



Montana Invasive Species Council

Meeting Materials Packet for December 13, 2022

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MONTANA INVASIVE SPECIES COUNCIL

AGENDA

Note: Agenda is subject to change and times are approximate. Actual times may vary by up to one hour.

Montana Capitol, Room 137, Helena, MT. Hybrid meeting.



TUESDAY, December 13, 2022

9:00 – 9:10 am	INTRODUCTIONS Welcome and roll call Chair Bryce Christiaens
9:10 – 9:15 am	ADMINISTRATIVE BUSINESS *ACTION: September 7, 2022 meeting minutes
9:15 – 9:30 am	SUMMIT REVIEW Liz Lodman
9:30 – 11:00 am	MISC WORK PLAN - Top 10 Priority Species - Quantifying Impacts - Focused Efforts to Improve Capacity Mindy Wilkenson, Primum Terrae LLC
11:00 - 11:15 am	BREAK
11:15 am – 12:00 pm	MISC WORK PLAN continued - Science Advisory Panels *ACTION: Select next panel
12:00 - 1:00 pm	LUNCH
1:00 - 1:30 pm	LEGISLATIVE OUTLOOK Full Council
1:30 – 2:30 pm	LEGISLATIVE EVENTS - Rotunda Invasive Species Day - Natural Resource Joint Committee Presentation
2:30 – 2:45 pm	2023 COUNCIL MEETING PLANNING
2:45 – 3:00 pm	WRAP UP AND ADJOURN Final discussion *Public Comment

This meeting is open to the public. The most current meeting information including meeting materials are available on the MISC website at: <https://invasivespecies.mt.gov/misc/meetings-schedule>. A livestream of the meeting can be found on the Montana Legislative Division website at: <https://leg.mt.gov/audio-video/>

Members of the public who wish to participate via Zoom may do so by contacting Anna Connerton at anna.passage@mt.gov by 5 p.m. the day before the meeting.

*Public comment will be available during times the Council acts on items as indicated on the agenda and during the end of the meeting. To provide public comment, participants may "raise their hand" and participate after being recognized by the presiding officer or Zoom manager. Comments will be taken in order. Written public comment may be sent via email in advance of the meeting to anna.passage@mt.gov and will be provided to council members.

Any oral or written public comment provided to the committee is a public record that is recorded and archived.

The Montana Department of Natural Resources and Conservation will make reasonable accommodations for persons with disabilities who wish to participate in this public meeting. For questions about accessibility or to request accommodations, please contact Anna Connerton at 406-444-2613 or anna.passage@mt.gov as soon as possible before the meeting date.

MEETING MINUTES

These abbreviated summary minutes will become the official adopted minutes at the next Montana Invasive Species Council meeting when they will be approved. Until then, they are considered a draft.

Meeting/ Project Name:	Montana Invasive Species Council		
Date of Meeting:	September 7, 2022	Time:	9:00 AM
Minutes Prepared By:	Anna Passage	Location:	Montana Capitol, Room 152 and virtual via Zoom
Attendees			
<p>MISC Voting Members: Bryce Christiaens (County Weed Districts – Chair), Tom Woolf (Fish Wildlife and Parks – Vice Chair), Steve Wanderaas (Conservation Districts, Vice Chair), Steve Tyrrel (Agriculture), Andy Welch (Hydropower), Martin Charlo (CKST), Jason Allen (MT Dept of Transportation), Leigh Greenwood (Conservation Organization), Paul Rossignol (Wildlife Organization), Amy Gannon (DNRC), Jan Stoddard (Department of Commerce), Dennis Longknife Jr. (Fort Belknap Indian Community).</p> <p>Liz Lodman, Anna Passage, Mindy Wilkenson</p> <p>Other Attendees: Ian Foley, Monika Pokorny, Jacob Bradford, Karen Laitala, Leslie Nelson, Michelle Cox, Steve Bekedam, Larry Urban, Cassidy Bender, Wendy Velman, Lori Witham, Bryce Maxell, Patrick Kocovsky (U.S. Geological Survey), Tahnee Szymanski (Dept of Livestock).</p>			
Agenda and Notes, Decisions, Issues			
Topic	Discussion		
Welcome & Roll call	Bryce opened the meeting at 9:06 am, conducted roll call and confirmed quorum.		
Administrative Business	<p>Action Item: Approval of June 1, 2022, Meeting Minutes Motion: Steve Tyrrel to approve the June 1, 2022, meeting minutes. Second: Andy Welch Discussion: None Public comment: None Action on motion: Motion passed unanimously.</p>		
Meetings Update PNWER	<p>Liz Lodman – MISC, Stave Wanderaas – Conservation Districts, Tom Woolf – Fish Wildlife and Parks Pacific NorthWest Economic Region (PNWER): Was held in Calgary July 25-27 with one entire day focused on invasive species presentations. MISC members in attendance were Steve Wanderaas, Tahnee Szymanski, and Liz Lodman; Tom Woolf zoomed in. MISC hosted a booth with information about feral swine and AIS.</p> <p>Steve Wanderaas: Last attended the PNWER conference in 2019 when Saskatchewan didn't seem to acknowledge the feral swine problem but in recent years they have started to recognize it as an issue. Saskatchewan has moratoriums on raising wild boar and hunting. Canada researchers estimate there are more</p>		

