PROGRESS REPORT FOR THE FWP AQUATIC INVASIVE SPECIES PROGRAM

The FWP Aquatic Invasive Species (*AIS) Program works to implement the AIS Management Plan through coordination and collaboration, prevention of new AIS introductions, early detection and monitoring, control and eradication, and outreach and education. Each of these components are reported herein, and serve to minimize the harmful impacts of AIS through the prevention and management of AIS into, within and from Montana.*

THE EARLY DETECTION & MONITORING PROGRAM

Montana's AIS early detection and monitoring system has been in place since 2004. Early detection is used to find small or source AIS populations, while monitoring is used to study population trends. Effort has steadily increased each year since the program's inception (Figure 1).

In 2012, surveys for prioritized AIS species, such as Eurasian watermilfoil and zebra or quagga mussels (Dreissenid mussels), were conducted at 249 sites on 123 waterbodies (Figure 2). Montana utilizes a variety of techniques in monitoring for AIS species including: plankton sampling (collecting water samples to look for microscopic larvae), invertebrate sampling, macrophyte (plant) sampling, cross polarized light microscopy, PCR testing (analyzing DNA), and pathogen-testing in aquatic organisms.

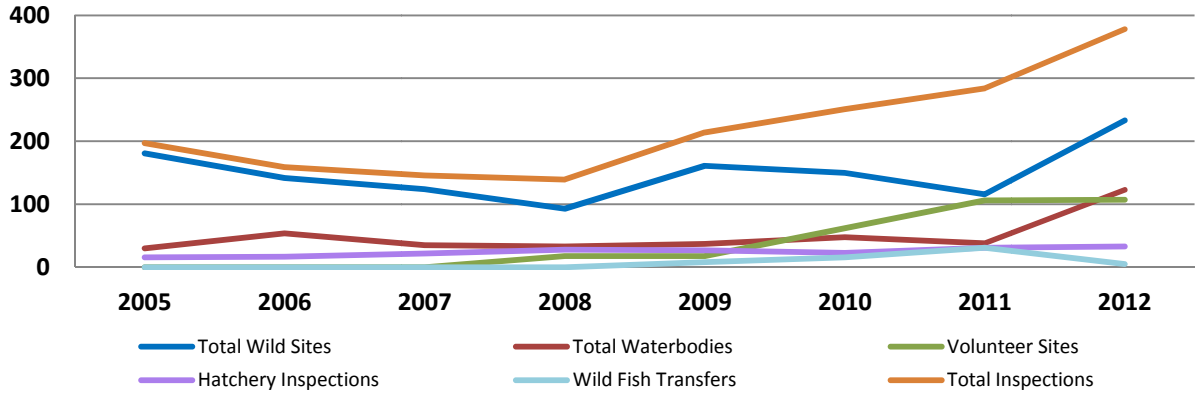


FIGURE 1: A SUMMARY OF AIS MONITORING SITES AND INSPECTIONS 2005-2012

Montana inspects all federal, state and commercial hatcheries annually. This includes an on-site AIS inspection and disease and pathogen testing in fish. These same inspections are also required for wild fish transfers and importations. Montana does not allow fish to be moved or imported without an AIS inspection conducted in the source waterbody to minimize the unintentional spread of AIS. A 2012 Monitoring Summary is available upon request and on the AIS website.

