

DNRC AQUATIC INVASIVE SPECIES GRANT PROGRAM



2017 Biennium

Program Report

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DNRC Aquatic Invasive Species Grant Program

2017 BIENNIUM PROGRAM REPORT

INTRODUCTION

Aquatic Invasive Species (AIS) are organisms that are brought into Montana from other places. These include non-native clams, fish, mussels, plants, weeds, and disease-causing pathogens. AIS can overwhelm lakes and rivers, kill fish and plants, and damage the delicate ecosystem that keeps our waters clean and abundant.

AIS harm recreational and agricultural resources by damaging boats and gear, clogging water pipes and hydropower facilities, causing ecological damage to fragile aquatic ecosystems, obstructing community water sources, and choking off irrigation systems.

Prevention, early detection, and education are the best strategies to combat AIS. The State of Montana has expanded AIS management efforts over the last several years and has implemented a multi-faceted program. As part of that strategy, DNRC provides grants to help local communities prevent and control AIS in their areas allowing communities to take an active role in AIS efforts in the state. The goal of the grants is to protect the natural resources of Montana from severe and unacceptable damage from AIS.

MONTANA AIS PRIORITIES

AIS priorities in Montana include three aquatic invasive plants and invasive quagga/zebra mussels. The three invasive aquatic plants listed below are noxious weeds in Montana. The plants are targeted for management based on their potential impacts to aquatic environments, agriculture, hydropower, and water-based recreation. Beyond these plants, quagga and zebra mussels are Montana's biggest AIS threat.

Eurasian watermilfoil (*Myriophyllum spicatum*) occurs at five locations in Montana: the lower Jefferson River, upper Missouri River and associated reservoirs (to upper Canyon Ferry Reservoir), Fort Peck Reservoir, lower Clark Fork (Noxon and Cabinet Gorge Reservoirs), and the lower Madison.

Curly leaf pondweed (*Potamogeton crispus*) is widespread in the Missouri River Watershed from Hebgen Lake downstream to Fort Peck. It is considered a new invader in the upper Flathead River (above Flathead Lake). The plant is widespread below Flathead Lake and throughout the lower Clark Fork drainage.

Flowering rush (*Butomus umbellatus*) infests more than 2000 acres in Flathead Lake and downstream waters of the Flathead and Clark Fork drainage into Idaho. The population in Montana is the primary source of infestation in the Columbia River Basin. Flowering rush is a sterile hybrid in Montana (does not spread by seed) but very effectively spreads by root fragments. Effective control options for flowering rush are not available at this time; however, biocontrol research is promising and on-going.

Zebra and quagga Mussels (*Dreissena polymorpha*, *Dreissna rostriformis*) were detected in Montana in fall 2016, and the state has switched from a pure prevention mode to one of control

and containment. The 2017 legislature increased funding for the state’s program in order to strengthen its prevention, early detection, and control and containment efforts. Local efforts through the grant program help provide additional layers of protection across the state.

2017 BIENNIUM PROJECTS

Since 2011, DNRC has awarded nearly \$4 million for AIS coordination, prevention, early detection, rapid response, and control efforts (see Appendix B). The following projects were awarded AIS grant funding during the 2017 biennium. A summary of projects is listed in Appendix A and full reports for each project are available upon request.

COORDINATION PROJECTS

Lewis & Clark Conservation District

Monitoring Coordination

\$6,000

The purpose of the project is to add an aquatic invasive species component to the Montana Water Monitoring Resource Website currently under construction at Montana Watershed Coordination Council with support of the Montana Department of Environmental Quality. The goal of the website is to coordinate water monitoring entities and activities across Montana.

Missoula County Weed District

Montana Invasive Species Strategic Framework—AIS Component and Council Support

\$15,000

This project supports the mission of the Montana Invasive Species Advisory Council (MISAC). The purpose of this project was to complete the aquatic component of the all taxa Montana Invasive Species Strategic Plan by November 2016 and provide the operational support for the Montana Invasive Species Council needed to complete that component of the plan.

Sanders County

EWM Alternatives Analysis and Management Plan

\$30,000

After five years of herbicide treatment, it has become evident that this control measure is not meeting management goals. Sanders Co. will use these grant funds to examine the range of management alternatives available and their feasibility for use in the two reservoirs. The results will be used to formulate a new management plan for the control of Eurasian watermilfoil in Noxon and Cabinet Gorge reservoirs.

