Montana Fish and Wildlife Conservation Office

BILLINGS – BOZEMAN – GREAT FALLS – LEWISTOWN

August-September 2016

Sikes Act work, Malmstrom Air Force Base, MT.

During 2016, biocontrol was implemented for the first time on Malmstrom Air Force Base as a long-term means of reducing herbicides. The targets were Spotted Knapweed and Canada Thistle. This release of helpful insects serves as the third component of a comprehensive weed control strategy which includes herbicide application and goat grazing.

Combined, approximately 1,155 Knapweed Root-boring Weevils (*Cyphocleonus achates*) and Canada Thistle Stem Mining Weevils (*Ceutorhynchus litura*), were released on the undeveloped side of Malmstrom Air Force Base (11 biocontrol releases of approximately 105 individuals each; see Figure 1).

While the lifecycle of each insect is slightly different, the larvae of both species play an integral roll in the control mechanism by either infesting the roots or stems of the target plants — weakening and eventually killing the host.

As the plants die, the adults move on to colonize new stands the following spring.

This cycle is expected to continue until the knapweed and thistle populations have been significantly reduced.

Additoinal information is available at http://agr.mt.gov/agr/Producer/Weeds/biologicalControls/

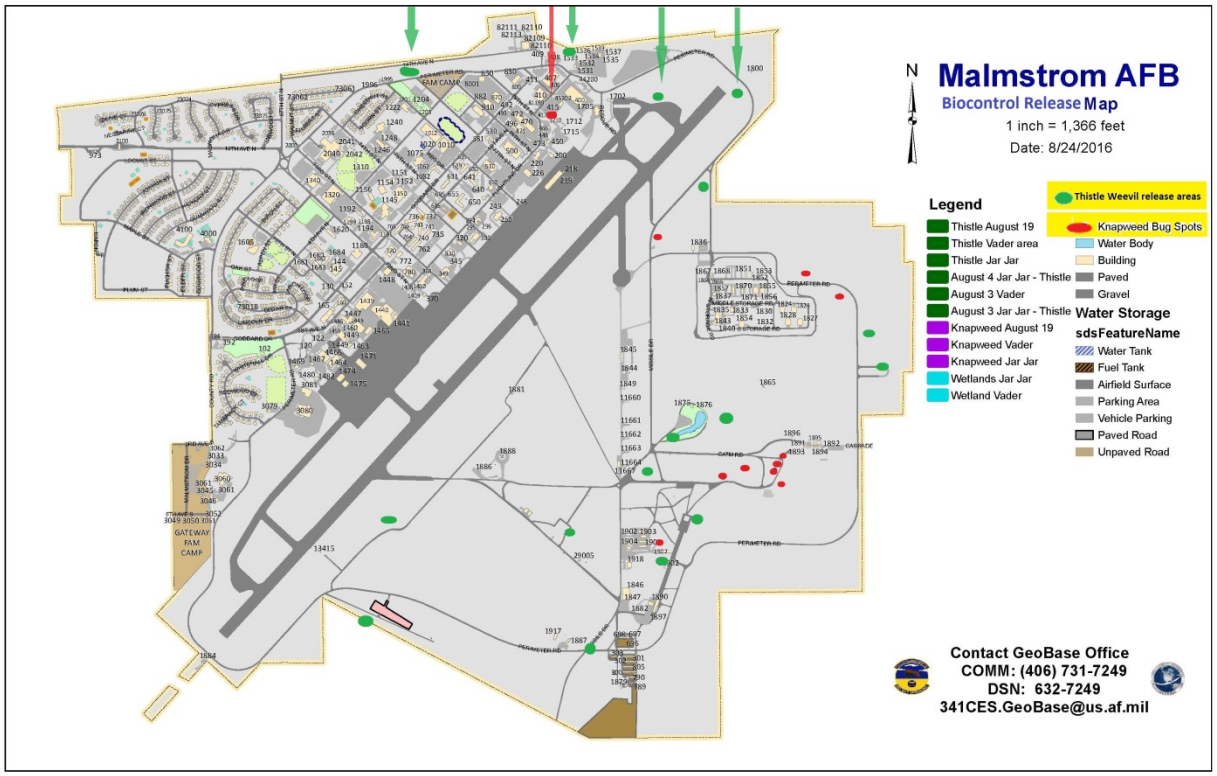

Figure 1. Map of weevil release locations on the undeveloped side of Malmstrom Air Force Base.