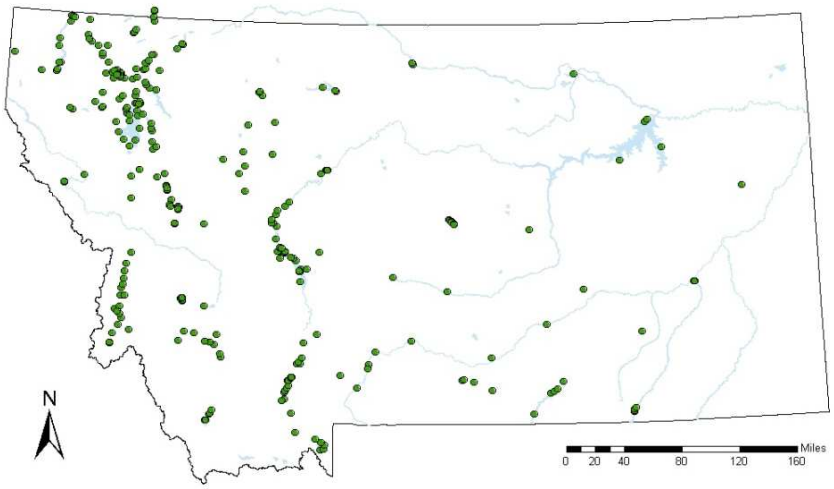
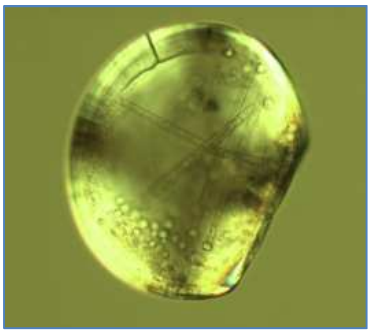


FIGURE 2: LOCATION OF ALL SITES SURVEYED FOR AIS IN 2012

THE FWP DREISSENID LAB



The FWP Dreissenid lab is located in Helena and processes plankton samples for the Missouri River Basin, including: Kansas, Nebraska, Missouri, North Dakota, South Dakota, Wyoming, and Montana. It is in Montana's interest to know what AIS may exist downstream, and as such, samples are processed for partner states free of charge. The base funding for this lab is provided by the Fish and Wildlife Service. Average turnaround time for samples is two weeks. The lab has discovered new populations of Dreissenid veligers as well as *Corbicula* veligers (Asian clam larvae; see picture inset) for multiple downstream states this year and in previous years. In 2012, no *Dreissena* or *Corbicula* veligers were found in any Montana samples.

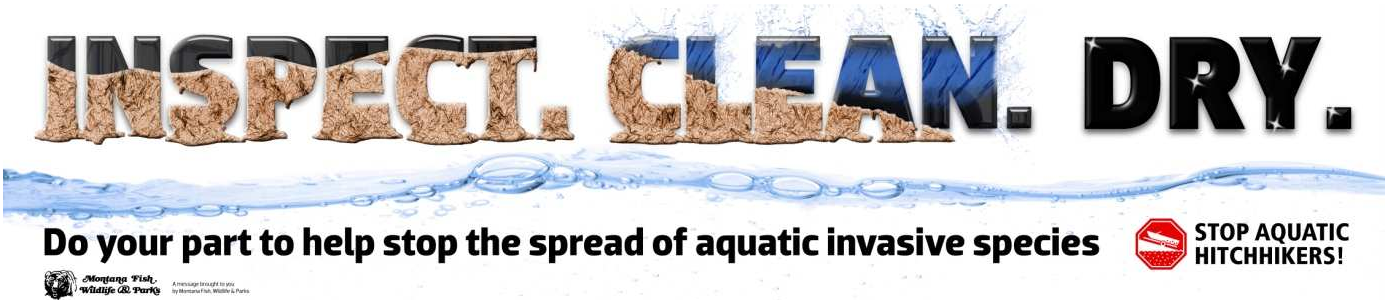
OUTREACH AND EDUCATION

Education Programs: The AIS program partners with the Invasive Species Action Network (ISAN) to reach school-age children with AIS education. ISAN delivered AIS education programs to over 1500 students between July 1, 2011 and December 31, 2012. An additional 8000 students learned about AIS during classes about angling or aquatic ecology.

Smith River: ISAN, along with FWP, has also undertaken a unique notification program for successful permittees scheduled to float the Smith River. Floaters are mailed information about AIS and watercraft cleaning. Prior to floating the river, boaters receive additional outreach from River Rangers. The boat cleaning message has been well received, and this targeted effort appears to be successful in reaching its constituency.

