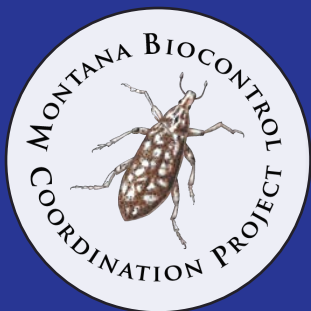


# MONTANA BIOCONTROL COORDINATION PROJECT

2022 Annual Report





## EXECUTIVE COMMITTEE

Jeff Littlefield, Chair  
Hannah Lewis, Vice Chair  
Natalie West, Science  
Advisor

## STAFF

Melissa Maggio,  
Project Coordinator  
Madeline Gaffigan,  
Biocontrol Assistant  
Gabe Siegel,  
Big Sky Watershed  
Corps Member

## OUR MISSION

*Provide the leadership,  
coordination, and education  
necessary to enable land  
managers across Montana  
to successfully incorporate  
biological weed control  
into their noxious weed  
management programs.*



**You have heard me say it every year** and you will have to endure hearing it again this year because somehow 2022 was busier than previous years! The demand for services changes every year, and just when I think I have addressed the capacity issue based on the previous year's needs, something new comes up. In-person educational programming was where the demand was in 2022, which I should have anticipated! Everyone (including us) was so excited to be able to once again comfortably gather in the field and classroom for educational programs and field days. We coordinated or participated in 21 educational programs this past year (only 3 were virtual), traveling over 7500 miles for these events alone! In addition to all of the in-person time we got this year, we collected and distributed more insects than previous years, maintained the number of sites monitored from last year, created new educational materials, and added a

new research project! I look forward to seeing what direction 2023 will take us. Thanks as always for all your support, and please do not hesitate to let us know if there is a project we should be assisting with to help make biocontrol a more attainable and useful tool for land managers in Montana.



Melissa Maggio  
MT Biocontrol Project Coordinator  
406-258-4223  
mmaggio@missoulacounty.us  
mtbiocontrol.org

*Cover photo taken while conducting a night time Agapeta zoegana collection  
Biocontrol logo and illustrations were produced by Evelyn Neel (madronapress@gmail.com)  
Map graphics were produced by Heidi Daulton (heidi.daulton@gmail.com)*