PREVENTION PROJECTS

Blackfoot Tribe

Watercraft Inspection Station Hwy 2
\$100,000

The Blackfoot Tribal Council adopted Ordinance 113, “The Blackfoot Nation Aquatic Invasive Species Act,” on April 9, 2015 to ensure that AIS are not introduced to, or spread within, the Blackfoot Nation. The plan includes the operation of watercraft inspection stations. The station west of Browning on highway 2 is a critical station in protecting the west side of the Continental Divide. Project funding is for the operation of the station for the 2017 season.

City of Whitefish

Whitefish Lake Mussel Response Initiative
\$15,000

The City of Whitefish has taken a proactive approach to protecting Whitefish Lake from the introduction of AIS by operating two watercraft inspection/decontamination stations. As a result of the 2016 invasive mussel detections, the City has extended the 2017 season including increased hours of operation. This grant is to fund personnel at the Whitefish State Park Inspection Station.

Confederated Salish Kootenai Tribes

K-9 Inspection Program and Watercraft Inspection Staffing
\$38,000

The CSKT’s Tribal AIS Program includes prevention through permanent and roving watercraft inspection stations to protect Flathead Lake. Project funds will be used for three tasks: 1) purchase of decontamination equipment; 2) deployment of K-9 mussel sniffing dogs at KwaTuqNuk Marina, Blue Bay, and 3) Salish Point during July 2017; and staffing of inspection station personnel from July-October 2017.

Confederated Salish Kootenai Tribes

Enhancing Awareness of Invasive Species on the Flathead Indian Reservation
\$11,200

To complement CSKT’s watercraft inspection program, this project is designed to provide education and outreach to residents and visitors about the risks of AIS and the new regulations as a result of the invasive mussel detections in fall 2017. CSKT will produce and broadcast a series of PSAs and develop advertising billboards for display on highway 93 south of Flathead Lake.

Madison Conservation District

AIS Education and Outreach Boot Cleaning Station
\$5,500

The Madison CD and Madison River Foundation collaborated on this project to install four boot cleaning stations at fishing access sites along the Madison River in 2016. Additionally, volunteers staffed the stations to demonstrate their use and to inform anglers and fishing access users of the importance of cleaning their gear to prevent AIS. Booklets about invasive species were also given out to the public to educate further.

Missoula County Weed District

Blackfoot, Clearwater, Swan AIS Cooperative
\$31,974

In 2017, the Missoula County Weed District, Clearwater Resource Council, Blackfoot Challenge, and Swan Valley Connections (SVC) determined to work collaboratively to extend the AIS program of the Clearwater River watershed to the Swan River watershed to the north and the middle Blackfoot River watershed to the east. This coordinated project funds prevention efforts through operation of the Clearwater watercraft inspection station and related education and outreach efforts.

EARLY DETECTION PROJECTS

Lincoln County Weed District

Lincoln County Monitoring Program Planning
\$5,000

Lincoln County has 426 lakes and 5 navigable rivers. The county is planning to undertake county-wide AIS monitoring. This grant is to form a base line understanding and monitoring plan for AIS in the lakes and waterways of Lincoln County for future survey's and projects.

Montana State University Gallatin County Extension

Gallatin County Monitoring
\$10,000 (2016) + \$10,000 (2017) = \$20,000

MSU Extension coordinates with FWP's AIS monitoring program to assist in efforts in and around Gallatin County. In 2016 MSU monitored Ruby River Reservoir, Quake Lake, reaches of the Missouri and Madison Rivers, and four artificial ponds in Bozeman and Belgrade (Glen Lake, Myers Lake, Trout Meadow, and River Rock Pond). No new detections were discovered. In 2017, MSU will monitor Harrison Lake, and repeat abundance surveys for the Gallatin, Madison, and Jefferson rivers.

Missoula County Weed District

2016 AIS Monitoring of Missoula County Lakes and Rivers
\$7,500 (2016) + \$26,892 (2017)

The objective of this project is early detection monitoring for the highest-risk lakes in the Clearwater Watershed for invasive mussels and Eurasian watermilfoil in 2016. Volunteers were trained and collected, preserved, and tested 4 rounds of samples at the 5 highest-risk lakes. All sample results came back negative for AIS. In 2017, efforts will increase to monitoring of 13 of the largest most heavily used lakes in the Swan watershed, Clearwater watershed, and middle Blackfoot River watershed.