	<p>feral swine in Saskatchewan then all the other Canada provinces combined .</p> <p>Tahnee Szymanski: Co-chaired the cross-border livestock health committee for PNWER, led some sessions and was a panelist on a session. The cross-border livestock health committee was paired with the invasive species committee bringing those two groups together and have the conversation about: (1) feral swine harmful impacts, and (2) disease of feral swine and what their presence may mean for the livestock industry and other groups.</p> <p>Tom Woolf: Presented virtually on the Tiber mussel story, how that response occurred, and the current status of the reservoir. PNWER has been active in getting AIS related funding to western states and promoting a regional defense strategy to prevent mussels from moving west and north for mussel impacted areas. A presenter from Manitoba, (not officially part of PNWER) discussed the westward movement of mussels across Canada. Conference members discussed using Army Corps of Engineers funds more broadly especially in the central states like the Dakotas and possibly into Canada for AIS prevention efforts.</p> <p>Liz Lodman: Served on a panel and coordinated with other states/provinces to have feral swine information at the booth. Next year PNWER is in Boise, probably July. Invasive species was not on the agenda last year when PNWER was in Big Sky, although MISC and FWP hosted booths that year. Hoping that PNWER will have at least one session on invasive species every year. PNWER is a good venue to reach policy makers who aren't normally exposed to this information.</p> <p>Discussion:</p> <p>What was the response of the legislators from the U.S or the members of the parliament regarding the feral swine conversation?</p> <ul style="list-style-type: none"> • Senator Mike Cuffe was the only Montana legislator at PNWER; he did not attend the feral swine sessions but did attend the AIS sessions. <p>There had been a legislator and an area expert in invasive species that had co-chaired the invasive species committee. Who is the area expert chair?</p> <ul style="list-style-type: none"> • Martina Beck from British Columbia.
Upcoming MISC Events	<p>Liz Lodman – MISC</p> <p>Montana Environmental Education Association (MEEA) meeting in Missoula on September 16-17. Liz will staff a booth and do a presentation about <i>Don't Let it Loose</i> campaign and the materials ISAN developed for classrooms on responsible pet ownership and the dangers of releasing aquarium tank animals.</p> <p>Webinars: MISC is hosting three webinars the end of September and early October. Promotional information will be sent so you can share with your organizations and social media. Presenters are:</p> <ul style="list-style-type: none"> • Bryce Maxell/MT Natural Heritage Program: suitable habitat models and mapping program • Dr. Tim Seipel/MSU: plant invasions a multiple spatial scales. • Dr. Eve Beaury/Princeton University and Dr. Emily Fusco/ORISE Fellow-US Forest Service: climate smart regulations across jurisdictions and their research on invasive nursery plants being sold <p>NOTE: recordings of the webinars are available here: 2022 Webinars (mt.gov)</p> <p>Montana Invasive Species Summit (October 25-26) is at the Great Northern Hotel in Helena. The summit will be preceded by the Fish Wildlife and Parks meeting on October 24 and followed by the UC3 meeting on October 27.</p> <p>Registration will be available soon, hopefully this week. We are waiting for fiscal staff information so credit cards can be used for payment. Register for the Summit will be available online, and state employee will have a different system for paying for their registration (not by credit card). Registration is \$50. There will be an option for organization to sponsor a booth for \$150.00.</p>