## PARTICIPATION

**18** In-person workshops/presentations

**3** Virtual workshops/presentations



Resin project underway

**1** How to video

Field guides distributed with poster

**6** Designs for tattoos

**5** Designs for stickers

**313**   
Collection participants

**41**   
Days collecting

**22,878**  
Miles traveled




## INSECTS

**9** Species released

**8** Species collected

**13,385** Acres treated

 **137**  
Sites monitored

 **12**  
States received insects

 **46**  
Counties received insects

 **2**  
Tribal Nations received insects

**1,743,900**  
Insects distributed



**9,240**  
Grams of rust harvested



**\$462,500**  
Market value of insects

## 2022 BREAKDOWN

**10%** 

Out of state coordination



**11%**

Fundraising

**29%**  
Collections & distribution



**18%**  
Monitoring

**15%**  
Education



**17%** 

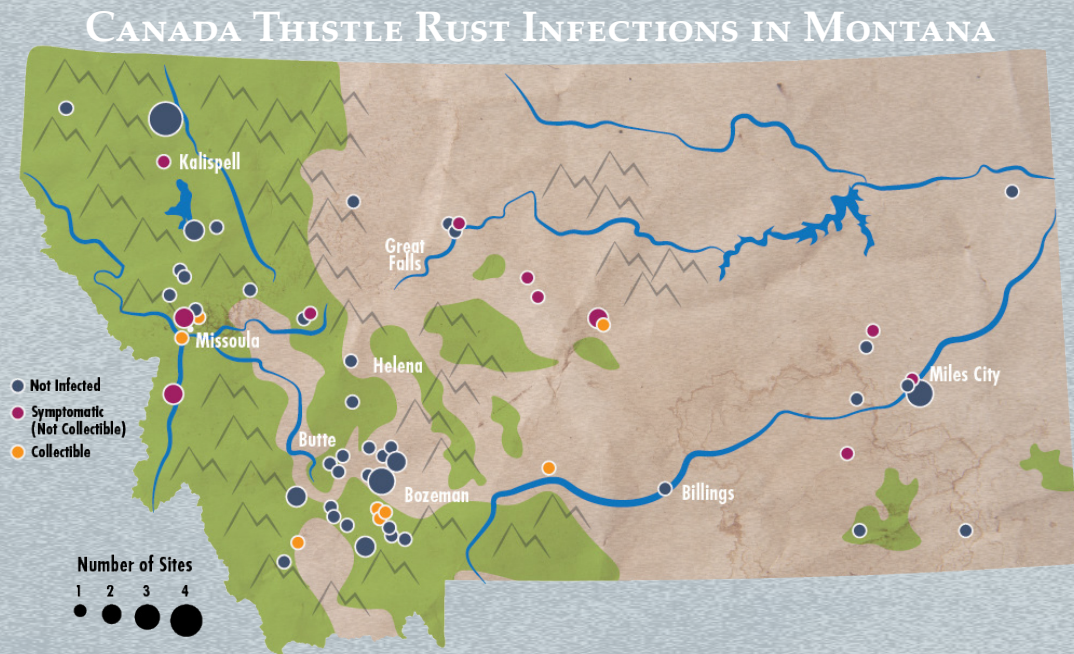
In-state coordination





**Monitoring for non-target impacts of the houndstongue root weevil (*Mogulones crucifer*)** was initiated in 2020. In 2022, we finished monitoring 8 sites for the 3rd consecutive year, and destructively sampled a subset of the non-target plants for dissections. A total of 39 plants were dissected, to look for the eggs and larvae of the houndstongue root weevil. In 2023, monitoring will wrap-up at the remaining 6 sites, followed by dissections, which will conclude this project.

Since 2017, we have inoculated approximately 100 Canada thistle infestations with the Canada thistle rust (*Puccinia punctiformis*) to gather data that will hopefully inform why it is an effective management tool at some sites and not others. This map demonstrates where we have and haven't seen signs of infection. We are still working on a project with researchers at Montana State University to analyze the data and develop predictive tools.





# RESEARCH PROJECTS

**Flowering rush** infests over 2,000 acres of Flathead Lake, and is the source population for the majority of the flowering rush in the Columbia River Basin. To be a good upstream neighbor, Montana has worked to manage this infestation through a variety of means, however, management with any tool has proven to be difficult. Therefore, development of a suite of biocontrol agents for flowering rush is needed. A funding consortium was formed in 2013, and a petition for field release of the first agent (a weevil) was submitted in early 2022. If approved, the initial releases of this weevil in the U.S. will be made in and around Flathead Lake.

MTBCP is participating in this project by:

- ✓ Locating ideal initial release sites (completed in 2022)
- ✓ Conducting monthly site monitoring visits to gain a better understanding of the dynamic nature of these aquatic sites (initiated in September 2022)
- Developing an annual pre- and post-release monitoring protocol (early 2023)
- Annual pre-release monitoring of selected sites (August 2023)
- Establishing artificial mass rearing ponds (summer/fall 2023)

