



# **2019 ANNUAL REPORT**

MISSOULA COUNTY WEED DISTRICT

# MISSOULA COUNTY WEED DISTRICT

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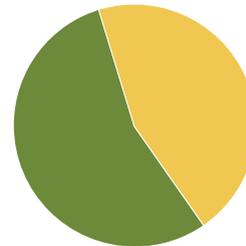
John Rimel

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Dennis Vander Meer

**Collaboration continues to be one of the most important** pieces of successful Missoula County Weed District programs. In 2019, nearly half of our budget was supported by partner contributions and grants. **That means every Missoula county tax dollar spent on invasive species in 2019 was matched with \$.83 in grants and partner contributions!** Whether it be our continued partnership with Montana Fish, Wildlife and Parks to manage the busiest watercraft inspection station in the state (almost 20% of all watercraft inspected in 2019 were inspected by Weed District employees!) or the multitude of local, state, federal and tribal land managers that support the statewide biocontrol coordination project housed within our office, we just could not do everything we do without you! Simply put, we can always accomplish more together, and we are looking forward to continuing this trend in the coming year. Weed district staff has been building strong new (and renewed) partnerships as part of our soon to be built facility at the Missoula County Fairgrounds, which will house and provide new collaborative programming with Missoula County Extension, the Missoula County Conservation District and the Missoula Butterfly House and Insectarium. So stay tuned! More exciting work is just around the corner.

### Weed District Personnel & Operations



Grant/Partner Contributions  
Missoula County Tax Dollars

**Weed District staff,** Youth in Restoration crew members along with weed board members partnered with Fish, Wildlife & Parks to adopt the West-Fork of the Clearwater trailhead to help reduce the transportation of noxious weeds by installing an educational kiosk and boot brush station. Adopt-A-Trailhead is a cooperative volunteer program initiated by the Montana Noxious Weed Education Campaign.



