

AIS Prevention Report 2022

Aquatic invasive species (AIS) can cause significant damage to fisheries, water-based infrastructure, hydropower generation, irrigation, and recreation. Preventing the introduction of AIS avoids expensive mitigation costs, preserves recreation opportunities, and protects fisheries habitat. AIS are primarily transported by watercraft and a network of inspection stations have been established to address AIS movement. Montana Fish, Wildlife & Parks (FWP) along with tribes, conservation districts, counties, cities, and state and federal partners all coordinate closely together to manage watercraft inspection stations statewide to ensure all boats are clean, drained, and dry.

New in 2022

- ▶ Coordinated with enforcement to improve boater compliance at inspection stations statewide.
- ▶ Conducted inspections at Fort Peck boat ramps looking for out-of-state boater compliance.
- ▶ Updated and improved data collection system including printers at stations.
- ▶ Expanded quality control at inspection stations.
- ▶ 53 mussel fouled vessels intercepted.
- ▶ Expanded partner involvement with management and operation of watercraft inspection stations.



AIS are primarily transported on watercraft by “hitchhiking.” Some AIS actively stick onto boats while others can become entangled on boat motors or trailers. Other AIS can be transported in standing water. Watercraft inspection addresses this issue by making sure all watercraft are cleaned, drained and dry, ensuring AIS are not being transported. Inspection stations also help educate boaters to clean their boats every time they leave the water to help protect the waters they enjoy from the impacts of AIS.

INTRODUCTION

Montana Fish, Wildlife & Parks (FWP) is the lead agency in the state addressing aquatic invasive species (AIS) issues. FWP, Montana Department of Agriculture (MDA), Montana Department of Natural Resources and Conservation (DNRC), and Montana Department of Transportation (MDT) collectively are responsible for the implementation of the Montana AIS Management Plan. Roles and responsibilities for implementation of the plan are outlined through a memorandum of understanding (MOU) between agencies. The goal of the plan is to minimize the harmful impacts of AIS by limiting or preventing the spread of AIS. This goal is achieved through coordination and collaboration between partner agencies and stakeholder groups; prevention of new AIS introductions; early detection and monitoring of invasive aquatic plants, animals, and pathogens; control and eradication of new and established AIS populations; response preparedness and outreach and education efforts. This report focuses on the prevention of new AIS introductions in the state. Prevention is primarily accomplished through watercraft inspection.

Montana FWP has been operating watercraft inspection stations since 2004. Watercraft and water-based equipment are the most common vector for the transport of AIS and are the focus for prevention efforts. Inspection stations inspect boats and equipment for aquatic organisms, standing water, and illegal bait and fish. Stations also educate the public about the importance of following Clean. Drain. Dry. protocols and encourage boaters to do their part to protect the waters they enjoy from AIS.

Following the detection of dreissenid mussels in Tiber Reservoir in 2016, the program rapidly expanded. Additional stations were established and program staffing levels were increased. The watercraft inspection season was extended as well as hours of operation. FWP also began contracting with partners to operate watercraft inspection stations, allowing for local management and oversight. In 2022, 11 inspection stations were contracted through partners around the state. In addition, Glacier National Park and Yellowstone National Park operate watercraft inspection stations within park boundaries. The City of Whitefish, CSKT, the Blackfeet Nation and the Swan Lakers also independently fund stations for inspecting boats.

2022 ACCOMPLISHMENTS

Accomplishments during the 2022 watercraft inspection season include:

- Continued to address COVID-19 and associated challenges to overall operations.
- Over 119,000 watercraft inspections conducted by FWP and partners in Montana.
- 53 zebra and quagga mussel fouled vessels intercepted and over 600 vessels intercepted transporting aquatic weeds.
- Continued strong partnerships to operate watercraft inspection stations statewide including contracting with the Confederated Salish and Kootenai Tribes (Ravalli and Thompson Falls), the Blackfeet Nation (Browning), Missoula County (Clearwater Junction), Garfield Conservation District (Wibaux and Flowing Wells), McCone Conservation District (Nashua), Bighorn Conservation District (St. Xavier and Hardin), Beaverhead Conservation District (Dillon) and Powder River Conservation District (Broadus).
- Began printing and emailing inspection receipts at stations.

- Coordinated with partners on other non-FWP funded stations including Glacier and Yellowstone National Park and the City of Whitefish.
- Improved the WID mobile data application to improve data collection.
- Updated watercraft inspection training including an updated curriculum, a new training manual, a new student workbook, and smaller classes.
- Extended season of operation at most stations (almost 9 months).
- Targeted law enforcement to improve boater compliance at inspection stations.
- Continued to refine the quality control program and communication plan.