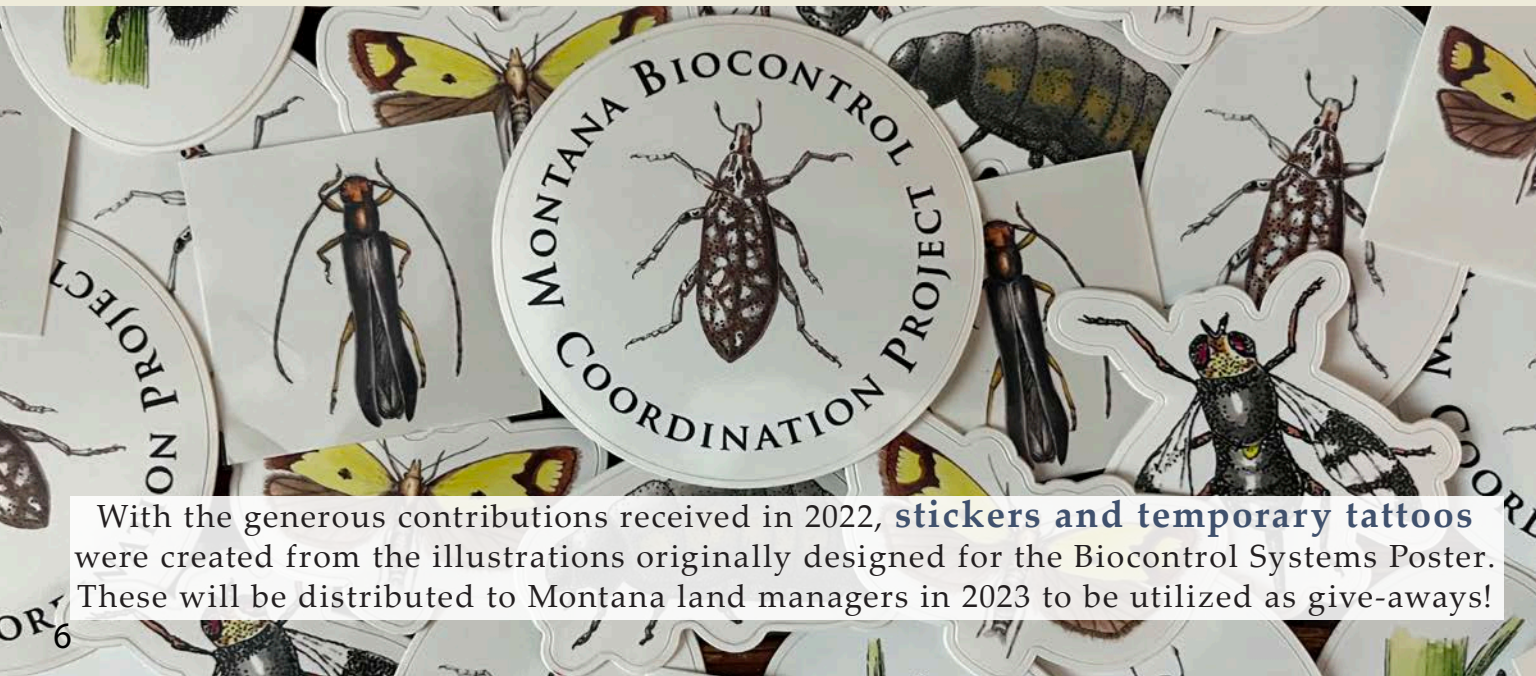


# EDUCATIONAL MATERIALS



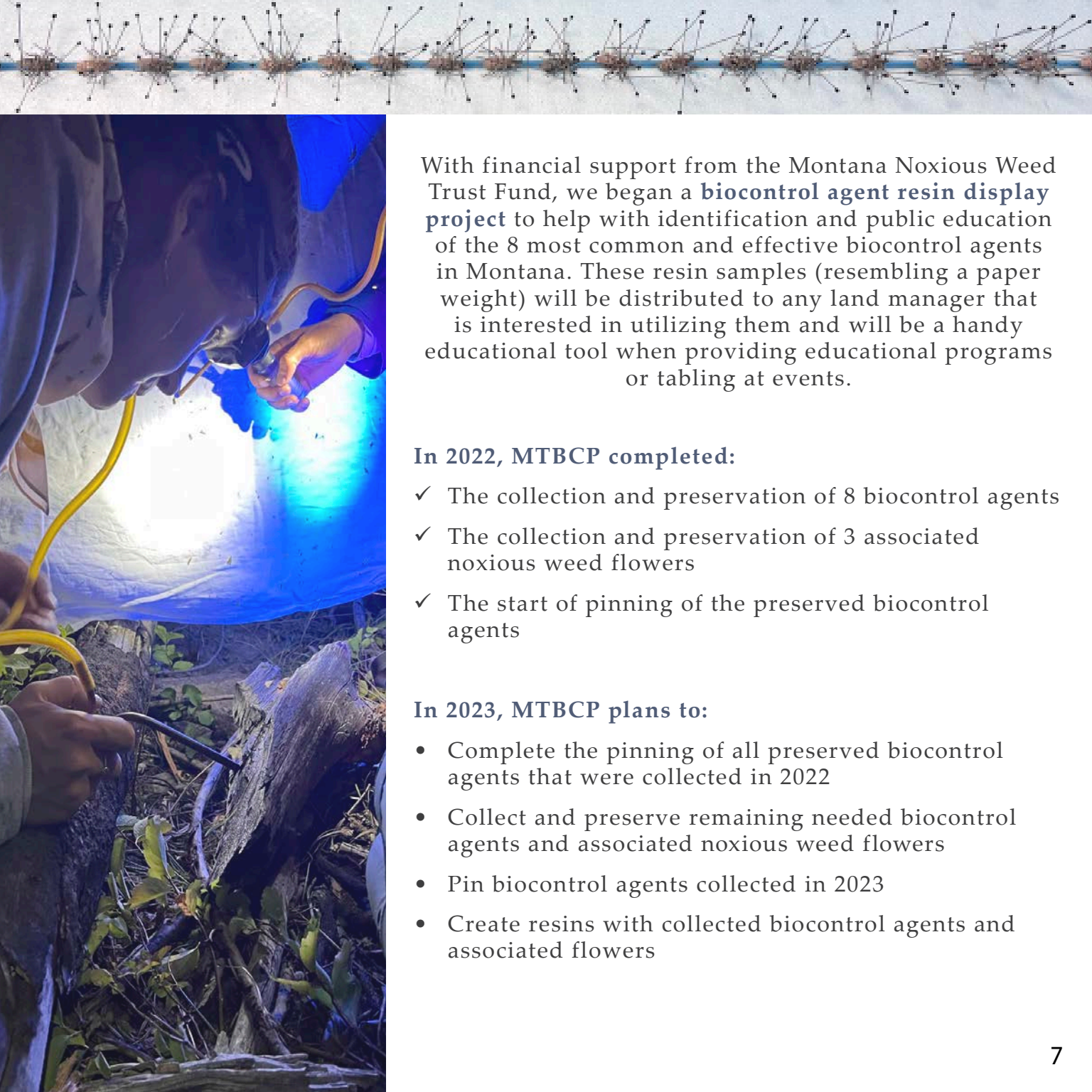
The first of our **“How to” videos** was finalized this winter with the goal of teaching people how to use the Biocontrol Systems Poster. The video can be found on our Youtube Channel [@MTBiocontrolproject6010](#)

More of this video series will be created in the future. If you have an idea for a useful how to video focus, let us know!



With the generous contributions received in 2022, **stickers and temporary tattoos** were created from the illustrations originally designed for the Biocontrol Systems Poster. These will be distributed to Montana land managers in 2023 to be utilized as give-aways!





With financial support from the Montana Noxious Weed Trust Fund, we began a **biocontrol agent resin display project** to help with identification and public education of the 8 most common and effective biocontrol agents in Montana. These resin samples (resembling a paper weight) will be distributed to any land manager that is interested in utilizing them and will be a handy educational tool when providing educational programs or tabling at events.

**In 2022, MTBCP completed:**

- ✓ The collection and preservation of 8 biocontrol agents
- ✓ The collection and preservation of 3 associated noxious weed flowers
- ✓ The start of pinning of the preserved biocontrol agents