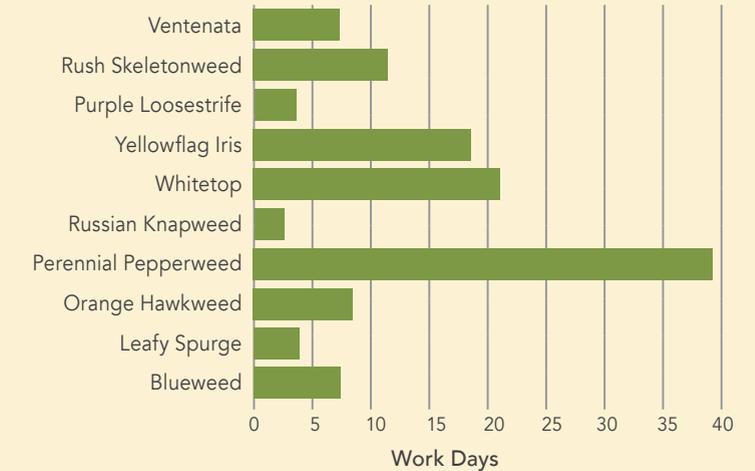
# NEW INVADERS

## Clark Fork River Working Group

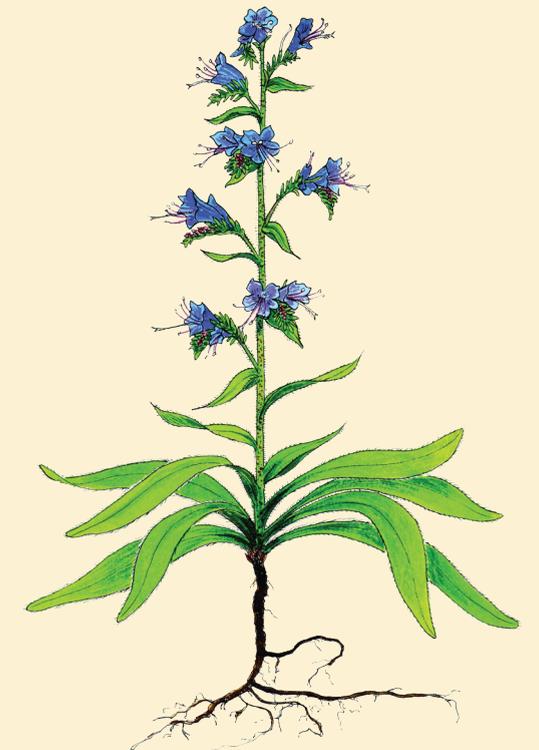
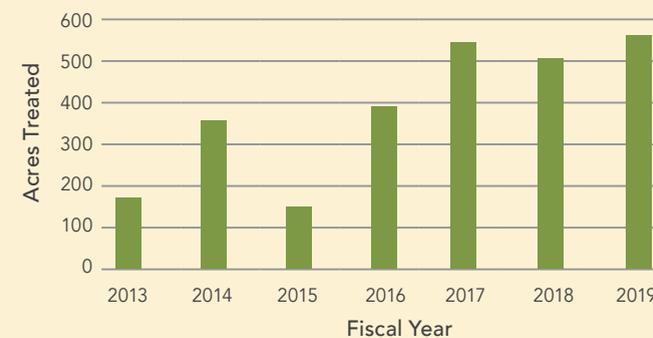
In 2019 the Missoula County Weed District worked with the Clark Fork River Working group to address the continuing issue of Perennial Pepperweed and other noxious weeds persisting in the river's high-water mark. The Clark Fork River working group consists of the Montana Department of Environmental Quality, Montana Fish Wildlife Parks as well as Powell, Granite and Missoula Counties. For the first time in 2019, with cooperation from partners, Pepperweed was treated from its origins near Butte, Mt along Silver Bow Creek 260 miles downstream to the lowest infestation on the Clark Fork River near Huson.

2019 was the second consecutive year that coordinated treatments took place upstream of Missoula County. The Montana Department of Environmental Quality funded \$231,853 in noxious weed treatments along Silver Bow Creek and the upper Clark Fork while a grant from the MT Noxious Weed Trust Fund covered \$27,495 of work from Warm Springs Ponds to Missoula County. Lastly, Weed District Staff worked 312 hours through July and early August to treat Perennial Pepperweed persisting in the high-water mark.

### New Invaders



### MDT Right of Way Treatment History



# REFLECTIONS FROM THE 2019 MONTANA CONSERVATION CORPS AND BIG SKY WATERSHED CORPS MEMBERS

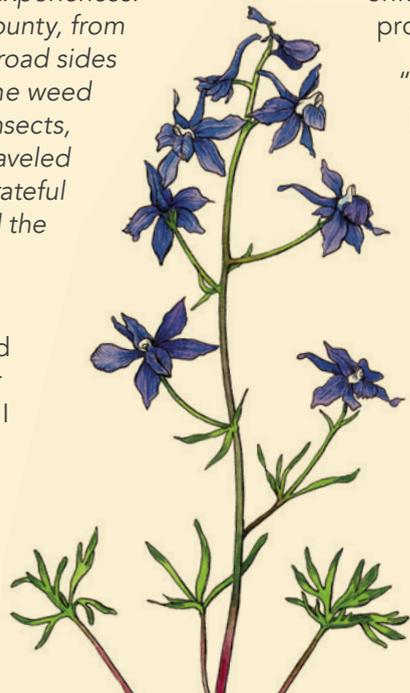
This past year the Missoula County Weed District hosted members of MCC and Big Sky Watershed Corps. They were a tremendous asset to our organization and helped to accomplish additional on-the-ground monitoring, management and education.

## Haley Gamertsfelder

Big Sky Watershed Corps is the result of the combined powers of the Soil and Water Conservation Districts of Montana, the Montana Watershed Coordination Council, and Montana Conservation Corps. Twenty-six young professionals were hired to serve out 11 month terms across Montana, from hydrotechs, to teachers, conservation districts to watershed groups. It is a diverse program that aids in the protection, conservation and enhancement of watersheds on public and private land.

*"My term of service with Missoula County Weed District and Montana Biocontrol Coordination Project, opened up a breadth of opportunities and experiences. Exploring each reach of Missoula county, from the rivers and mountaintops to the road sides and city limits. While serving with the weed district, I lead fieldtrips, collected insects, floated rivers, read transects and traveled all across the state to do so. I am grateful for my time at the weed district and the personal and professional growth it afforded me."*

"Missoula County Weed District and Biocontrol Project made a home for me the past 11 months. One where I was encouraged to learn, have fun and gain professional experience along the way."



## Tess Kendrick

The MCC Conservation Fellow program is designed to make a measurable difference in local conservation efforts while strengthening the professional experience of our members. Fellows (Tess) are placed with a partner organization for a 6 month term.