AREAS OF RESPONSIBILITY FOR FIVE FWP PREVENTION PROGRAM SUPERVISORS

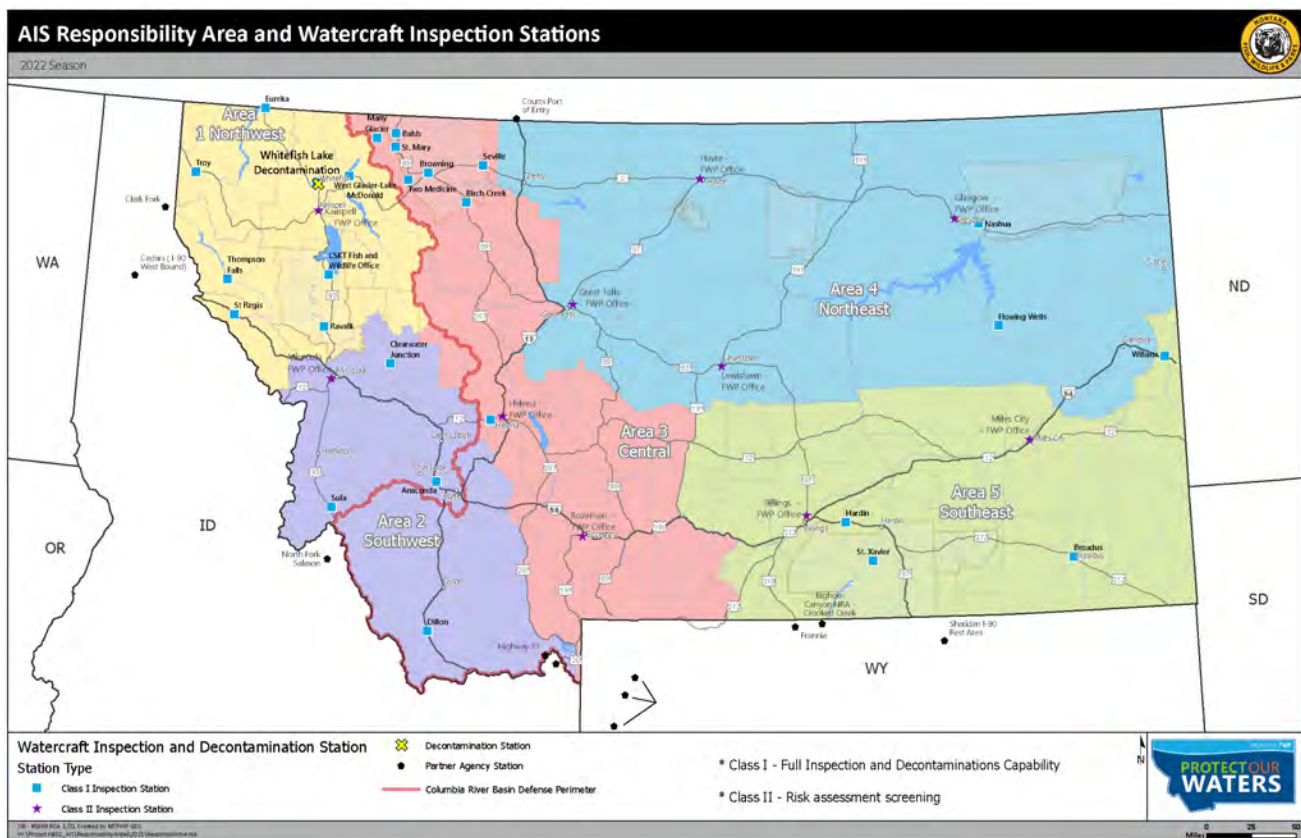


Figure 1. Geographic areas of responsibility for each of the five FWP watercraft inspection and decontamination station supervisors, 2022.

The AIS supervisors by their areas of responsibility are:

- Tayler Templin – area 1 northwest
- John O’Bannon – area 2 southwest
- Andrew Rivers – area 3 central
- Austin Jaynes – area 4 northeast
- Sean Flynn – area 5 southeast

AIS Supervisors are managed by the prevention specialist, Russ Hartzell, and they make up the team that carries out the majority of the operation on the ground. Supervisor duties include hiring, training, managing staff, logistics, partnerships, quality control, compliance, education and outreach, and maintenance. AIS supervisors also serve as the regional AIS contact in their regions of operation.

WATERCRAFT INSPECTION STATION LOCATIONS

Watercraft inspection stations are established in locations to address watercraft that present the highest risk of transporting AIS. Stations are located on high traffic corridors entering the state, crossing west over the Continental Divide, and at other strategic locations to intercept high risk boat traffic.

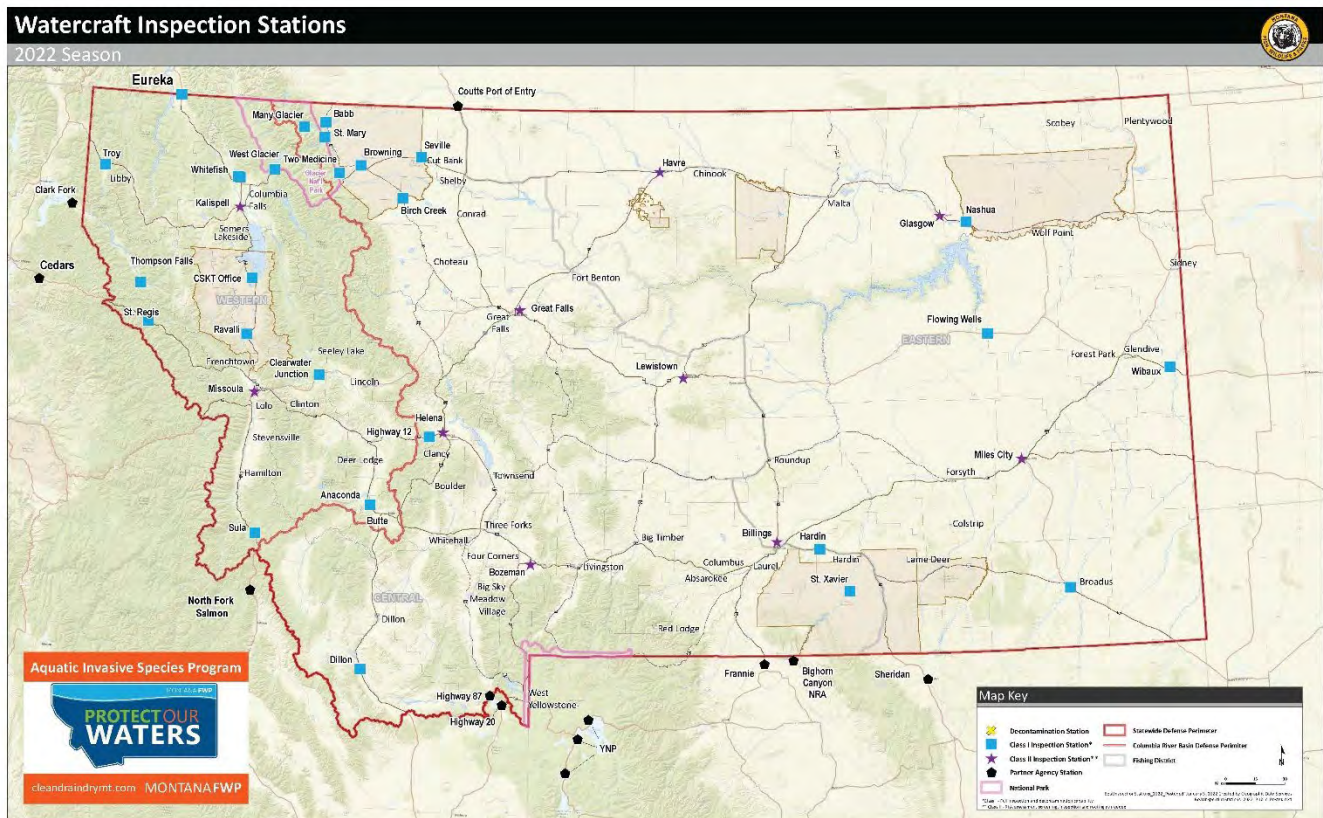


Figure 2. 2022 FWP seasonally permanent watercraft inspection stations.

WATERCRAFT INSPECTION STATION TOTALS

FWP and partners performed 119,431 watercraft inspections this season (Figure 3). Of that total, FWP inspected 35,767 and contracted partner stations inspected 75,605 watercraft. Other partners conducted the balance of those inspections including 6,568 from Glacier National Park and 1,491 from the City of Whitefish (Figure 4). Stations operated from March 11 to October 23 in 2022 with most stations operating between April and October (Table 1).

The 2022 season had inspection numbers similar to those observed in 2021. Inspections in 2020 set an all-time record for inspections in the state due to COVID and an increase in local recreation. Totals include

inspections at FWP stations, contracted stations and other partners conducting inspections in the state.