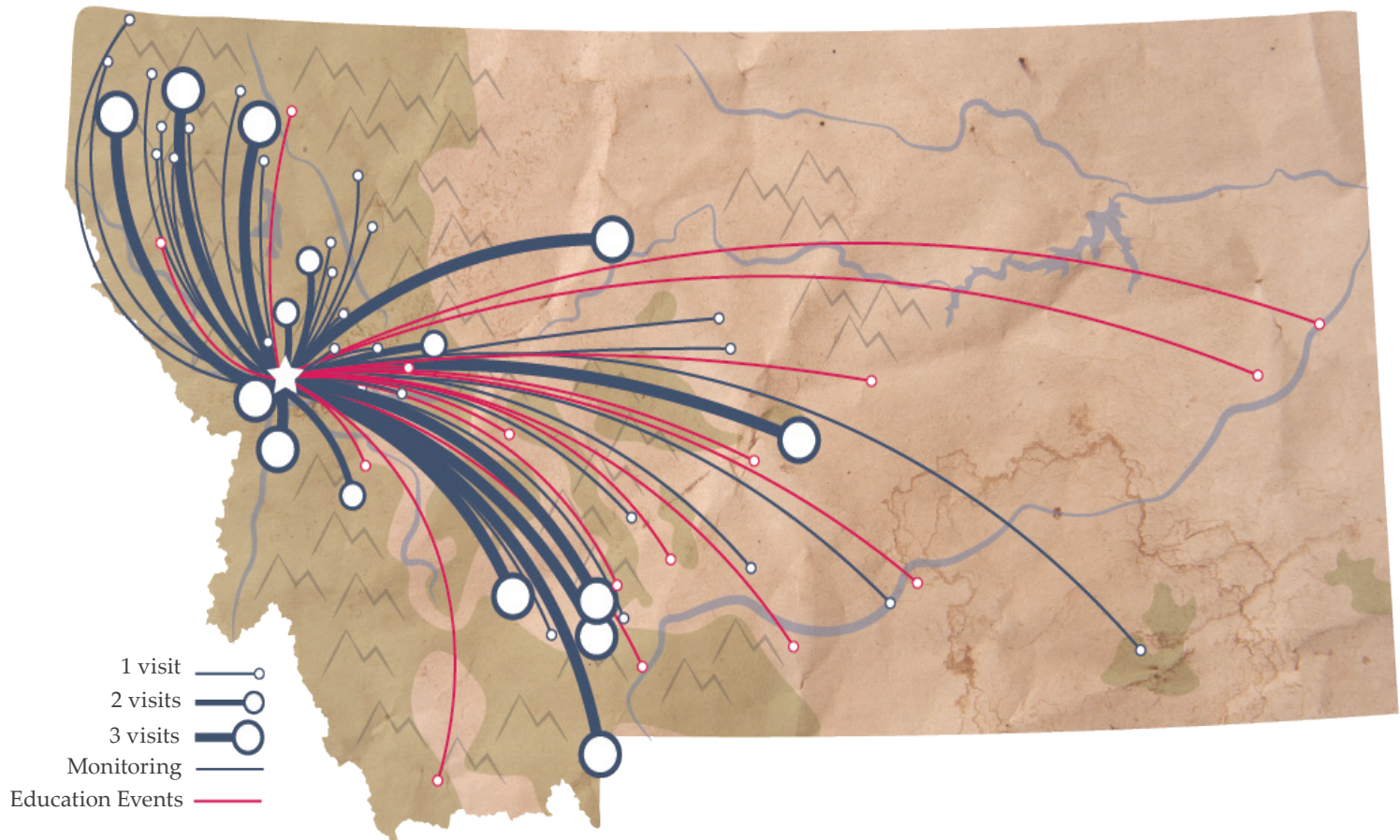
**In 2023, MTBCP plans to:**

- Complete the pinning of all preserved biocontrol agents that were collected in 2022
- Collect and preserve remaining needed biocontrol agents and associated noxious weed flowers
- Pin biocontrol agents collected in 2023
- Create resins with collected biocontrol agents and associated flowers

# TRIPS AND TRAVEL

Many, many, many days in 2022 were spent on the road for monitoring and educational programs. We drove almost **23,000** miles from May-October to accomplish the work we do across Montana. All of this travel has taken us to many beautiful and unique corners of the state. The graphic below demonstrates the locations we visited (in some cases repeat visits were made) in 2022.