*"One of my favorite parts of the experience was making connections with community members. From meeting small-scale gardeners at the Clark Fork Market, to visiting ranchers in eastern Montana, I was amazed by how interested everyone was in caring for their land. Everywhere, Montanans look for the most efficient practices to keep their land healthy and productive."*

*"In a state 2,000 miles away from my own, I met people who made me feel at home with their generosity. I also walked through landscapes so unfamiliar and expansive that I felt small and very far from anything, especially home. Montana's stunning mountains, winding rivers, and dry summer fields challenged me physically; and I received kindness from strangers in equally varying landscapes: a coffee shop, a pickup truck, a National Park. Serving with the Montana Conservation Corps taught me the value of finding common ground and working close to the soil."*



## Montana Invasive Species Council Assembles Science Advisory Panel on *Mogulones crucifer*

We provided input and support for the *Mogulones crucifer* science advisory panel, in an effort to gain a better understanding regarding the potential of this insect being utilized as a weed management tool for houndstongue in the future.

Canada began releasing the biological control agent *Mogulones crucifer*, a weevil, in 1997 for the control of houndstongue, a highly invasive nonnative weed that is a serious nuisance for ranchers and outdoor enthusiasts. The weevil has had lasting and population level impacts on houndstongue in Alberta and British Columbia. While these weevils have naturally moved into Montana from Canada, they are not an approved agent in the United States. It is currently illegal to facilitate their redistribution through non-natural means due to concerns that these weevils may feed on federally protected non-target plant species.

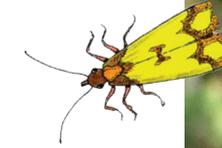
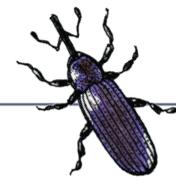
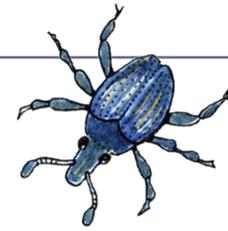
Considering the absence of other effective control methods for houndstongue, along with the lack of negative ecological impacts and positive management outcomes associated with the release of this agent in Canada, the Montana Invasive Species Council enlisted assistance from the scientific community and formed

a science advisory panel to evaluate the feasibility of approving and using *Mogulones crucifer* in the U.S. by reviewing new or additional information available since its approval and introduction in Canada.

The panelists met on April 30-May 1 with agency staff and stakeholders to discuss a series of questions related to the current status of *Mogulones crucifer*. The goal of the workshop was to come to consensus on a set of recommendations for how and if to pursue petitioning the weevil as a biological control agent in Montana.

The panel's recommendations include:

- Develop consistent protocol for monitoring *M. crucifer* and non-targets
- Develop mitigation strategies to follow on science-based decisions where needed
- Petition be developed and submitted to regulatory agencies for release of *M. crucifer* in the U.S.
- Fully utilize all new field and laboratory data that are available to support petition decisions being made based on the ecological host range of *M. crucifer*
- Key findings and a complete summary of the recommendations can be found at [misc.mt.gov](http://misc.mt.gov).



## Houndstongue Root Weevil Impact and Non-target Monitoring

The last few years we have been installing and reading monitoring transects in houndstongue infestations where we have found *Mogulones crucifer* (root weevil) around Missoula. In 2020, we plan to expand this monitoring to also look for potential non-target impacts. This was a recommendation from the Science Advisory Panel and could potentially aid in the approval of this insect as a biological control agent.

## Canada Thistle Rust Infections Found in Montana!

Beginning in 2017, we have annually received *Puccinia punctiformis* (a host specific rust) from Colorado to inoculate Canada thistle infestations in Montana. Over the last three years, we have inoculated 4 sites (some have been reinoculated 2 or 3 times) in Missoula County. When monitoring our inoculated sites in the spring of 2019, we discovered infection at 1 of these sites! We were able to harvest infected Canada thistle stems from this site in the fall. After the foliage was dried and ground-up we had over 4500 grams of inoculum to disperse in 2020! This is enough to inoculate over 60 new sites.

## Revisiting Leafy Spurge Biocontrol Impacts

Leafy spurge remains a top concern for stakeholders despite decades of management. Although, biocontrol is considered the most cost-effective means of long-term spurge control, we have a limited understanding of what drives variation in agent success. Therefore, a researcher at the Agricultural Research Station in Sidney, MT decided to look into the variation of success with the hope of being able to provide science-based recommendations for improving biocontrol of leafy spurge. We installed and read 5 transects in Missoula County to contribute to this research project. We will continue to monitor these sites until the research project is complete.