Sikes Act work, Malmstrom Air Force

Continued…

Other notable activites include:

•A 2-day National Public Lands Day event was held 23-24 Sept. Approximately 65 volunteers (USDA-FS, Malmstrom Spouses Club, CEIE, Red Horse Squadron, youth from MT Civil Air Guard), cleaned up of the area around Powwow Pond (vegetation, garbage, and sidewalk cleaning), planted a pollinator garden around the information kiosk at the entrance, and mulched and set stone rings around some 20 trees leading up to the pond and bordering the parking lot.

Before (left) and after (right) images of the information kiosk following 2016 NLPD events. Photo: *USFWS/ Dr. Elin Pierce*

Staging native pollinator plants in preparation for the National Public Lands Day event. Photo: *USFWS/ Dr. Elin Pierce*

Arctic Grayling at Red Rock Lakes National Wildlife Refuge.

Elks Springs Creek historically supported a large spawning run of grayling. Today, grayling are rarely found in Elk Springs Creek. One of the leading hypotheses for the grayling's absence was a re-route of Elk Springs Creek in the early 1900s.

For the past year, Montana FWCO staff have been collecting "pre-data" in advance of a planned collaborative effort to re-route Elk Springs Creek into one of the historical channels to facilitate Arctic Grayling restoration at Red Rock Lakes National Wildlife Refuge.

We are happy to report that the channel re-route effort was completed September 15th. The project used approximately 3,200 pounds of fire-line explosives to blast a channel 4-5 feet deep and 10-12 feet wide.

Following the blasting effort, Montana FWCO staff began collecting "post project data" that includes dissolved oxygen data from Swan Lake at the newly created Elk Springs Creek mouth, establishing a new PIT tag array in the new stream channel, and improving the PIT array antenna at all sites for increased detection probabilities.

Additionally, Montana FWCO staff assisted Montana Fish Wildlife and Parks in a beaver dam removal effort on Red Rock Creek. Removing beaver dams on Red Rock Creek will be a method used to assess the potential effects from barrier removal and the corresponding increase in spawning habitat availability. Additionally, this effort was to test the feasibility of fall beaver dam removal as an alternative to removing them during the spring.

A total of 32 beaver dams, were removed, although some were almost immediately rebuilt. Unfortunately, it appears that at least some of the beaver dams will have to be removed again this spring prior to spawning migrations.

Blasting a new path with fire-line explosives was a collaborative effort involving USFWS (Refuges and FAC) and the Forest Service. The new channel will be assessed regularly by Montana FWCO staff to better understand the success of the restoration effort.
Photo: ***USFWS/Andrew Gilham***

Bull Trout Recovery:

While the majority of our Bull Trout work is focused on the St Mary River population, we were called upon by Glacier National Park and Canada's Wateron Park to assist with Bull Trout monitoring in 2016.

During the late 1990s a weir and fish trap were used to regularly collect migratory adult Bull Trout as they entered and exited the North Fork Belly River, the only known spawning tributary for the Belly River Bull Trout Population. During this time, captures numbered as high as 100 spawning adults. Trapping and redd surveys were discontinued after 1999; however, in 2010 Waterton Park biologists began conducting redd surveys again but failed to identify more than a few redds per year since then. Both Waterton and Glacier are understandably concerned about this important Bull Trout population, but have neither the time nor resources to conduct a more thorough investigation.

On August 22nd, the best Bull Trout Survey Crew in the United States (east of the Continental Divide anyway), loaded with camping and electrofishing gear, hiked deep into the North Fork Belly River drainage in search of Bull Trout and to gain some insight regarding the recent depressed spawning runs. This stream originates in Glacier Park, Montana and flows north over the Canadian border into Waterton Park before entering the main Belly River about 8-km downstream. Our objectives were to document Bull Trout presence in the only available spawning habitat — a remote 3-km reach that straddles the border. We did find Bull Trout in a wide variety of sizes and ages (age-1 to adult). However, no young of the year (fry) were observed. In general, overall abundance of all ages appeared relatively low. Interestingly, no other species (sculpins, whitefish, or other trout species) were present – only Bull Trout.