Fish, Wildlife & Parks Monitoring Support

2016 AIS Monitoring Support
\$27,000

Project funding was used to augment the FWP statewide AIS monitoring program by sampling an additional 21 waterbodies/river segments in 2016. In addition to the typical macrophyte surveys, crews examined the macroinvertebrates at high-risk areas to look for any other AIS. Crews collected several plankton samples and then

lab technicians analyzed those samples at the MT Dreissenid Lab. No new AIS detections were discovered and existing populations (e.g. Missouri River EWM) were monitored for changes in abundance.

RAPID RESPONSE PROJECTS

As a result of the detections in fall 2016, DNRC held a special grant cycle for rapid response activities for the prevention and control of invasive mussels. Several entities, particularly conservation districts, engaged in the issue and applied for funding to provide education and outreach activities, as well as additional layers of protection in their communities and regions to fight against invasive mussels.

Cascade Conservation District

Central Montana Communities Missouri River Holter Dam to Cascade County
\$13,500

The purpose of this project is to ensure awareness and preventative practices are being implemented and habitually carried out by all recreational, commercial, and private water users between Canyon Ferry and Tiber Dam. In coordination with the state and the Missouri River Conservation District Council and the Judith Basin Conservation District, Cascade CD will host an Aquatic Invasive Species Readiness Summit, community awareness meetings, and an assessment and inventory tour on the Missouri. These forums will provide input and planning into an invasive mussel plan for the region.

Lower Musselshell Conservation District

Musselshell Watershed Invasive Mussels Prevention
\$10,850

The majority of residents in the Musselshell Watershed rely on agriculture—either directly as farmers and ranchers, or indirectly as service providers to the farming and ranching industry. The Musselshell Watershed Invasive Mussels Prevention project will focus on these user groups and engage private and public partners across the watershed to collaborate on the development of a long-range invasive mussel prevention plan through a variety of education and outreach activities.

Petroleum County Conservation District

Mussel Awareness on Fort Peck
\$7,567

The purpose of this project is to provide foundational invasive mussel education information to communities in the six counties surrounding Fort Peck Lake and the Charles M. Russell National Wildlife Refuge. A series of public meetings will be held to: a) inform residents of the threats associated with invasive mussels, b) educate residents on the best approaches to preventing invasive mussels in the waters of Fort Peck, and c) gather information from residents on the best way to reach recreational visitors to Fort Peck Lake through signage, mailings, or other media in order to launch an educational campaign to prevent mussels becoming established in Fort Peck Lake.

Pondera County Conservation District

Pondera County Mussel Response (Lake Frances, Swift Reservoir)
\$5,000

This project is to provide education and outreach to the local communities in Pondera County to prevent mussels from spreading to Lake Frances and Swift Reservoir. Lake Frances and Swift Reservoir are integral parts of the community, they are the source of drinking water for three towns; Valier, Conrad, and Brady, not only that-but they are the water source for irrigation in Pondera County, the agricultural lifeline-the canal system, and are vital for recreational purposes and wildlife habitat.

CONTROL PROJECTS

Jefferson County

Jefferson Slough EWM Control and Monitoring Project
\$45,661

Eurasian watermilfoil was discovered in the Jefferson Slough in 2013. This grant is to fund the application of herbicides in 2017 and the related pre- and post-monitoring activities. The direct control action involves applying Endothall herbicide through infested reaches of the Jefferson slough to control EWM. Herbicide treatments are an important component of the project to initially reduce EWM density and abundance in the channel.

Montana State University—Office of Sponsored Programs

Noxon Reservoir Pure vs. Hybrid EWM Evaluation
\$20,000

Genetic analyses of milfoil plants collected throughout the Lower Clark River system in 2008 identified the species as pure Eurasian watermilfoil. However, in 2015, genetic testing of 40 milfoil plants in various locations within Noxon Reservoir identified 39% of the samples as hybrid watermilfoil, exhibiting characteristics of both the invasive EWM and native northern watermilfoil. To meet the new aquatic invasive plant management challenges that may be presented by the presence of hybrid watermilfoil this grant funds an assessment of the distribution, abundance, growth and spread of EWM versus hybrid watermilfoil, along with an evaluation of the relative efficacy of herbicide treatments on the two taxa.