# AQUATIC INVASIVE SPECIES

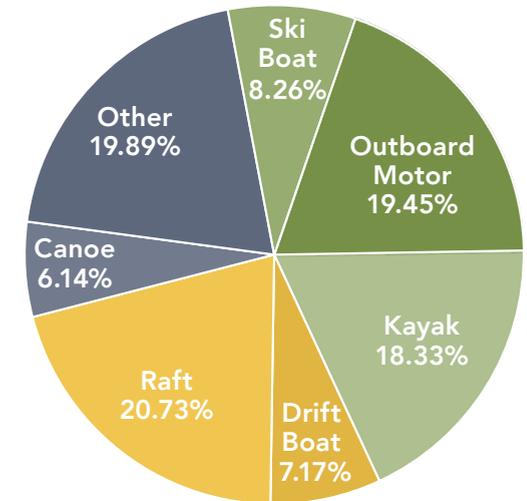
## 2019 Clearwater Watercraft Inspection Station and Roving Program

The station was open April 11 - September 29. From Memorial Day to Labor Day the station operated from 7am-7pm and 8am-6pm during the shoulder seasons. This season **20,880** inspections were performed at the Clearwater Watercraft Inspection Station, making the station the busiest in the state. **The busiest day was June 30 with 401 inspections being performed.** No aquatic invasive species were found on any of the watercraft that came through the station in 2019.

This season the Swan Rover once again operated out of the Swan Valley Connections facility and inspected boats around the Swan Valley Thursday through Sunday. The roving inspections took place at Lindbergh, Holland, Van, and Swan Lake. The roving season took place from Memorial Day Weekend to Labor Day Weekend. This season the Swan Rover inspected 692 boats. There were 13 high-risk inspections performed. No AIS were found in 2019.

Both the Clearwater Watercraft Inspection Station and the Swan Roving Inspection Program are made possible through funding from partners. Missoula County Weed District staffs and jointly oversees the Clearwater Station through a contract with Montana Fish Wildlife and Parks. The Swan Roving Inspection Program is funded through a cooperative agreement with the Flathead National Forest as well receiving funding from a local lakeshore homeowner's association known as the Swan Lakers.

2019 Boat Inspections

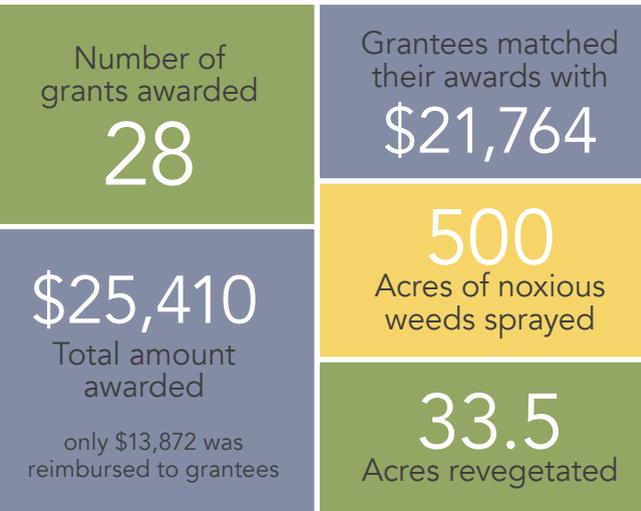


# COOPERATIVE LANDOWNER GRANT

The Missoula County Landowner Grant Program has been assisting Missoula County landowners for 18 years. The goal and the purpose of the program is to help landowners develop vegetation management goals and to get a jump start on reaching those goals. Over the years the programs specific priorities have shifted a little here and there but for the most part the program is in place to help get landowners started down a path of healthy functioning plant communities. In the 18 years this program has been in place over 1000 grants have been awarded and many 1000's of acres of land have been beneficially impacted.

The 2019 grant cycle recently wrapped up and the results appear to be inline with years past. We have partnered with the Missoula Conservation District for the last few years to fund this program and have \$25,000 budgeted for grants and most years come in under budget when all the reimbursing is completed. The true on the grounds results of this summer's treatments won't be realized until next spring but we can look at what was accomplished by the numbers.

