



MONTANA
BIOCONTROL
COORDINATION
PROJECT

ANNUAL REPORT 2017

SINCE 2013, the Montana Biocontrol Working Group has raised funding to support a statewide biocontrol coordinator. Contributions and grants have continued to increase every year, which has enabled the Montana Biocontrol Coordination Project (MTBCP) to succeed and grow! From the beginning, MTBCP has been fortunate to consistently receive annual funding from agencies like: BLM, APHIS, and MDT. Contributions and grant dollars have also played an important role in the continuation of MTBCP (see the complete list of contributors in 2017 on page 11). The Montana Noxious Weed Trust Fund has also provided grant funding since the MTBCP's inception. Along the way we have also received grants from local groups like: The Blaine County Community Foundation and a 223 Grant through conservation districts. Every grant has contributed to MTBCP in a different way. The Noxious Weed Trust Fund grants have funded workshops, presentations, collection days, and distribution of insects in Montana. The Blaine County Community Foundation provided funding to begin the establishment of a Dalmatian toadflax insectary in Blaine County. The 223 Grant was used to fund the deliverables MTBCP provides. Thank you to all our supporters and I look forward to the continued growth, partnerships, and success to come!



Melissa Maggio-Kassner

MT BIOCONTROL PROJECT COORDINATOR

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OUR MISSION

To 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.



2017 BREAKDOWN



Out-of-State
Coordination



14%
Fundraising



Workshops

25%
Collections



In-State
Coordination



HOME ABOUT BIOCONTROL SYSTEMS HAPPENINGS PROGRAMS RESOURCES

RESOURCES



Dalmatian toadflax stem weevil
info sheet



Leafy spurge stem boring beetle
info sheet



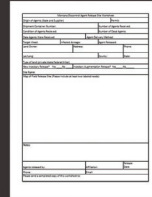
Leafy spurge flea beetles info
sheet



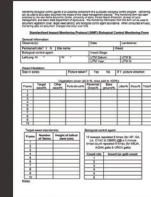
Spotted knapweed root weevil
info sheet



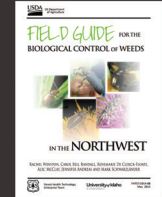
Sources for obtaining biocontrol
agents



Biocontrol agent release
worksheet



Biological weed control
monitoring form

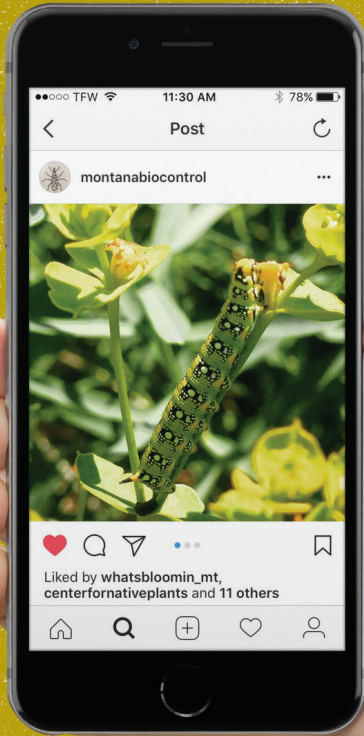


Field Guide for the Biocontrol of
Weeds



Visit us at mtbiocontrol.org for all things biocontrol - resources, insect information, calendar of events, etc.

Follow us on Instagram
@montanabiocontrol



COORDINATION AND COMMUNICATION

In 2017, in-state coordination and communication efforts have been enhanced with the addition of biocontrol agents to the Natural Heritage Program's **online field guide** (<http://fieldguide.mt.gov/>), the **MTBCP's website** (mtbiocontrol.org), and **Instagram** ([montanabiocontrol](https://www.instagram.com/montanabiocontrol)). These new tools are in addition to our Facebook page, email communication via mailing list, and periodic surveys.

We also recently received a **Pulling Together Grant** through the National Fish and Wildlife Foundation. The focus of this grant is to establish collectible insectaries throughout Montana. MTBCP has always put significant effort into distribution of insects to land managers in need but this funding allowed us to collect above these requests to make mass releases in areas with the intention of creating collectible sites. We have been working with partners to release insects at some of the sites on the **Insectary Map** (Figure 1) for a number of years and some of them we will make consecutive mass releases to rapidly build up populations.

There was also an increase in regional and national coordination. We assisted with the coordination of the North American Invasive Species Management Association's (NAISMA) biocontrol efforts both for their annual conference and on their biocontrol committee. Our annual biocontrol meeting was held in conjunction with our neighboring state, Wyoming. Partnering and planning with neighboring states allows us to accomplish more and reach a wider audience. We also saw a significant increase in the number of states requesting assistance in obtaining biocontrol agents. With the assistance of our local APHIS-PPQ employees we **shipped insects to 14 states** (Figure 2). These collaborative relationships have also allowed us to bring in 3 additional species of biocontrol agents for purple loosestrife, St. Johnswort, and Canada thistle that we currently do not have collectible populations of in Montana.