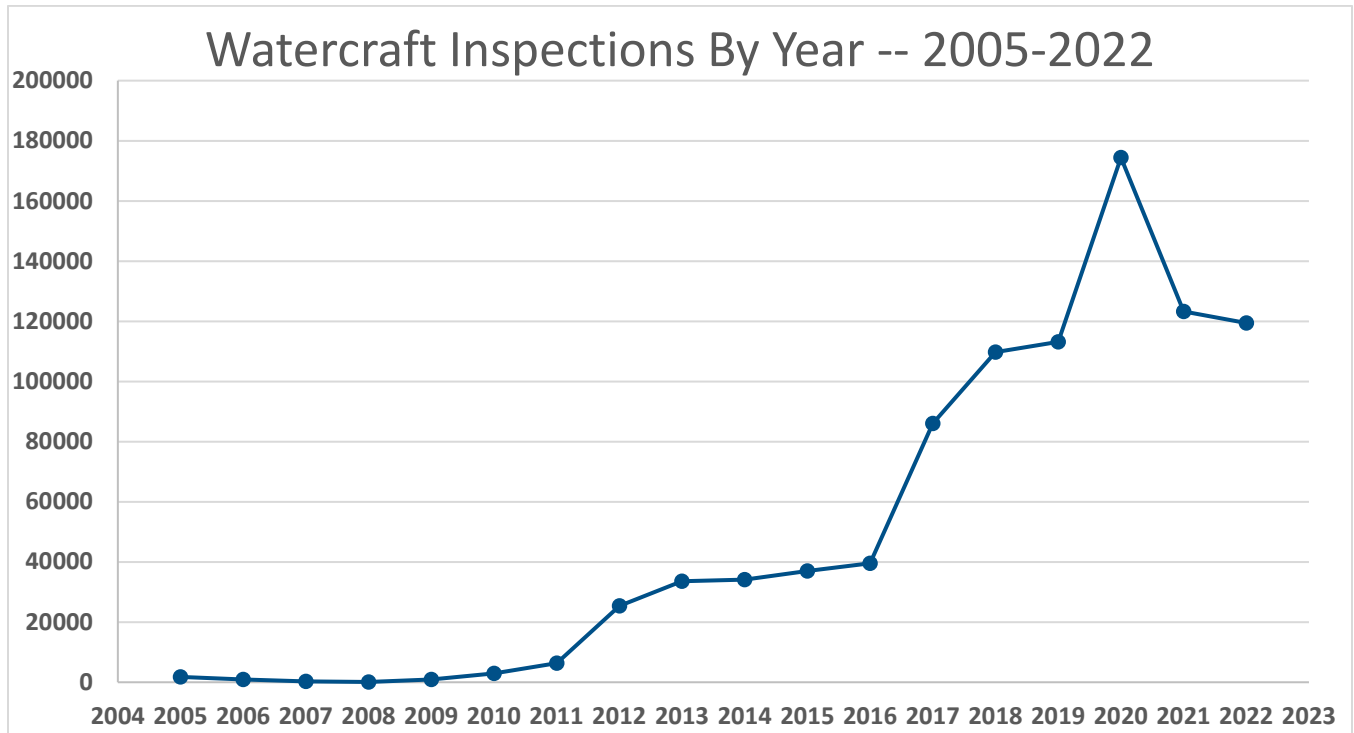


Figure 3. Number of watercraft inspections by year.

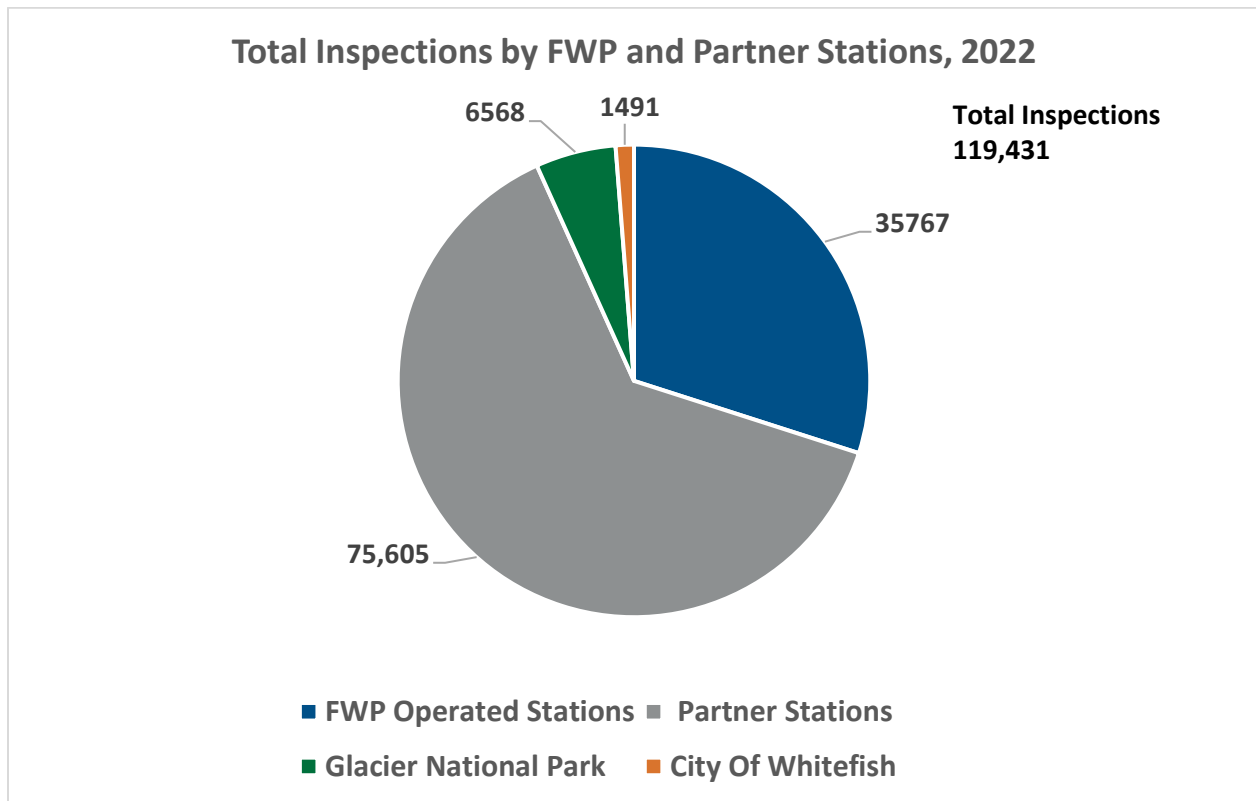


Figure 4. FWP and partner involvement with watercraft inspections in 2022.

Table 1. Summary of FWP 2022 watercraft inspection stations.