The best Bull Trout Survey Crew in the United States (east of the Continental Divide anyway) prepares to head into the Belly River to look for Bull Trout. Photo: *USFWS*

Tribal Trust Responsibilities:

Montana FWCO staff has annually assisted the Blackfeet Environmental Office with stream surveys. This year however, we worked closely with Montana State University (MSU) to coordinate efforts with Allison Stringer, a M.S. candidate at MSU with an expertise in minnow identification.

This collaborative effort resulted in the collection of minnows on the Montana fish species of special concern list; Northern Redbelly Dace (NRBD), Redbelly x Finescale dace (NRBD x FD), and Pearl Dace.

We were able to find NRBD and probable NRBD x FD in two reservation streams, where they had not previously been detected. Both streams were prairie spring creeks, Willow and Coldfeet Coulee. Willow Creek is a tributary to the St. Mary River and Coldfeet Coulee Creek is a tributary to the Two-Medicine River.

Unfortunately, we were only able to detect Pearl Dace in Willow Creek. However, Allison indicated that it was by far the strongest population of Pearl Dace that she had observed in two years of sampling multiple streams outside of the reservation. Prior to sampling Willow Creek, Allison had caught only seven Pearl Dace during two field seasons whereas over thirty individuals were caught in a mere 150m of Willow Creek.

Although we were unable to detect Pearl Dace in many of the locations where they had previously been detected, it was encouraging to find at least one robust population. Moreover, the population in Willow Creek may be the species' last stronghold within Montana.

Allison Stringer and technicians conducting electrofishing surveys for Pearl Dace and Northern Redbelly Dace, Blackfeet Reservation, Montana. Photo: *Andrew Gilham, USFWS*

Pearl Dace (*Margariscus margarita*) captured on the Blackfeet Reservation, Montana, 2016. Photo: *Andrew Gilham, USFWS*

Other happenings:

A manuscript was completed, submitted, and accepted by the Journal of Applied Ichthyology (JAI). The manuscript will serve as the Pallid Sturgeon chapter within a JAI special issue 'Status of Knowledge of North American Sturgeon'. Publication is planned for late 2016.

The chapter citation will be:

G. R. Jordan, E. J. Heist, P. J. Braaten, A. J. DeLonay, P. Hartfield, D. P. Herzog, K. M. Kappenman, and M. A. H. Webb. 2016. Status of knowledge of the Pallid Sturgeon (Scaphirhynchus albus). In: Status of Scientific Knowledge of North American Sturgeon. K. Sulak (Ed.), J. Appl. Ichthyol. xxx(xx), p. xx-xxx.

Weevils released at Malmstrom Air Force Base provide cheap, tireless labor in the battle against weeds. Photo: *Dr. Elin Pierce, USFWS*

Multiple age-classes of Bull Trout collected from the Belly River Drainiage. Photo: *Jim Mogen, USFWS*

For more information, click on the following logos Or feel free to contact any of the Montana FWCO Team members below:

George Jordan
Project Leader
2900 4th Ave. North, Room 301
Billings, MT 59101
Phone: 406-247-7365
Email: george_jordan@fws.gov

Jim Mogen
Fisheries Biologist
4052 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-585-9010
Email: jim_mogen@fws.gov

Judy Kobus-Fisk
Administrative Support Officer
4052 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-585-9010
Email: judy_kobus-fisk@fws.gov

Andrew Gilham
Fish and Wildlife Biologist
4052 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-585-9010
Email: andrew_gilham@fws.gov

Jason Marsh
Seasonal Biotech
4052 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-585-9010
Email: jason_marsh@fws.gov

William Sharp
Seasonal Biotech
4052 Bridger Canyon Road
Bozeman, MT 59715
Phone: 406-585-9010
Email: william_sharp@fws.gov

Michael (Josh) Melton
Fish and Wildlife Biologist
335 Airport Road 61
Lewistown, MT 59715
Phone: 406-535-2800 ext 23
Email: michael_melton@fws.gov

Marlene Fisher
Fish and Wildlife Biologist
335 Airport Road 61
Lewistown, MT 59715
Phone: 406-535-2800 ext 22
Email: marlene_fisher@fws.gov

Elin Pierce, PhD.
Fish and Wildlife Biologist
Malmstrom Air Force Base
Great Falls, MT 59715
Email: elin.pierce@us.af.mil