	<p>North American Invasive Species Management Association (NAISMA) meeting in November 7-10 in Florida. Liz will be attending this conference.</p> <p>Steve Wanderaas: Who are members of NAISMA?</p> <ul style="list-style-type: none"> Liz will email the member list. <p>Montana Association of Conservation District (MACD) convention is November 16-17 in Helena. Liz hasn't seen registration information yet but plans to host a booth.</p> <p>Montana Stockgrowers Association convention is December 7-9 in Billings. Liz will host a booth and Tahnee Szymanski will present on feral swine.</p>
<p>Feral Swine Tabletop Exercise</p>	<p>Liz Lodman and Tahnee Szymanski – MT Dept of Livestock</p> <p>The tabletop exercise was held June 30. Invitations were sent to agencies that would take part in a feral swine response. There were 28 federal, state, county, and tribal participants at that exercise. Presenters were:</p> <ul style="list-style-type: none"> Dr. Vienna Brown (APHIS): shared information on diseases and how APHIS responds when targeting a sounder for removal. Dr. Tahnee Szymanski (MT Livestock) talked about the status of feral swine and state laws. Dr. Jared Beaver (MSU Extension) shared information about identifying feral swine and their sign; impacts to crops, land and water; and why hunting isn't the solution. Montana is lucky to have Jared because he has worked on feral swine in other states. Travis Black (Colorado Parks and Wildlife) zoomed in to talk about how they dealt with their feral swine. He didn't have the support or organizational system that Montana has nor the laws to back up their response. He talked about the difficulties they had but Colorado did eradicate feral swine. Travis complimented the work being done in Montana. Kate Wilson (DNRC/UC3) was the facilitator and presented on the incident command system as a tool for feral swine response. <p>The group was divided in two and discussed how to respond to these scenarios:</p> <ol style="list-style-type: none"> Glacier National Park: Two sounders were found near Chief Mountain port of entry Blackfoot Nation: One sounder reported by Pike Lake on Blackfoot Reservation <p>Goals for the groups were to work through a simulated feral swine response in Montana</p> <ul style="list-style-type: none"> Identify "initial attach" needs Identify gaps/needs/challenges with current authorities and/or structures (across agencies) Identify crucial MOU and response guide/plan components Identify steps forward to ensure a timely and effective response <p>Next Steps</p> <ul style="list-style-type: none"> Create MOU among agencies Enhance DOL Response Plan Create a 2nd tier notification list Adopt Colorado reporting form Create annual report Continue education / outreach efforts <p>NOTE: The report and participant list can be found here:</p> <p>Tahnee Szymanski: The exercise was very productive; the example scenarios prompted great conversation about jurisdiction and the different issues that come into play if a detection happens somewhere other than state or private land. DOL wants to develop a contact list for Montana and surrounding states/provinces of</p>

	<p>entities who should be notified of feral swine reports. For example, a carcass was found on Forest Service property in northwest Montana where the closest domestic swine ownership was about 12 miles away. It would be helpful to have a contact in British Columbia to ask if there are known feral swine populations to the north of the detection site. This carcass has been transported to an FWP freezer and tissue has been sent to USDA-APHIS Wildlife Services for genetic testing. An FWP biologist doing work nearby has trail cams and will report any sightings.</p> <p>Discussion:</p> <p>Any assistance on the national level to obtain the equipment that was identified as being desirable for a response capacity?</p> <ul style="list-style-type: none"> I have had ongoing conversations with Vienna Brown from USDA Wildlife Services, primarily fueled by a report of a feral swine carcass up in Northwest Montana. This has allowed us to come back around to the topic of needed resources. <p>Was there any rooting or ground destruction in the area?</p> <ul style="list-style-type: none"> There was no evidence of rooting or that a live animal was on the landscape. <p>What was the cause of death?</p> <ul style="list-style-type: none"> The FWP biologist that picked up the carcass said it could have been hit by a car. Hopefully, the genetic testing will give us information. <p>So it could've been a dumped domestic pig?</p> <ul style="list-style-type: none"> Yes <p>What would be included in the annual report and what information would MISC provide?</p> <ul style="list-style-type: none"> A compilation of all the reports for the year that could show the diversity of reports, their frequency and a summary of the follow-up action showing the consistent response and the seriousness of this effort as well as the outreach efforts conducted. <ul style="list-style-type: none"> <i>MISC is willing to help with the reports. A one-page summary of each high priority issue would be an excellent tool going into the legislative session.</i> <p>What is the process or timeline for obtaining MOUs with participating agencies?</p> <ul style="list-style-type: none"> We want to find existing MOUs with agencies for emergency responses such as fire or SAR operations. No progress has been made since the ttx meeting. <p>Should FWP add feral swine information to their website for hunters?</p> <ul style="list-style-type: none"> We'll investigate adding something on the FWP website about feral swine. <p>Steve Tyrrel: Central and Eastern Montana Invasive Species Team (CEMIST) will be available to help coordinate with Department of Livestock on outreach efforts in more rural central/eastern Montana locations.</p>
Prussian Carp	<p>Patrick Kocovsky – Aquatic Invasive Species Program Manager for the US Geological Survey</p> <p>Prussian Carp are native to central Europe east to Siberia.</p> <ul style="list-style-type: none"> First report in North America was 2014 in Alberta. Prussian Carp are considered of the most damaging invasive species globally. Lifespan is 10+ years Mature in 1-3 years and can reproduce multiple times annually Reproduce <i>gynogenetically</i>, their eggs do not need to be fertilized, they just need to be “activated” by another species’ sperm Diet: detritus, vegetation, plankton, invertebrates Tolerate broad environmental conditions <p>Identified 67 potential dispersal pathways</p> <ul style="list-style-type: none"> Moderate risk: headwaters of Frenchman River/Swift Current Creek entirely with Saskatchewan High risk: headwaters of Saskatchewan River and Milk River entirely within the US