Station Name	Hwy	Direction of Travel	Open Days/Week	Hours of Operation	Start Date	End Date	Total Inspections
Border Stations							
Nashua	Hwy 2	West	7	Daylight	16-Apr	25-Oct	1,992
St. Regis	I-90	East	7	Daylight	29-Apr	18-Sep	5,598
Dillon	I-15	North	7	Daylight	11-Mar	23-Oct	4,088
Eureka	US 93	South	7	12	6-May	18-Sep	1552
Hardin	I-90	West	7	Daylight	16-Apr	23-Oct	6,201
Broadus (PRCD)	MT 212	West	5	12	19-Apr	16-Sep	1181
Troy	Hwy 2/ MT 56	East/North	7	Daylight	22-Apr	18-Sep	7,324
Wibaux	I-94	West	7	Daylight	4-Apr	23-Oct	2,247
Continental Divide Stations							
Anaconda	I-90	West	7	Daylight	11-Mar	23-Oct	12,533
Browning (Blackfeet Nation)	Hwy 2	West	7	Daylight	16-Apr	18-Oct	2,764
Clearwater Junction (MSLA County)	MT 200	East/West	7	Daylight	17-Apr	23-Oct	31,612
Hwy 12 Helena	Hwy 12	West	7	Daylight	30-Apr	16-Oct	6,409
Sula	Hwy 93	North	7	12	30-Apr	6-Sep	1,695
Interior Stations							
Swan Lakers	Boat Ramp	N/A	Varied	Varied	25-May	7-Sep	509
Seville (Blackfeet Nation)	Hwy 2	West	Varied	Varied	3-May	3-Sep	169
St. Xavier (BCCD)	MT 313	South	7	12	30-Apr	18-Sep	1,554
Flowing Wells (GCCD)	MT 200	East/West	7	Daylight	16-Apr	25-Oct	2,739
Ravalli (CSKT)	US 93	North	7	24 / Daylight	12-Mar	16-Oct	15,627
Thompson Falls (CSKT)	MT 200	East	7	12	23-Apr	18-Sep	4,923
Whitefish Lake (City of Whitefish)	Boat Ramp	N/A	7	14	1-May	30-Sep	1491
Parks							
Glacier National Park (NPS)	Glacier	N/A	7	8	May	October	6,568

Station Name	Hwy	Direction of Travel	Open Days/Week	Hours of Operation	Start Date	End Date	Total Inspections
Regional Offices							
FWP Regional / Area Offices	All	N/A	5	8	2-Jan	31-Dec	655
TOTALS							119,431



Photo 1. Browning watercraft inspection station.

ORIGIN OF WATERCRAFT, RELATIVE RISK, AND BOATER MOVEMENT

The origin of watercraft and subsequent movement is valuable information that helps guide the placement of watercraft inspection stations. Boats traveling from eastern states tend to come from areas where zebra mussels, quagga mussels and invasive aquatic plants are prevalent, such as the Great Lakes region. Boats coming from southwestern states could be carrying quagga mussels from the lower Colorado River system. Boats that originate in-state also are at risk of transporting AIS and must be cleaned, drained and dry. Of the 119,431 watercraft that passed through inspection stations during the 2022 season, 79,966 were from Montana and 32,388 were from out-of-state. These values don't include the Swan Lakers (509).

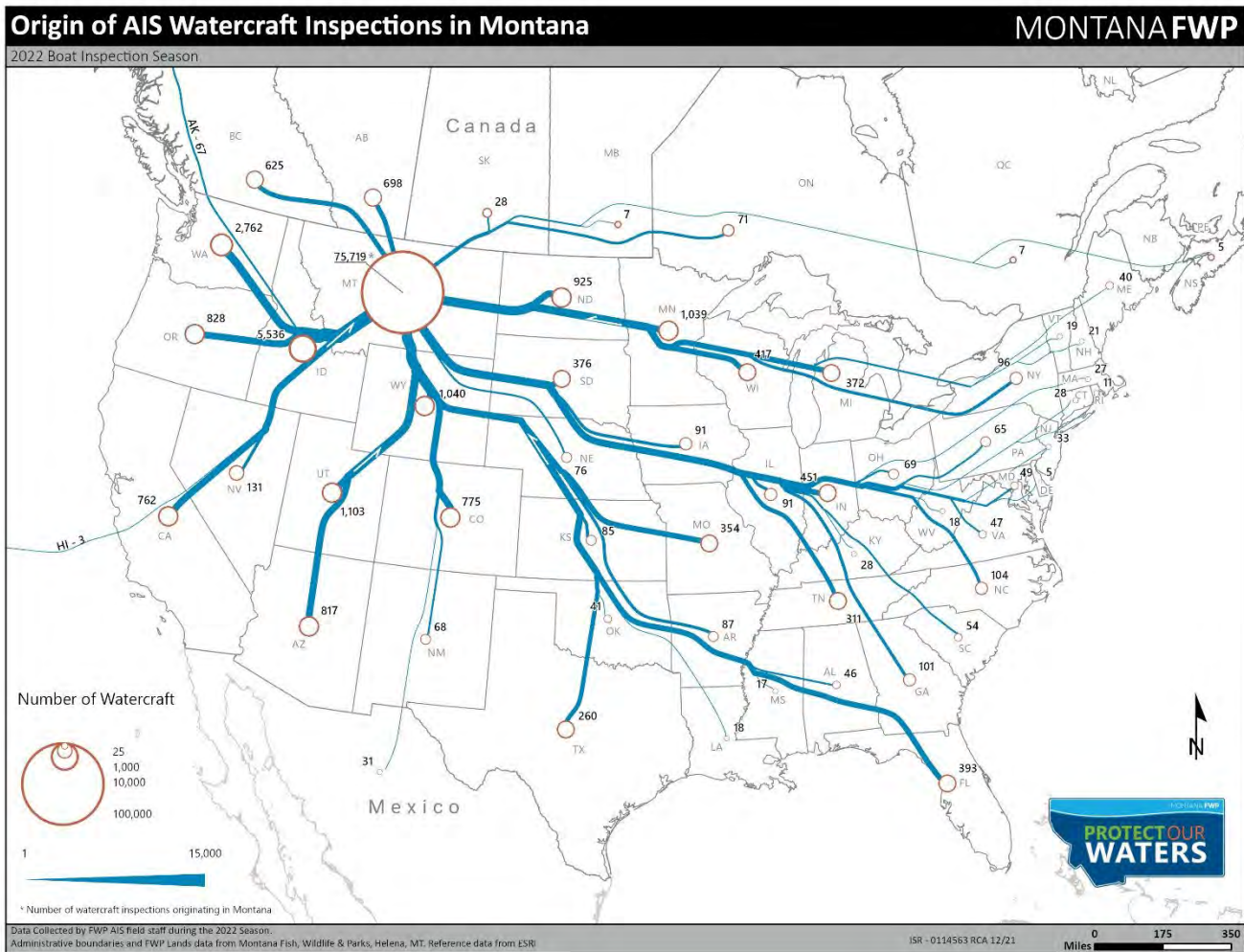


Figure 5. Origin of Montana inspected watercraft in 2022 by postal code.