## 2019 GRANT CYCLE • BY THE NUMBERS



# MAPPING MISSOULA COUNTY-OWNED PARKS



Before (2008)



After (2019)

The Missoula County Weed District began a two-year project in 2019, to remap all of Missoula County's county owned parks. Missoula County manages 91 parks and more than 40 miles of shared use trails, the majority of which were initially inventoried for noxious weeds in 2007 and 2008. With new staff managing the county parks and an increase in funding for management of the parks, 2019 was a perfect time to update the weed inventories for the parks.

Repeat weed mapping combined with retaking photo points is an important way to gauge the effectiveness of noxious weed treatments and inform strategies for future restoration efforts. Initial analysis of the data collected in the 35 parks mapped in 2019 indicate that there have been some positive results from noxious weed control efforts, but there are still a lot of weeds in the county parks and much more work to be done. It is clear that the parks that have had consistent plant management have seen a reduction in noxious weeds,

but many parks have not had any significant noxious weed control. This new inventory will be critical as the Weed District and County Parks work together in 2020 to outline a comprehensive plant management strategy for the County Parks.

The interesting thing about mapping the noxious weeds in the County Parks is that the plant community in each park typically is reflective of the plant community in that part of the county. Leafy spurge is a huge problem in the Lolo Hillside park system, just as it is on much of the private land in that part of Lolo. Parks in the Seeley/Swan area tend to have a lot of oxeye daisy. In 2019 we were able to document the establishment of *Mogulones crucifer*, a flying weevil that has made its way to Western Montana from Canada eating all of the houndstongue in its path. Houndstongue populations in the Lolo Hillside park system were heavily infested with this biological control agent and the overall abundance of houndstongue has plummeted.

# YOUTH EDUCATION



Missoula County Weed Districts' education program continues to engage youth in projects focused on understanding the importance of healthy plant communities. Cultivating interest in local native plant communities teaches students the importance of biodiversity and the roles plants play in surrounding ecosystems. This in-turn leads students to better understand the ecological impacts of invasive plants. A crucial component to the education program is incorporating hands-on outdoor experiences. **In 2019, over 1400 students got outside to learn plant identification skills focused on local native plant species and common invasive plant species impacting the area.**

## Expanding Partnership with the Missoula Butterfly House & Insectarium

As the Missoula County Weed District and Extension Service and the Missoula Butterfly House and Insectarium move forward with plans to build a new facility at the Missoula County Fairgrounds, we have also focused on strengthening our partnership through collaborative programs. In 2019, the Weed District and Butterfly House partnered to pilot a pollinator program for area 2nd grades. The newly created Powerful Pollinators program is currently being offered to 4 local schools and 12 different classrooms this spring. This exciting new program will focus on understanding the roll pollinators play on our surrounding landscape. Based on insect and plant structure and function, students will look at how pollinators aid in pollination of native plants and what native plant pollination strategies look like. We are excited to expand this program and partner on many more in our new facility and conservation/demonstration gardens.



*"Our partnership with the Missoula County Weed District and Extension Service on this program is incredibly powerful and a truly natural fit. The students get a well-rounded immersion into the world of pollination in a fun, active and hands-on way. It's fun and educational for the students and frankly fun for me to teach as well!"*

Carolyn Taber, Education Coordinator  
Missoula Butterfly House & Insectarium



# 2019 Youth Education

## 36 classrooms

from 15 schools participated in the Leave No Weeds 5th grade program

816 kids spent 1 hour removing  
34 bags of spotted knapweed

Spreading 25 lbs of native plant seed to help restore native grasslands

Kids hiked over 2 miles while identifying over 20 native flowers, grasses, trees and shrubs

235 Washington Middle School 6th graders identified 8 different native trees and shrubs using dichotomous keys over 2 days at Camp Washington on Flathead Lake

# 2019

## Youth in Restoration

11 Partnering Agencies

620 lbs of noxious weeds removed from county parks

Turned 250 yards of fencing into wildlife friendly fencing

< 14,000 lbs > of scrap metal removed from Clearwater Game Range

60,000 arnonleaf balsamroot seeds collected on city open space for restoration projects

Collected 123,000 biocontrol insects

## YOUTH IN RESTORATION

The 2019 field season was a year of leadership transitions and youthfulness. The crew was composed of freshman and sophomores with a former crew member at the helm. The crew spent the summer learning from dedicated professionals from 11 agencies and non-profits. These knowledgeable professionals provided education and on-the-ground training in the natural resource conservation work unique to their agency's needs.