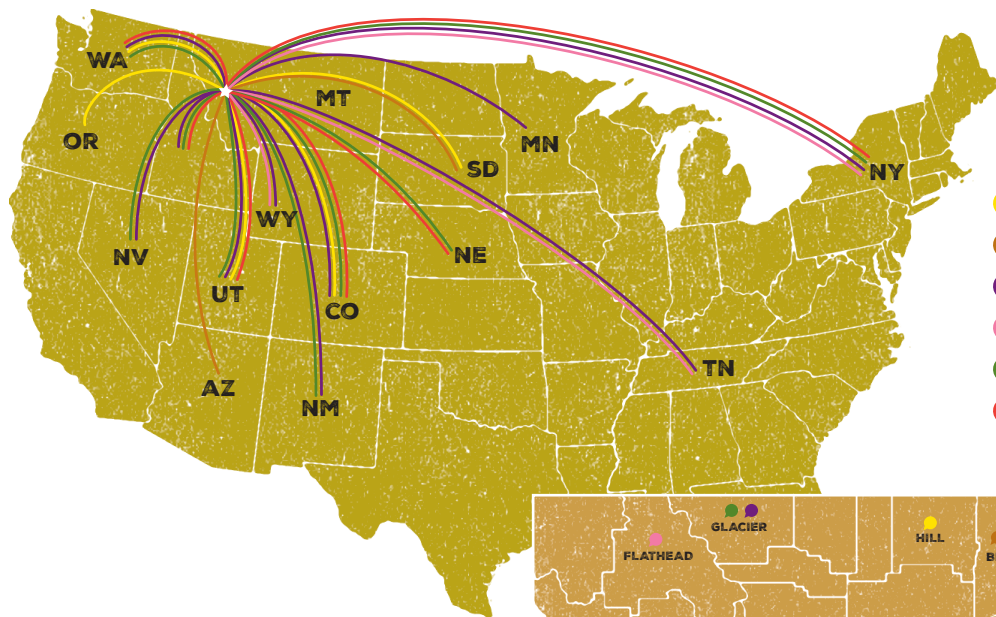


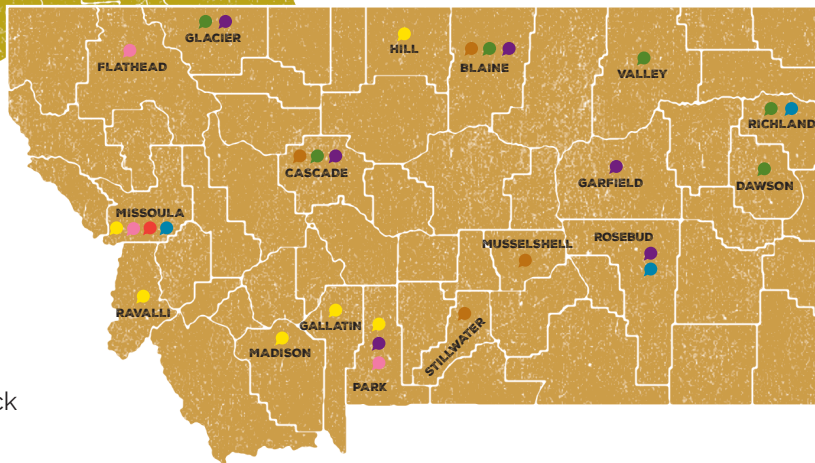
Figure 2:
Out of State Insect Distribution

- Yellow Toadflax Stem Weevil
- Dalmatian Toadflax Stem Weevil
- Spotted Knapweed Root Weevil
- Spotted Knapweed Flower Weevil
- Leafy Spurge Flea Beetles
- Leafy Spurge Stem Borer



Figure 1: **Insectary Target Areas**

- Yellow Toadflax
- Dalmatian Toadflax
- Leafy Spurge
- Spotted Knapweed
- St. Johnswort
- Canada Thistle
- Poison Hemlock



PARTICIPATION



15

Workshops Held



300

Workshop
Participants

35

Days Spent
Collecting



492

Collection Day
Participants

6748

Miles Traveled for
Workshops and Collections



*"Once again we were greeted with outstanding Montana hospitality and cooperation in our efforts in collecting *Cyphocleonus achates*. You were truly great receiving us in Missoula and introducing us to your insectary site, you have superior skills in collecting these illusive agents."*

Larry D. Skillestad, USDA APHIS-PPQ, Spokane, WA





INSECTS

Species Collected

16,520 Acres Treated



3

New Species
Released



Counties
Received
Insects



States
Received
Insects

2.5 Million Insects Distributed



\$548,822
Market Value of Insects



PARTNER PERSPECTIVE

By Mark Schiltz, Western Manager, Montana Land Reliance

On behalf of The Montana Land Reliance (MLR), I would like to thank Melissa Maggio-Kassner and the MT Biocontrol Coordination Project (MTBCP) in helping plan and implement the 2017 MLR Biocontrol Outreach Program. MLR established this program to educate both landowners and the general public on how biocontrol can be used as an effective tool to help control invasive noxious weeds. Melissa has been a valued partner in this program since MLR initiated the outreach event in 2015. Last summer, in 2017, in addition to leading biocontrol collection days in Missoula, Eureka, and Seeley Lake, Melissa also partnered with MLR to implement an outdoor workshop in Condon that included the participation of students from Bigfork High School.