This figure illustrates the great distances people will travel to recreate in Montana. It is important to the overall prevention strategy to ensure both out-of-state and in-state boaters always clean, drain and dry their watercraft.

HIGH-RISK BOATS

High-risk boats are categorized as vessels that:

- Originated outside of the northwest (AB, BC, WY, ID, OR, WA, or MT).
- Launched in a waterbody in a zebra or quagga mussel-positive state.
- Are from a mussel-positive waterbody.
- Or has standing water, plants, animals, dirty or ballast tanks.

These boats are more likely to be carrying adult or veliger (larval) mussels, aquatic weeds or other AIS; therefore, extra time and care is taken during inspection of these boats. In 2022, there were 18,173 high-risk boats that passed through inspection stations, which amounts to 15% of all inspections (Figure 6).

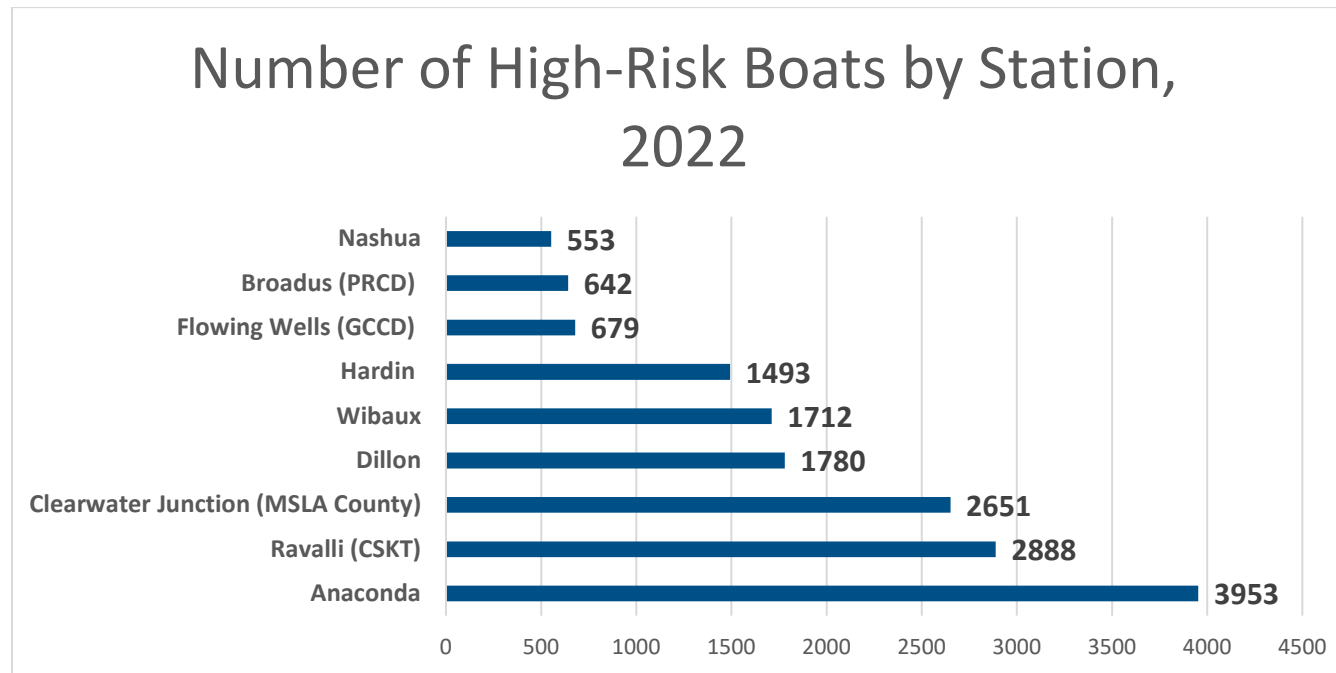


Figure 6. Number of high-risk boats by station based on origin: Mussel positive state or water, 2022. (Figure represents 9 stations with the most high-risk vessels).

TIBER RESERVOIR

Tiber reservoir was delisted as a “mussel positive” water following 5 years of intensive sampling where no further evidence of invasive mussels was found. Survey and sampling for invasive mussels will continue at Tiber, but with no evidence indicating the presence of mussels, all exit inspection restrictions were lifted, and inspection stations were discontinued. The Tiber AIS supervisor position was shifted to divide Eastern Montana AIS responsibilities. This increased capacity to support AIS inspection stations and activities in the Eastern part of the state. Two AIS supervisor positions now split management of Eastern Montana, allowing for greater oversight, more time at inspection stations, more engagement with partners, and improved quality control.

IN-STATE AND OUT-OF STATE BOATS

Inspection stations at the state borders see a high numbers of out-of-state boats that present high-risk of AIS transport and introduction. Used boats purchased from out-of state also present a significant risk of transporting AIS, particularly boats from midwestern states. In 2022, 19 of the 53 boats intercepted transporting zebra or quagga mussels were recently purchased.

Internal stations provide another level of protection for high-risk boats that might miss an inspection at the border. Internal stations also help prevent movement of AIS between Montana waters. In-state boats can transport AIS including species such as Eurasian watermilfoil, New Zealand mudsnails, Corbicula, faucet snails, illegal bait/live fish, and pathogens between waterbodies.

AIS INTERCEPTED

Out of the 119,431 inspections during the 2022 field season, 4,758 boats had some type of issue identified (Table 2). Standing water (water in bilges, live wells, etc.) was the most common factor identified followed by vegetation, and ballast boats needing a decontamination. Standing water is a concern because it can carry mussel larvae, disease-causing pathogens, and plant fragments. Zebra or quagga mussels were found on 53 boats over the course of the season (Figures 7). These vessels were decontaminated on-site and require a follow up inspection / decontamination before they were permitted to launch. Additional dry time was sometimes required to ensure no live mussels remain on the vessel.

Table 2. Total inspections in state and out of state and total mitigations.