Watercraft inspections: During the 2012 recreational boating season, over 64,000 boaters and anglers were interviewed at watercraft inspection stations and received AIS information from an FWP watercraft inspector. Knowledge of AIS among water users has increased steadily: 17% of respondents were unaware of AIS in 2011, and only 6% were unaware in 2012. 49% of interviewees report cleaning their boat after every use or between waterbodies (i.e. sufficient to reduce transfer of AIS).

Inspect, Clean, Dry: FWP has continued its Inspect, Clean, Dry campaign (initiated in 2010, see picture below) to provide outreach to Montana boaters about the importance of cleaning their watercraft and gear. A follow-up survey in 2012 indicates that anglers and boaters are increasingly cognizant of the threat of aquatic hitchhikers and increased frequency boat- and gear-cleaning among anglers. The majority of Montanans will likely have seen some form of Inspect, Clean, Dry outreach through the fwp.mt.gov website, outdoor advertising, tailgate wraps, postcards, the Montana Outdoors magazine, radio, TV or print advertising. Additionally, eight education trunks were prepared for use by Montana teachers in their classrooms.



COORDINATION AND COLLABORATION

FWP has had an AIS Coordinator since 2004. The Coordinator serves to coordinate all AIS activities within FWP and works closely with the Department of Agriculture (MDA), Department of Natural Resource and Conservation (DNRC), U.S. Fish and Wildlife Service, Bureau of Reclamation, U.S. Forest Service, Flathead Basin Commission and ANS (Aquatic Nuisance Species) Committee, the Invasive Species Action Network, the Greater Yellowstone Area ANS committee and other state and federal agencies and non-government organizations on monitoring and outreach on AIS. FWP hired Allison Begley, July 2012, as the new AIS Coordinator following the previous Coordinator's promotion within the FWP.

FWP has been actively engaged with the following regional efforts to control AIS:

The Western Regional Panel represents the 19 Western States and serves to prioritize AIS responses, coordinate AIS activities and make recommendations to the National Aquatic Nuisance Species Task Force (ANSTF) on education, monitoring, prevention and control. (Sept 2011, Oakland, CA; Sept 2012, Salt Lake City)

The Mississippi Regional Panel represents the 24 Mississippi River Basin states to the ANSTF. (May 2011, Little Rock, AR; Dec 2011, Oklahoma City, OK; Oct 2012, New Orleans, LA).

The 100th Meridian Columbia and Missouri River Basin Work Groups are cooperative state, provincial and federal agencies to prevent the westward spread of quagga and zebra mussels and other AIS. (Oct 2012, Spokane, WA; 2011 Vancouver, WA; Mar 2012, Boise, ID Jun 2012, Portland, OR; Jul 2011, Kansas City, MO; Jul 2012, Rapid City, SD).

The Greater Yellowstone Area ANS group works cooperatively to develop effective programs to address the threat of AIS in the Greater Yellowstone Area (Oct 2012).

Close partnership with states in the same watersheds provides essential information on the pathways for spread of AIS, an opportunity to learn what strategies are affecting for combating AIS, and can aid leverage of limited resources.