## EDUCATIONAL PROGRAMS AND MONITORING SITES





# END OF TERM POEM

Gabe Siegel, Big Sky Watershed Corps Member

*...But snow became sunshine when May turned to June,  
And Mother Nature began to play a new tune.  
Say good bye to rain, say good bye to clouds  
Head out in the field with the sun beating down.  
It's time to collect our beloved biocontrol agents  
And send them off to new places*

*Meanwhile, if anybody needs to find me -  
I'll be lost, without a map, driving around the Kootenai.  
As if having a map would have helped me at all -  
And with the cleverest of rhymes it's finally fall.  
The days are shorter, the nights much more chilly  
But some things don't change - Canada thistle's still pokey...*





# PARTNER'S PERSPECTIVE

## BIOCONTROL MONITORING: A VALUABLE ADAPTIVE MANAGEMENT TOOL

Michelle Cox, *Invasive Species Coordinator, Northern Region US Forest Service, Missoula, MT*

The Montana Biocontrol Coordination Project (MTBCP) and US Forest Service Northern Region have maintained a successful partnership for many years through a cooperative agreement. MTBCP meets with two National Forests each year to discuss their needs and develop a plan for the season. MTBCP provides biocontrol agents, revisits release sites, installs and reads Standardized Impact Monitoring Protocol (SIMP) plots, and provides management recommendations. Their valuable release site evaluations and recommendations guide our biocontrol adaptive management objectives to maximize treatment effectiveness.

For example, MTBCP reached a remote site in the Bob Marshall Wilderness Complex that can only be accessed by backpacking or horseback. The monitoring goal was ground-truthing historical Forest Service data and determining the number of *Larinus* spp. present. The team conducted 6, 3-minute timed counts of *Larinus* spp. before releasing 1000 *Larinus* spp. Counts yielded *Larinus* spp., which is significant because there were no records of releases in this part of the Bob Marshall Wilderness. Monitoring on a regular interval was recommended to provide more insight

into the plant community and biocontrol agent population changes. Flathead National Forest and MTBCP will continue their work in these remote areas and partner with other organizations in 2023.

In 2022, MTBCP also worked with Kootenai National Forest managers to organize and review their historical records.



MTBCP evaluated over 20 sites and an additional 40 sites were either inaccessible or did not have the target species. All of this was conducted in one field season. Also, in 2022, MTBCP and the Forest Service received a Greater Yellowstone Coordinating Committee grant to provide biocontrol education and training on how to install

and read SIMP plots for managers within the Greater Yellowstone Ecosystem. During the two-year project, MTBCP will provide two trainings and assist Custer-Gallatin National Forest to evaluate their biocontrol program.

MTBCP's support and technical expertise to the Northern Region National Forests within Montana is vital to a successful integrated weed management program. We look forward to further collaboration and information sharing.





**A big THANK YOU for the financial and technical support we received in 2022! Without such supportive partners, the Montana Biocontrol Coordination Project would not be possible.**

Agricultural Research Service  
APHIS Plant Protection and Quarantine  
Beaverhead County Conservation District  
Beaverhead County Weed District  
Big Sandy Conservation District  
Bureau of Land Management  
Cascade County Weed District  
City of Missoula  
Daniels County Weed District  
Eastern Sanders Conservation District  
Fergus County Weed District  
Gallatin County Weed District  
Granite County Weed District & Extension  
Jefferson County Weed District  
Judith Basin County Weed District

Lewis & Clark County Conservation District  
Liberty County Weed District  
Lincoln Conservation District  
MT Department of Natural Resources & Conservation  
MT Noxious Weed Trust Fund  
MT Department of Transportation  
Montana State University Extension  
Madison Valley Ranchlands Group  
Mineral County Weed District  
Missoula County Conservation District  
Missoula County Extension  
Missoula County Weed District  
Musselshell County Weed District  
Park County Extension & CWMA  
Petroleum County Conservation District

Pondera County Conservation District  
Powder River Conservation District  
Powell County Weed District  
Prairie County Extension  
Richland County Weed District  
Richland County Conservation District  
Sheridan County Weed District  
Stillwater County Weed District  
Stillwater Valley Watershed Council  
Sweet Grass County Weed District  
Teton Conservation District  
Toole County Weed District  
United State Forest Service – Region 1  
Washington State University

**Majority of the TECHNICAL SUPPORT we receive comes from the Montana Biological Control Steering Committee. THANKS to all of the members for your**





**MONTANA BIOCONTROL PROJECT**  
**2825 SANTA FE CT.**  
**MISSOULA MT 59808**

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