Station	Zebra / Quagga Mussels	Animals Found	Vegetation	Standing Water	Dirty, Crusty, Slimy	Illegal Bait	Illegal Fish	Ballast Boats	Total Mitigations	Out-of-State	In-State	Total Inspections
Border Stations												
Nashua	0	0	9	69	4	0	0	1	83	578	1414	1992
St. Regis	0	2	48	147	5	0	0	208	410	3,975	1623	5,598
Dillon	6	13	40	78	88	0	0	269	494	3148	940	4088
Eureka	0	0	2	78	12	0	0	178	270	217	1335	1552
Hardin	2	2	12	524	12	0	1	347	900	1860	4,341	6,201
Troy	0	3	44	48	1	0	0	82	178	2563	4,761	7,324
Broadus (PRCD)	2	2	1	40	14	0	0	5	64	980	201	1181
Wibaux	11	8	20	237	40	2	0	38	356	1640	607	2247
Continental Divide Stations												
Anaconda	24	35	179	483	87	0	0	658	1466	5640	6893	12533
Browning (Blackfeet Nation)	2	1	0	0	3	0	0	116	122	940	1824	2764
Clearwater Junction (MSLA County)	2	9	93	185	19	0	0	762	1070	3477	28,135	31,612
Highway 12 Helena	2	2	54	289	7	1	1	110	466	833	5576	6409
Sula	0	0	2	11	12	0	0	7	32	881	814	1695
Interior Stations												
St. Xavier (BCCD)	0	0	17	9	0	0	0	26	52	311	1243	1554
Flowing Wells (GCCD)	1	2	19	482	11	0	0	5	520	876	1863	2739
Seville (Blackfeet Nation)	0	0	0	0	0	0	0	12	12	74	95	169
Ravalli (CSKT)	0	0	14	46	7	0	0	560	627	3125	12502	15627
Thompson Falls (CSKT)	0	2	45	36	7	1	0	76	167	886	4037	4923
Swan Lakers	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	n/a	n/a	509

Station	Zebra / Quagga Mussels	Animals Found	Vegetation	Standing Water	Dirty, Crusty, Slimy	Illegal Bait	Illegal Fish	Ballast Boats	Total Mitigations	Out-of-State	In-State	Total Inspections
Whitefish Lake (City of Whitefish)	0	0	3	112	7	0	0	259	381	201	1290	1491
Parks												
Glacier National Park	0	0	0	0	0	0	0	0	0	0	0	6568
Regional Offices												
Regional Offices	1	2	6	23	3	0	0	35	70	183	472	655
Totals	53	83	608	2,897	339	4	2	3,754	7,740	32,388	79,966	119,431

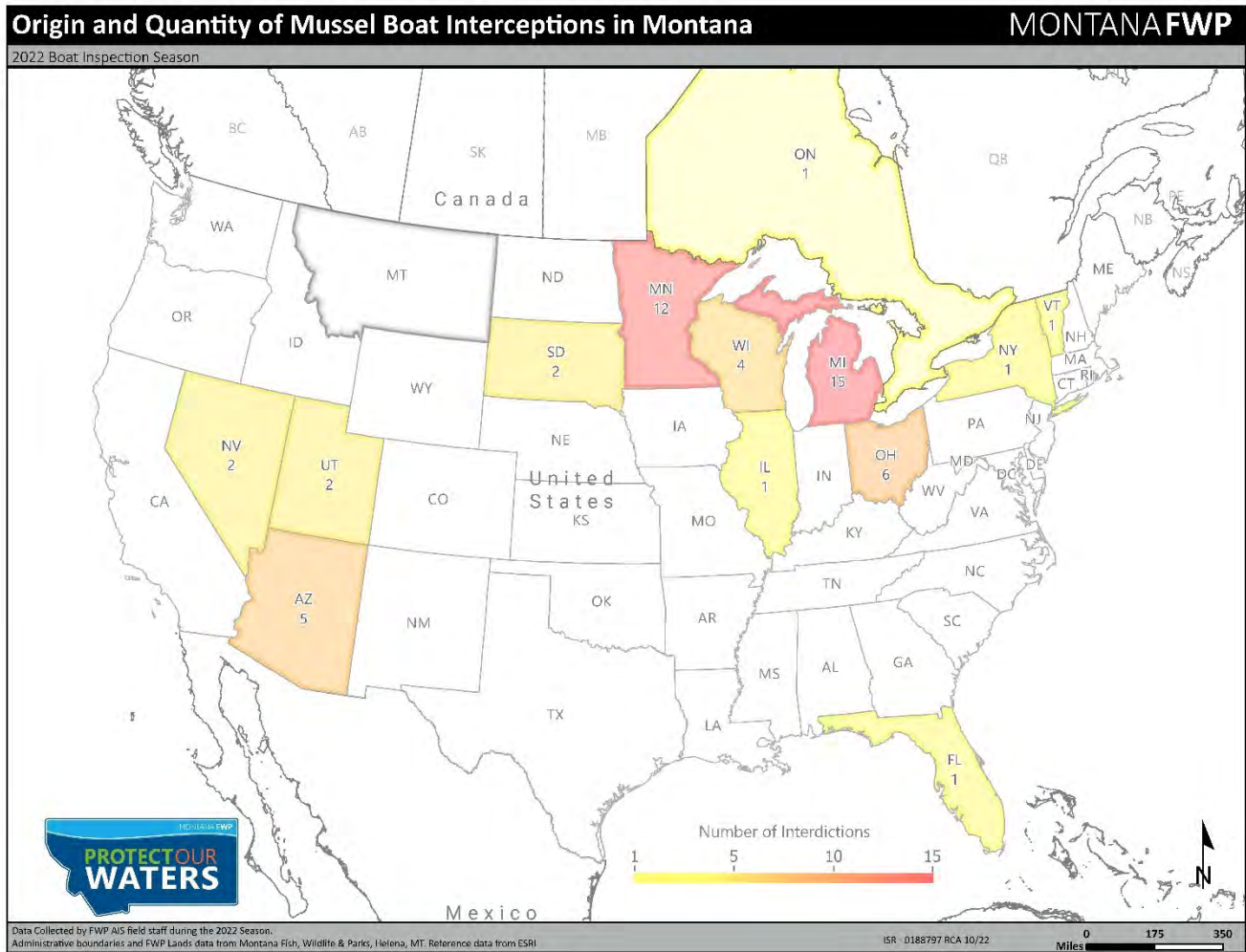


Figure 7. Origin of mussel fouled vessels intercepted at Montana watercraft inspection stations in 2022.

When a mussel-infested boat or piece of equipment is found, protocol mandates that staff from the FWP AIS management team are contacted and oversee decontamination. If the boat is complex (air conditioning unit, seas strainers, multiple internal compartments, complex plumbing, or ballast tanks), marine mechanics may be brought in to aid in the decontamination process. Boats must pass a second inspection before they can launch in Montana waters. Fifty-three mussel fouled vessel were intercepted in Montana in 2022 and 198 mussel fouled vessels were intercepted over the last six years (Figure 8). The majority of mussel fouled vessels intercepted in Montana are from Midwest and Great Lakes states (Figure 11). Many of these vessels are used boats that are purchased out-of-state then transported to and through Montana. FWP is working with regional and national partners to better address this pathway to ensure boats are clean when they are transported to Montana.