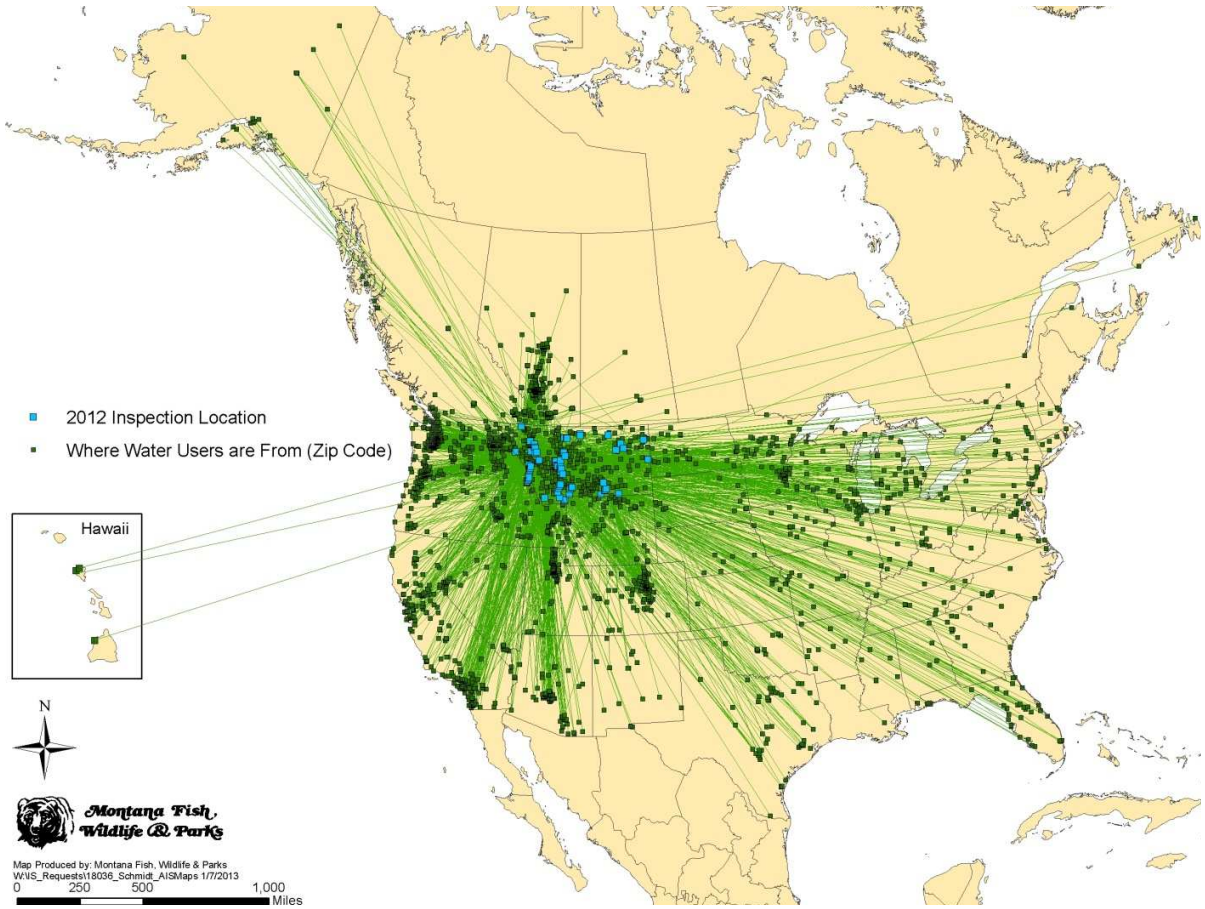


FIGURE 3: WATER USER MOVEMENT INTO MONTANA IN 2012

2012 WATERCRAFT INSPECTION STATIONS

The FWP Watercraft Inspection Station Program continues to grow thanks to a significant boost in funding received during the 2011 legislature and close coordination with partner agencies and organizations. The Watercraft Inspection Program is funded through support from HB2 and HB7 (2011 Legislature), U.S. Forest Service, National Park Service, and mitigation monies.

FWP crews inspected over 25,000 watercraft during the 2012 boating season (Table 1; Figure 6), which is an almost threefold increase from 2011. Approximately 20% of the boats inspected originated out-of-state and 3% of the boats had been in states with high-risk waters (where zebra or quagga mussels have been confirmed; Figure 4 & 5). Water users came from all over North America to recreate in Montana waters (Figure 3).

Inspection crews intercepted many boats fouled with vegetation (n=69) or standing water (n=37), as well as 4 boats with (dead) Dreissenid mussels (zebra or quagga), 4 boaters with illegal live bait, 2 cases of illegal live fish, and 1 boat contaminated with New Zealand mudsnails. Of the boats contaminated with vegetation, 3 were confirmed with Eurasian watermilfoil.