University of Montana

Biocontrol Agents for Flowering Rush
\$28,300 (2016) + \$15,000 (2017)

UM in coordination with the Flowering Rush Biocontrol Consortium has been involved in research to find a biocontrol agent for the control of flowering rush. The consortium has made significant progress identifying a rhizome-mining weevil as a host-specific biocontrol agent. This project is for the consortium to draft the Test Plant List and Petition for Field Release submission to the USDA APHIS PPQ for permission to bring the host to a quarantine facility in the U.S. for additional testing and eventual release.

DIRECT CONTRACTS AND TECHNICAL ASSISTANCE

Creative Strategies

Technical Assistance
\$2,213

As part of the Montana Mussel Response, Creative Strategies was contracted to draft a Montana dreissenid rapid response plan for the state.

Flathead Basin Commission

Mussel Sniffing Dogs at Tiber and Canyon Ferry
\$5,015

As part of the Montana Mussel Response, FBC deployed mussel sniffing dogs in October 2016 to search for adult mussels at Tiber Reservoir and Canyon Ferry. No adult mussels were detected.

Great Northern Landscape Conservation Cooperative

Aquatic Invasive Species Threatening the Crown of the Continent reprint
\$800

DNRC contributed to the reprinting of the *Aquatic Invasive Species Threatening the Crown of the Continent*, distributed in the Crown of the Continent region for education and outreach purposes.

Greater Yellowstone Coordinating Committee

Aquatic Invasive Species Pocket Guide Reprint
\$2,501

DNRC contributed to the reprinting of the *Aquatic Invasive Species Pocket Guide*, distributed in the greater Yellowstone area for education and outreach purposes.

Invasive Species Action Network

Technical Assistance
\$4,900

This contract is for ISAN to provide technical assistance and to participate in the AIS grant review and ranking process.

Montana State Printers

Program for Invasive Species Summit printing
\$800

DNRC contributed to the printing of programs for the April 2016 Invasive Species Summit.

