a safe and environmentally-friendly way and continue to provide education on how to reduce exposure to mosquito-borne diseases.
- Continue working with local non-profits to transition more public land to native prairie grasses, woodlands, and pollinator habitats.
- Map out future flood buy-out land that might be used for farming and gardening to assure it is not sprayed with products with long-lasting soil residuals.
- Move toward Integrated Pest Management in managing public land. For herbicides, options to reduce chemical treatments are practices like burning, steaming, hot foam, and hand-weeding.
- Recruit teams of volunteers to hand-weed areas of dandelions or noxious weeds to reduce herbicide treatments.
- Work with local Parks Departments to create a no-spray buffer zone around playground areas, since children are most vulnerable to toxic effects of pesticides.

What can I do?

- Connect with Longspur Prairie Fund (longspurprairie.org) to convert some of your land - home, business, or rural - into native prairie grasses.
- Ask to take over neighboring flood-buyout land from the County and maintain it with alternatives to chemical pesticides.
- Work to make your yard, neighborhood, or our community a Honey Bee Haven (honeybeehaven.org).
- Connect with your local public officials if you have questions regarding weed or pest control strategies.

Resources

Beyond Pesticides

<https://www.beyondpesticides.org/>

King County, Washington - Integrated Pest Management (IPM)

<https://www.hazwastehelp.org/ChemToxPesticides/ipm.aspx>

IPM (Integrated Pest Management) Institute of North America

ipminstitute.org

Map of U.S. Pesticide Reform Policies - Beyond Pesticides

<https://www.google.com/maps/d/u/0/viewer?mid=1VLpVWvifO2JOrgxf1-d1DLyDruE&ll=47.00415731754826%2C-107.75836282084146&z=4>

NDSU Weed Control Guides
www.ag.ndsu.edu/weeds/weed-control-guides

Pesticide Action Network (PAN)
<http://www.panna.org/>

Xerces Society for Invertebrate Conservation
xerces.org/pesticides

For more information, please contact Kim Lipetzky with the Fargo Cass Public Health Office at 701-241-8195 or klipetzky@fargond.gov

Appendix A: Pesticides Used in Cass & Clay Counties

Table 1: Products used by Cass County Vector Control in 2019

Pesticide	Residual	Background
Bti granules	Does not exceed 7 days	Bti is a microorganism that produces chemicals toxic to insects only when ingested by insects with an alkaline digestive tract. Per the EPA, when used according to the label, it is essentially nontoxic to humans. Most common pesticide used by Cass County Vector Control.
Vectolex FG	Up to 28 days	The active ingredient is a bacteria, and has a very similar mode of action as Bti. It is used by applicators to control larval populations in sites that hold water for extended periods of time.
Metalarv SPT	Up to 42 days	This product releases S-Methoprene insect growth regulator to control larvae populations.
Altosid Pellets	Up to 30 days	This insect growth regulator is applied to areas of standing water to control larval populations.
Altosid XR 150 day Briquettes	Up to 150 days	An insect growth regulator that is used to control larvae populations. The long residual allows some sites to be treated once per season. These are ideal for sites with heavy water flow and those difficult to access on foot.
Agnique MMF and G	Up to 22 days	These are monomolecular surface films intended to control larvae and pupae populations in standing water. The oil expands to cover the water surface area so the larvae and pupae cannot breathe at the surface. Agnique MMF is made up of a chemical called Poly (oxy-1,2-ethanediyl), alpha-isooctadecyl-hydroxyl, and Agnique G is a granular form.

Table 2: Cass County Weed Control products used in 2019

Herbicide	Target Weed	Location
Freelexx	Canada thistle Leafy spurge Absinth wormwood	State, county, township road right-of-way
Makaze (glyphosate)	all weeds	Spot spray for control of grass and broadleaves
Mec-Amine-D	Lawn weeds Dandelion	Flood lots near residential properties Cass County Jail
Method	Canada thistle Leafy spurge Absinth wormwood	State, county, township road right-of-way Water Resource properties
Milestone	Canada thistle Absinth wormwood	State, county, township road right-of-way Water Resource properties Cass County Park, Brewer Lake
Platoon 2,4-D	Canada thistle Dandelion	Flood lots near residential properties
Tordon	Canada thistle Leafy spurge Absinth wormwood	State, county, township road right-of-way Water Resource properties
Vastlan & Element 4	Purple loosestrife	Cattail areas

Table 3: Weed and pest control products used by Cass-Clay jurisdictions in 2019

Jurisdiction	Product
Cass County	See Tables 1 & 2 (above)
City of Fargo	Escalade II Lesco 3
Fargo Parks	Millennium Ultra 2 Milestone Quali Pro
City of West Fargo	Roundup (Buccaneer) 2, 4-D (Amine)
West Fargo Parks	T33 Tri-Kill Plus
City of Horace	Roundup Durango Rodeo 2, 4-D Barren
Horace Parks District	Roundup

Clay County Soil & Water Conservation District	Graslan Vastlan Milestone
City of Moorhead	T-Zone SE
City of Dilworth	MEC Amine-D Cornerstone Rodeo Plus Milestone Pramitol 25E Permanone (insecticide) Tempo SC Ultra (insecticide) Aquabac (insecticide)

Appendix B: Noxious Weeds Townships

Below is the process for residents of a township in Cass or Clay counties if they find noxious weeds on their property.

Cass County

If a resident of Cass County finds noxious weeds in a township, they should contact Cass County Weed Control at 701-298-2388 and let them know where the weed is located.

1. If the weed is in the road right-of-way, the County’s Weed Control Officer will take care of it.
2. If found on public land, the Weed Control Officer will investigate the complaint and contact the public entity that owns the land and recommend control options. Depending on the situation the Officer may conduct control operations with their permission.
3. If the weed is on private land, the Weed Control Officer will contact the landowner and inform them that they need to control the weed. The Weed Control Officer can provide control options for the particular site.

Clay County

If a Clay County resident has questions about noxious weed identification or controlling a noxious weed on their property, they can contact the County Ag Inspector at Clay County Soil & Water Conservation District at (218) 287-2255.

1. If the weed is located on County property, the County Ag Inspector will go out and verify it before sending their sprayer to the location.
2. If the weed is located on township property, it is the township’s responsibility to control it and the County Ag Inspector will notify the local weed inspector.
3. If the weed is located on private property, the local weed inspector will contact the private landowner to take care of it.
4. If the resident has noxious weeds on their own property, they are responsible for controlling the weeds themselves.