### Partner Benefits

*Five Valleys Land Trust Perspective: Jenny Tollefson, Stewardship Director*

The Missoula County Weed District's Youth in Restoration crew came to the aid of Five Valleys Land Trust this summer. They spent four days working at Five Valleys' Rock Creek Confluence Property. Early in the summer, the crew used their creativity and construction skills to install set of stone steps leading down a muddy bank. The steps will be used by University of Montana Bird Ecology Lab researchers and volunteers who operate a bird banding station at the Confluence each summer, as well as members of the general public who visit the banding station. The steps will make for a safer trip for the visitors, the birds, and their handlers. Later in the summer the crew returned to remove 1/2 mile of old barbed wire fence along the property boundary. Five Valleys is very grateful for the help from this hard-working and good-natured crew. With their assistance each year, we are able to accomplish far more than we could on our own.

What project did you most enjoy working on this season?

Bob Marshall Wilderness Foundation backpack trip – "It was a job that required some hard work but it was definitely worth it to stay several nights in a beautiful place."

What project did you find most educational?

"Any biocontrol project! I never really thought about using bugs to control a weed population. The bugs used are a good, environmentally healthy way to approach weed management."



What project did you find to be the most educational?

"Before working on the youth crew, I knew very little about noxious weeds. When we were working on (releasing biocontrol and establishing) monitoring for St. Johnswort, my eyes were really opened to the threat of invasive weeds on ecosystems I know and love."

# PARTNERSHIPS



Allied Waste  
Beaverhead County Weed District  
Big Sky Watershed Corps  
Bitterroot Biocontrol Project  
Bitterroot National Forest  
Blackfoot Challenge  
Blaine County Weed District  
Bureau of Land Management  
CABI-Swiss  
City of Helena  
City of Missoula – Conservation Lands  
Clark Fork Coalition  
Clearwater Resource Council  
Climate Smart Missoula  
Confederated Salish and Kootenai Tribes  
Fergus County Weed District  
Five Valleys Land Trust  
Flathead Biological Research Station  
Flathead County Weed District  
Flathead National Forest  
Gallatin Valley Land Trust  
Golden Valley/Musselshell County Weed Districts  
Granite County Weed District  
Lake County Weed District  
Lee Metcalf Wildlife Refuge  
Lewis & Clark Conservation District  
Lewis and Clark County Weed District  
Lolo National Forest  
Lower Rock Creek Weed District  
Madison Valley Ranchlands Group  
Missoula Butterfly House and Insectarium  
Mineral County Weed District  
Missoula Conservation District  
Missoula County Community and Planning Services  
Missoula County Parks  
Missoula Snowgoers  
Montana Department of Transportation  
Montana Invasive Species Council  
Montana Land Reliance  
Montana Natural History Center  
Montana State University Extension  
Montana Weed Control Association  
MPG Ranch  
MT Association of Conservation Districts  
MT Department of Agriculture  
Department of Natural Resources & Conservation  
MT Noxious Weed Education Campaign  
MT Noxious Weed Trust Fund  
MT Fish Wildlife and Parks  
MT Wildlife Habitat Improvement Program  
National Bison Range  
National Wildlife Federation  
Natural Resource Collaborative Working Group  
Natural Resource Conservation Service  
Ninemile Ranger District  
North American Invasive Species Management Association  
Northern Rockies Invasive Plant Council  
Park County Cooperative Weed Management Area  
Powell County Weed District  
onX Maps  
Ravalli County Weed District  
Ravalli County Extension  
Rocky Mountain Elk Foundation  
Sanders County Weed District  
Seeley Lake Ranger District  
Soil and Water Conservation Districts of Montana  
Stillwater Valley Watershed Council  
Swan Lakers  
Swan Valley Connections  
Sweet Grass County Weed District  
The Nature Conservancy  
Teton County Weed District  
UM Franke College of Forestry & Conservation, Human Dimensions Lab  
University of Montana – Natural Areas  
Upper Columbia Conservation Commission  
USDA Forest Service – Rocky Mountain Research Station  
US Fish and Wildlife Service  
USDA - Agricultural Research Station  
USDA –Animal and Plant Health Inspection Service  
Watershed Education Network  
Wheatland County Weed District  
Whitehall School Project  
Wild Sheep Foundation  
Working Dogs for Conservation  
Yellowstone County Weed District

**MISSOULA COUNTY WEED DISTRICT**

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