The majority of boats were clean upon their arrival at an inspection station (97%), and 49% of interviewed boaters reported cleaning their watercraft after every use or between waterbodies.

TABLE 1: EFFORT FOR EACH INSPECTION STATION IN 2012

Station	Total Inspections	Hours of Operation	Start	End
Bitterroot Roving	495	4 days, 10 hrs/day	14-May	11-Nov
Bozeman Roving	677	4 days, 10 hrs/day	14-Jun	12-Aug
Clearwater	9941	7 days, 12 hrs/day	14-May	10-Sep
Culbertson	55	4 days, 10 hrs/day	16-May	10-Sep
Dena Mora	1889	7 days, 10-12 hrs/day	17-May	19-Aug
Dillon	819	7 days, 10-12 hrs/day	22-May	10-Sep
Eureka	1782	7 days, 10-12 hrs/day	15-May	10-Sep
Hardin	1297	7 days, 10-12 hrs/day	23-May	18-Aug
Helena Roving	2631	7 days, 10-12 hrs/day	21-May	14-Oct
Ronan	5045	7 days, 12 hrs/day	16-May	14-Oct
Swan Roving	499	4 days, 10 hrs/day	9-May	14-Oct
Wibaux	313	4 days, 10 hrs/day	15-May	10-Sep

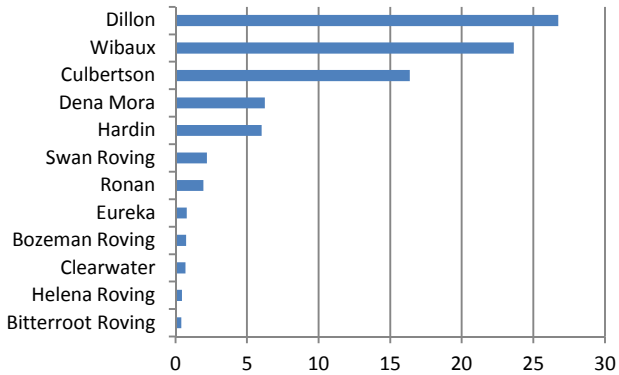


FIGURE 4: PERCENTAGE OF HIGH-RISK BOATS* BY INSPECTION STATION

**High risk boats are motorized boats that have been in zebra or quagga mussel positive states.*

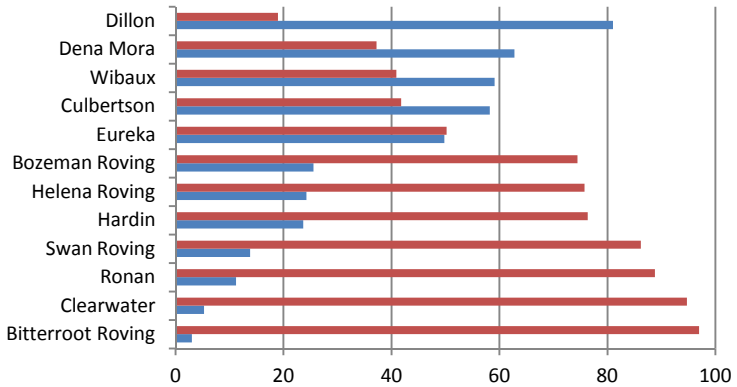


FIGURE 5: PERCENTAGE OF OUT-OF-STATE WATERCRAFT BY INSPECTION STATION

Red bars indicate in-state watercraft and blue bars indicate out-of-state watercraft.

Rapid Response

Rapid Response exercises and training are necessary to increase the likelihood of successful control or eradication of a new AIS infestation. AIS often spread quickly, rendering it essential to act quickly to contain a new population. Montana is a member of the *Columbia River Basin Interagency Invasive Species Response Plan: Zebra Mussels and other Dreissenid Species* signed by the FWP Director in 2008. The plan utilizes an Incident Command Structure and is designed to initiate a coordinated response among states and agencies in the Columbia River Basin.