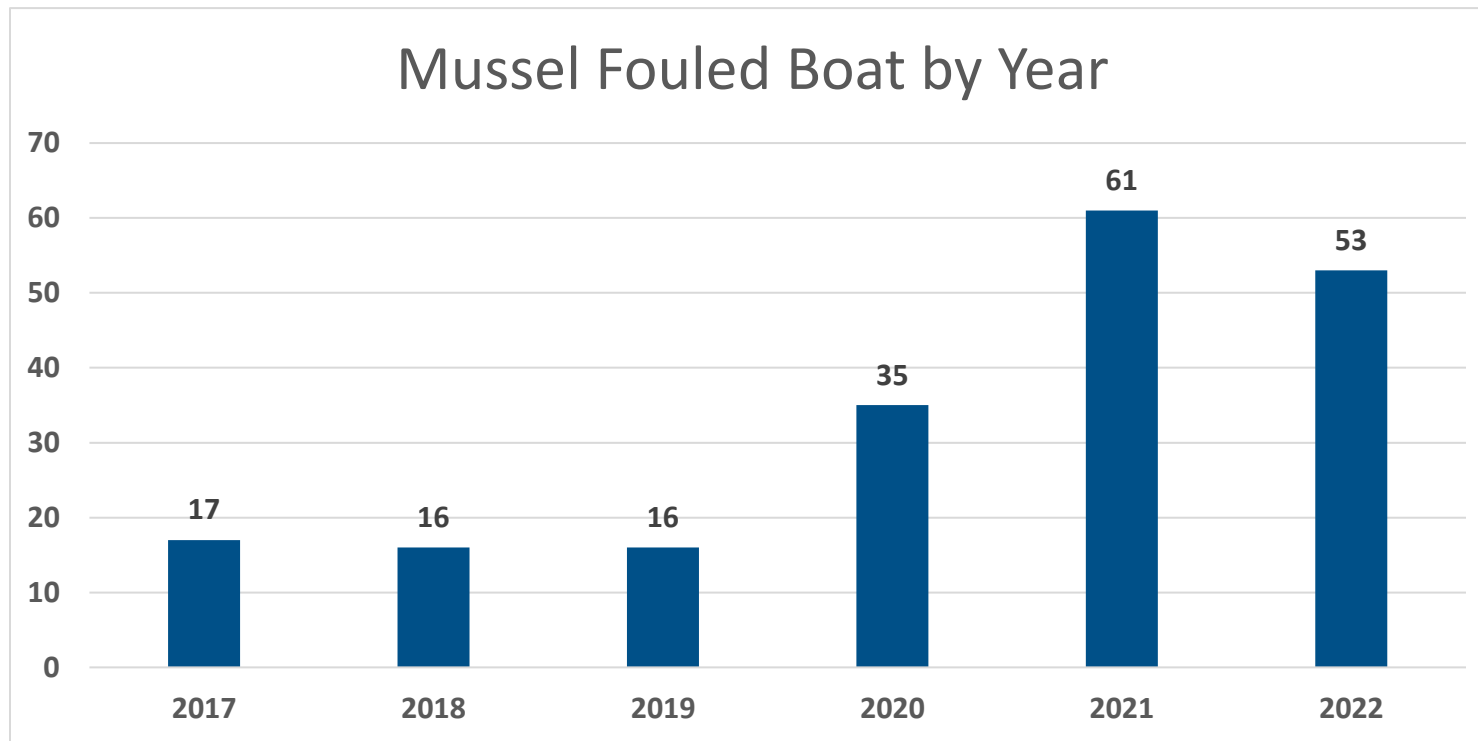


Figure 8: Number of mussel fouled boats intercepted by year.