APPENDIX A: AQUATIC INVASIVE SPECIES 2017 BIENNIUM GRANTS

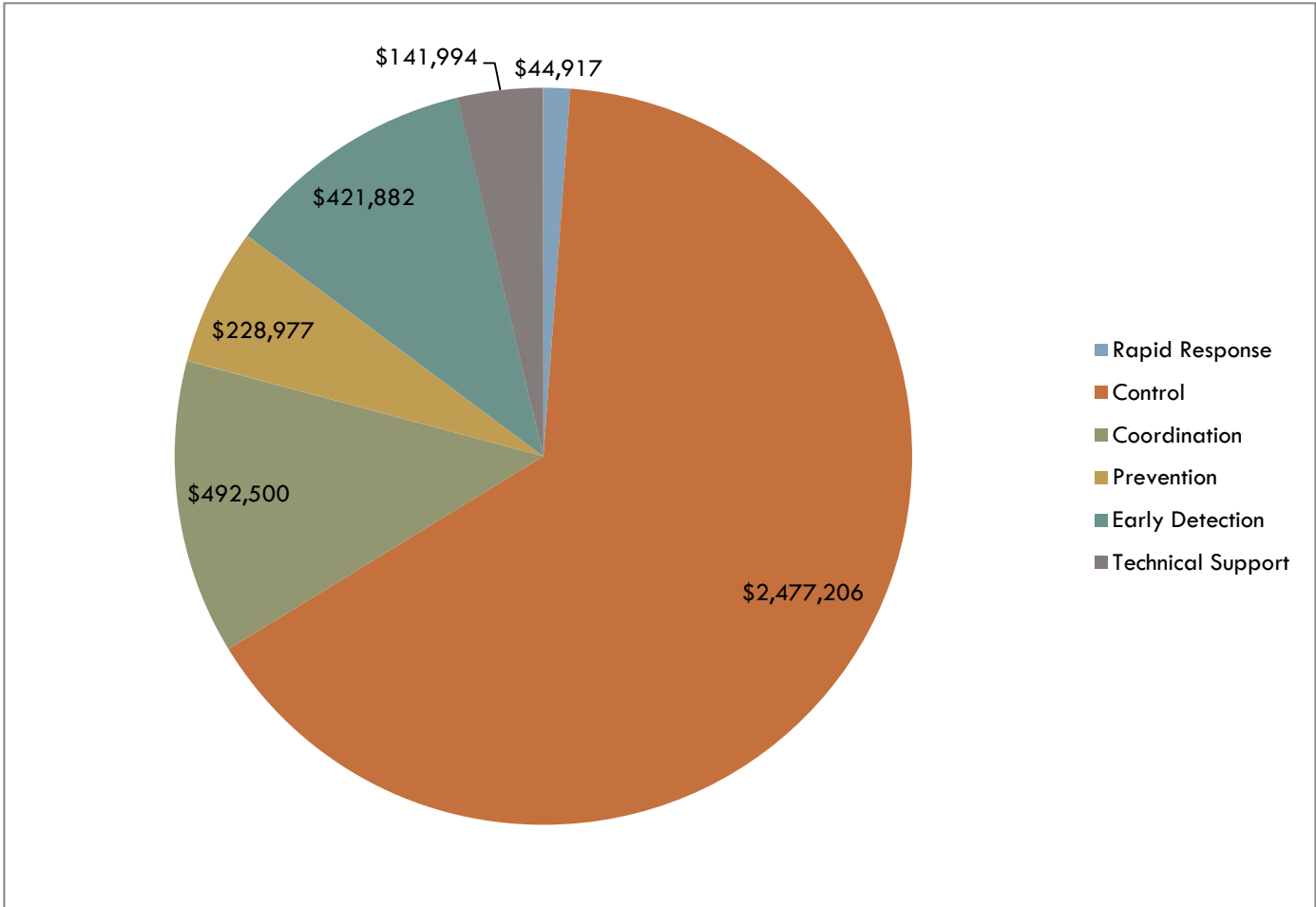
Applicant	Project Name	Award
Montana State University--Extension	Gallatin County 2016 Monitoring	\$10,000
Missoula County Weed District	MISAC Strategic Plan-Aquatics Component and Council Support	\$15,000
Jefferson County	Jefferson Slough EWM Project Monitoring	\$45,661
University of Montana	Biocontrol Agents for Flowering Rush--Year 4	\$28,300
Missoula County Weed District	2016 Monitoring in Missoula Co.	\$7,500
Madison Conservation District	AIS E&O Boot Cleaning Stations	\$5,500
FWP	2016 Monitoring Support	\$27,000
MSU--Office of Sponsored Programs	Noxon pure vs. hybrid EWM Research	\$20,000
Confederated Salish & Kootenai Tribes	CSKT Prevention-Decontamination Project	\$8,000
Sanders Co.	EWM Management Plan	\$30,000
University of Montana	Flowering Rush Biocontrol	\$15,000
Lincoln County Weed District	Lincoln County Baseline Monitoring	\$5,000
MSU Extension	Gallatin County 2017 Monitoring	\$10,000
City of Whitefish	Whitefish Lake Mussel Response Initiative	\$15,000
Pondera County CD	Pondera Co. Mussel Response (Lake Frances, Swift Reservoir)	\$5,000
Confederated Salish Kootenai Tribes	K9 Inspection Program and Watercraft Inspection	\$30,000
Confederated Salish Kootenai Tribes	Enhancing Awareness of Invasives on the Flathead Indian Reservation	\$11,200
Lewis & Clark CD	Monitoring Coordination	\$6,000
Lower Musselshell CD	Musselshell Watershed Invasive Mussels Prevention Project	\$10,850
Missoula Co. Weed District	Blackfoot, Clearwater, Swan AIS Cooperative Program	\$58,839
Cascade CD/MRCDC	Central MT - Missouri River Holter Dam to Cascade County	\$13,500
Petroleum County CD	Six counties surrounding Ft. Peck and the CMRNWR	\$7,567
Blackfeet Tribe	Watercraft Inspection Station Hwy 89	\$100,000
TOTAL AWARDED		\$484,917

Award amounts may or may not be fully expended by grantees.

2017 Biennium Allocation	\$550,000
Less Direct	\$ 15,837
<u>Less Total Grants Awarded</u>	<u>\$484,917</u>
Remainder Amount	\$ 49,246

APPENDIX B: DNRC SPENDING ON AIS FY 2010–FY 2017¹

Project Costs to Date	DNRC	Match²
Coordination	\$492,500	\$152,202
Prevention	\$228,977	\$454,498
Early Detection	\$421,882	\$200,500
Rapid Response	\$44,917	\$13,166
Control	\$2,477,206	\$1,531,058
Technical Support	\$141,994	\$400
	\$3,807,476³	\$2,351,824



¹ Includes funding from HB6, HB7, HB 586

² Includes reported local and federal match. Actual match amounts may be lesser or greater.

³ Does not include DNRC administrative costs.