In October 2011, Montana FWP hosted a Rapid Response Exercise in Libby, MT. The exercise simulated the response to a confirmed finding of dreissenid mussels in Lake Koocanusa. The goals of the table-top exercise were to increase coordination between the US and Canada as per the Columbia River Response Plan, and to further develop a containment strategy for watercraft moving in and out of an infested waterbody. All objectives of the exercise were met, and recommendations for future exercises were established. Rapid Response exercises and planning will be continued, including plans for an exercise in the spring of 2013.

Summary

FWP remains committed implementing the Montana AIS Management Plan through continued collaboration with MDA and DNRC, with whom FWP shares responsibility for the statewide AIS program. The three agencies will continue minimize the harmful impacts of AIS through prevention, monitoring, control and outreach.

Resources

Montana Fish, Wildlife & Parks: http://fwp.mt.gov/fishing/guide/ANS/

For more information, please contact Allison Begley abegley@mt.gov

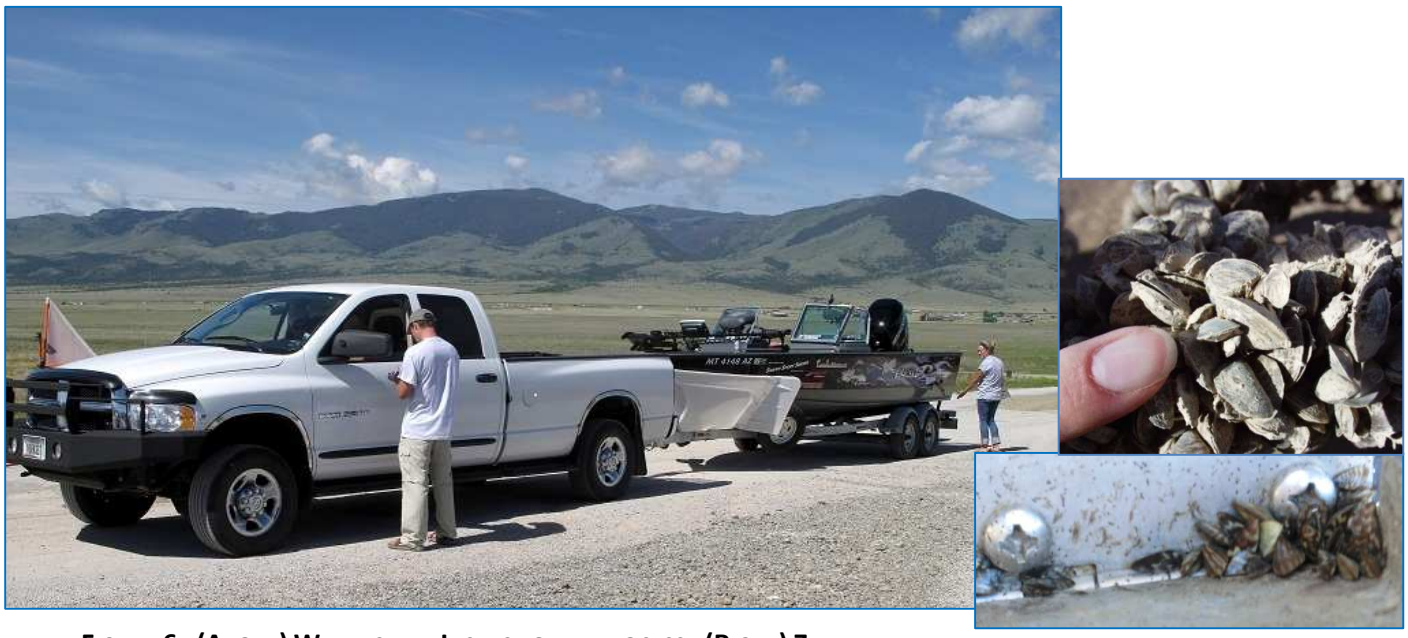


Figure 6: (Above) Watercraft Inspection in process. (Right) Zebra Mussels. (Right bottom) Enlarged picture Dreissenid mussels on a boat. Note the screws for scale.