Origin and Quantity of Mussel Boat Interceptions in Montana

MONTANA FWP

2017-2022 Boat Inspection Season

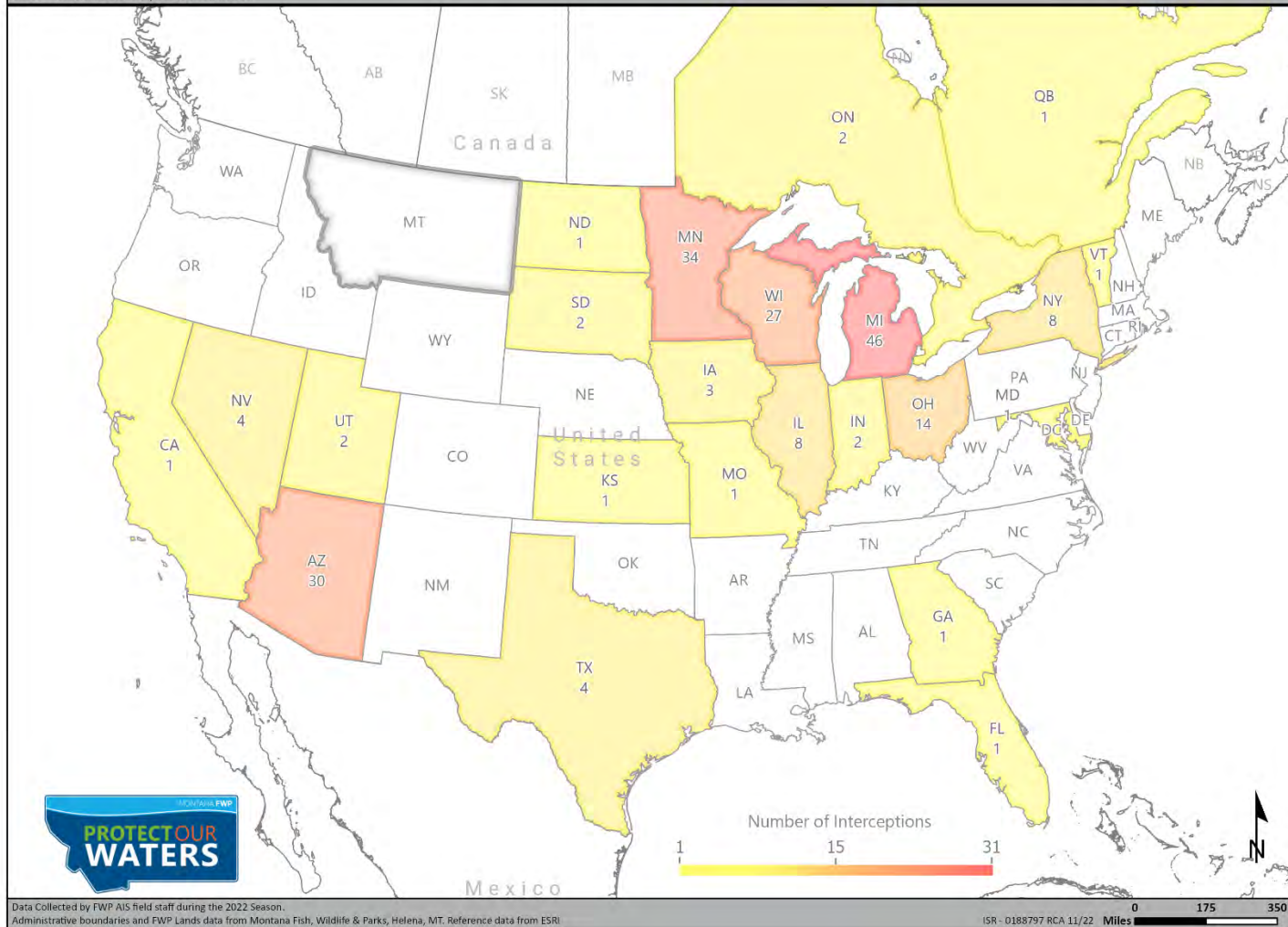


Figure 10: Mussel fouled vessel origin from 2017 to 2022.

LIVE FISH

It is illegal to transport live fish, including bait fish, into Montana without authorization from FWP, and it is unlawful to possess or transport live fish away from the body of water in which the fish were taken anywhere in the western and central fishing district. Live non-game fish may be used as bait in certain waters in the central and eastern fishing districts. These regulations exist to prevent the introduction of non-native fish into Montana's waters. Fish and the water they are transported in can also carry pathogens, weeds, snails, mussels, or other AIS. In 2022, inspectors found 2 cases of illegal live fish over the course of the season. Standard protocol for inspection staff is to call an FWP game warden when illegal live fish are found and follow their lead.

LIVE BAIT OTHER THAN FISH

Live animals such as mealworms, red worms, night crawlers, leeches, maggots, crayfish, reptiles, amphibians, and insects may be used as bait on all waters, but some live bait animals may not be imported into the state without authority from FWP. For example, anglers who use leeches in Montana must have purchased them within Montana or have a bill-of-sale from an FWP-approved out-of-state dealer. Leeches have the potential to transport pathogens and mussel larvae in the water that they are transported in. Watercraft station inspectors contact an FWP warden and confiscate leeches if the angler cannot prove out-of-state leeches were legally obtained. FWP inspectors found 4 cases of illegal leeches in 2022.



Photo 2. St. Regis watercraft inspection station.

ENFORCEMENT AND COMPLIANCE

Compliance at watercraft inspection stations is an ongoing challenge. To address this, FWP installs signage, flagging and lighted message boards to clearly indicate the inspection station and the mandatory need to stop. Despite this fact, boaters sometimes fail to stop at the station. FWP wardens dedicate time to work at stations throughout the season to enforce compliance. When wardens are not present, station staff are trained to call the Montana Highway Patrol dispatch 406-841-7022 if a boat fails to stop at the station. Enforcement officers from FWP, state police or local enforcement then attempt to follow up with that watercraft. FWP wardens issued 182 AIS related citations and 106 warnings in 2022, most of these were for failure to stop at inspection stations and

nonresidents not purchasing the vessel prevention pass.

FWP wardens also stop boats on the water to ensure boaters have the proper safety equipment, check fishing licenses, vessel prevention pass, and verify boats have met mandatory inspection requirements for entering the state or crossing west over the Continental Divide.

The AIS prevention program works closely with the law enforcement division to help direct them to the locations with the greatest compliance challenges. The Enforcement Division did a great job across the state. From 2017-2022 compliance has continued to improve and data from the Enforcement Division demonstrates this over this period. Since 2017 there have been 610 citations and 1,147 warnings issued to boaters who drive by stations, failure to buy vessel prevention pass, and transfer or possession of invasive species.

OTHER PREVENTION EFFORTS

Wading anglers: FWP promoted a targeted outreach campaign to wading anglers encouraging cleaning boots and gear. Outreach was distributed to partners and user groups to local fly shops and water-based businesses. Groups including Upper Columbia Conservation Commission (UC3), conservation districts, and FWP AmeriCorps volunteers visit business and attend events statewide spreading the Clean. Drain. Dry. message. Signs were also installed at wading angler sites promoting the Clean. Drain. Dry. message.

Seaplanes: FWP was approached by the Seaplane Pilots Association (SPA) to help them ensure pilots do not transport AIS. The State of Washington, in coordination with SPA, developed a training and certification to ensure seaplanes are free of invasive species. <https://www.seaplanepilotsassociation.org/invasive-species/> Montana, Idaho and Oregon endorsed this training and coordinate with seaplane pilots to address the AIS issue.

QUALITY ASSURANCE QUALITY CONTROL (QAQC)

It is an ongoing challenge to ensure that inspectors follow protocols every time to ensure boats are clean, drained, and dry. To help address this issue, FWP has sought out local entities that are interested in operating watercraft inspection stations. Contracting with local entities such as tribes, counties or conservation districts allows for local management and expand local support and participation in AIS prevention efforts. Contracted stations also are required to hire a station supervisor who reinforces protocols and provides oversight and management at the station. The prevention program continued to enhance the QAQC program for 2022 and continue to address QAQC and consistency statewide.

QAQC for the 2022 season include:

1. Updated training to include more hands on and interactive content.
2. Refresher trainings to be delivered throughout the season.
3. An online inspection evaluation that will be distributed to boaters to report on their inspection.
4. Incentives for inspectors to keep them engaged and motivated throughout the season supported by Montana Trout Unlimited.
5. Lanyards with name tags with the back of the name tag stating what needs to be done on every inspection.
6. Interviews with boat owners on previously sealed vessels that stop at another station down the road.
7. Data review throughout the season.
8. Job performance assessments.

9. Annual performance reviews.
10. Roving site lead in western Montana and eastern Montana.

SUMMARY

The 2022 watercraft inspection season was highly successful. Even with ongoing challenges, including COVID-19, a lot of inspections were conducted, compliance improved, a lot of mussel boats were intercepted, staff were kept safe, and many improvements were made. Overall, FWP recruited many outstanding people to serve in inspector positions across the state. Their professionalism and dedication to the AIS issue were instrumental in stations running smoothly, providing good customer service and getting boaters on their way as quickly as possible. Many improvements have been put into place in 2022 and the program will continue to adjust and improve to make the program more effective and efficient.

Knowledge and awareness of the issues surrounding AIS continues to increase because of the outreach and education efforts across Montana. Many thanks to all our partners around the state. A special thanks to Missoula County Weed District, Confederated Salish and Kootenai Tribes, The Blackfeet Nation, Garfield County Conservation District, Beaverhead Conservation District, Glacier National Park, Whitefish Lake Institute, the City of Whitefish, McCone County Conservation District, Bighorn County Conservation District, and Powder River Conservation District.