Traveling to an MLR conservation easement property in the Swan Valley, Bigfork High School students started the workshop by learning the identification and biology of both yellow toadflax and *Mecinus janithus*, the biocontrol agent most effective against yellow toadflax. Students then learned how to place a monitoring transect to establish a baseline, recording the current size, health, and distribution of yellow toadflax and other invasive weeds on the property. Next, using GIS/GPS technology, the students located a larger grid already established on the property to measure the overall population density of yellow toadflax. Students then learned how both the transect and grid baseline monitoring data can help quantify the beneficial impacts of biocontrol over time. Finally, the students released 600 biocontrol agents hoping to establish a healthy reproducing population of *Mecinus janithus* on the property.





The mission of MLR is to partner with private landowners to permanently protect agricultural lands, fish and wildlife habitat, and open space. Management of invasive noxious weeds is one of the most challenging issues facing both private and public land management in Montana. On the one million acres of private land MLR currently holds under conservation easement, MLR works diligently to educate private landowners about the many tools available to control the spread of invasive weeds. MLR Biocontrol Outreach Program furthers MLR's organizational mission and helps illustrate how private land trusts play a beneficial role in long-term land stewardship and conservation.

Biological control agents for the control of yellow toadflax, spotted knapweed, and other invasion weeds have been used for a number of years in Montana with varying success. Melissa's efforts to educate the public about the benefits and limitations of biocontrol will greatly improve the future success of this important component of weed management.

Melissa's experience is invaluable when identifying the host of invasive noxious weeds found in Montana and recommending the biocontrol agents most effective in controlling those weeds. Given her vast knowledge and understanding of biocontrol, Melissa has proven to be a valuable partner in helping with MLR's outreach efforts.

MLR is extremely fortunate to have Melissa Maggio-Kassner as a partner and looks forward to working with her more in the future.





NEW BIOCONTROL AGENT FOR CANADA THISTLE ARRIVES IN MONTANA

Canada thistle is a deep rooted, long lived perennial in which control depends on killing the extensive root system. The difficulty of control is why work began on a naturalized rust fungus, *Puccinia punctiformis*. This rust can only complete its life cycle on living Canada thistle (CT) plants and in the process the root system becomes permanently infected.

In 2013, the Colorado Department of Agriculture began to implement and track the impact of *P. punctiformis* across Colorado. By 2016, data from Colorado demonstrated the rust was impacting CT patches. Work continues within Colorado to determine the factor or factors that enhance the efficacy of the rust.

The initial success in Colorado, has led to the initiation of a multi-state program supported by the US Forest Service through the Biocontrol of Invasive Plants program. Weed and resource managers in seven additional western states have been instructed on the use of the rust for CT control.

In the fall of 2017, we inoculated 8 sites throughout Montana; 4 in eastern Montana and 4 in western Montana. For the initial releases, we needed sites that were not grazed, with CT Infestations of approximately $\frac{1}{4}$ of an acre in size, where the landowner or manager was willing to agree to not utilize herbicide on the CT for 5 years, and ideally in a moist environment. These site characteristics are thought to be ideal for developing productive populations of the rust. Therefore, we are hopeful that some if not all of these sites will establish and we will be able to collect inoculum to spread to new infestations of CT in the near future. Once we have an abundance of the rust to distribute, the site requirements will be much more relaxed.

COMING SOON

Montana Biocontrol Poster featuring natural resources and biocontrol successes across the state.

We are working with the **Natural Heritage Program** to develop a habitat suitability model for 4 biocontrol systems, which can guide selection of appropriate release sites for these species.



THANK YOU!

A big **THANK YOU** for the financial and technical support we received in 2017! Without such supportive partners, the Montana Biocontrol Coordination Project would not be possible.

Broadwater Conservation District
Bureau of Land Management Carbon
County Weed District
Cascade County Weed District
Custer County Weed District
Daniels County Weed District
Fergus County Weed District
Gallatin County Weed District
Golden Valley County Weed District
Hill County Weed District
Judith Basin County Weed District
Lake County Weed District
Lewis & Clark Conservation District
Lewis & Clark County Weed District
Liberty County Weed District
Lincoln Conservation District
Lincoln County Weed District
Madison Valley Ranchlands Group
Mineral County Weed District
Missoula County Weed District
Missoula County Extension
Montana Department of
Transportation
Montana Fish, Wildlife & Parks
Montana Noxious Weed Trust Fund

Musselshell County Weed District
Park County Weed District
Park County CWMA
Powell County Weed District
Richland County Weed District
Sanders County Weed District
Stillwater County Weed District
Stillwater Valley Watershed Council
Sweet Grass County Weed District
Teton Conservation District
Teton County Weed District
Toole County Weed District
United States Forest Service
USDA-APHIS-PPQ
Wheatland County Weed District
Whitehall Biocontrol Project
Wild Sheep Foundation

*Majority of the technical support we receive comes from the MWCA Biological Weed Control Working Group. **Thanks to all of the members for your support and assistance on a variety of topics!***



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