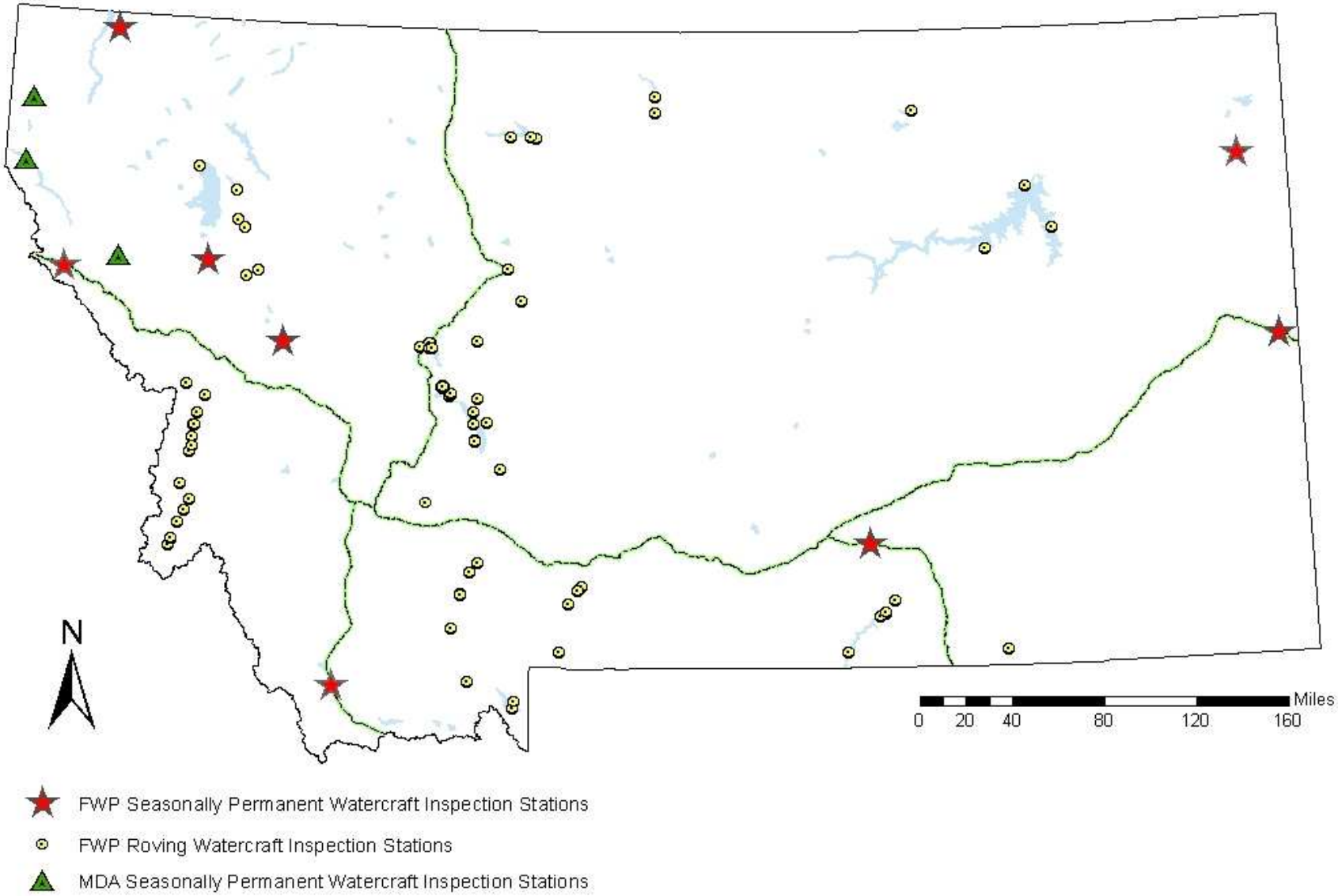


FIGURE 7: LOCATIONS OF SEASONALLY PERMANENT AND ROVING WATERCRAFT INSPECTION STATIONS IN 2012