<p>Prussian Carp</p>	<p>Next Steps Prevention</p> <ul style="list-style-type: none"> • Assess alternatives for mitigating risk at both pathways, closures, deterrents • Assess alternatives for the Red-Minnesota pathway • Identify other potential pathways • Promote a research program toward developing control measures for Prussian Carp <p>Discussion:</p> <p>Could you highlight the differences between the impacts of Prussian Carp and the common goldfish?</p> <ul style="list-style-type: none"> • Patrick Kocovsky doesn't know where goldfish falls on the spectrum. <p>Is there a decrease of the water quality in rivers where there has been an introduction of Carp or is it like any other bottom dwelling fish?</p> <ul style="list-style-type: none"> • Effects are on the invertebrate communities directly and fish communities indirectly, I don't know specifically of any negative effects on water quality. The literature is sparse on that in Alberta. <p>Is there any way they transfer with boats or anything similar or is it strictly through water or river systems?</p> <ul style="list-style-type: none"> • My guess is through natural dispersal, through irrigation canals, across watershed boundaries. There may have been bait bucket introductions. As to their eggs or larva being transported, I don't know of any instances. <p>Is there possibility they be considered as a sport fish and the recreational value would outweigh interest in management or control measures?</p> <ul style="list-style-type: none"> • I don't know about the perception of Prussian Carp as a potential recreational species. Most research to date has been done in out of Mark Pochas lab at the University of Alberta and would be a good contact for that. <p>Does USGS use eDNA to detect if it is already through the St. Mary River system?</p> <ul style="list-style-type: none"> • That's something we are looking into for the proposal. Adam Sepulvadas is checking whether there is already an eDNA marker, and if not then we would be interested in working that. <p>Have any control efforts been undertaken in Canada for these populations?</p> <ul style="list-style-type: none"> • Electrofishing was used to remove as many fish as possible, although it only had a temporary affect and is not recommended as a control option.
<p>Stakeholder Listening Session</p>	<p>Mindy Wilkenson</p> <p>The purpose of the listening sessions was to have a multi-party discussion with stakeholders for developing the MISC workplan and updating the framework.</p> <p>To prepare for the listening sessions more than 110 individuals were invited to participate; 55 people attended one or more sessions and eight people provided written or verbal comments. These individuals represented federal, state, and county agencies; tribes; industry; and non-profit groups. MISC held eight sessions each with a different focus: aquatic resources, conservation and watershed, recreation and tourism, terrestrial weeds, tribal, research and education, and forest resources,</p> <p>The summary of the listening sessions can be found here.</p> <p>Discussion:</p> <ul style="list-style-type: none"> • Liz Lodman: A top 10 list could be used as an educational tool, not necessarily a way to prioritize work but to help the public understand invasive species issues. Stakeholders suggested both species that are in the state and species that are on the horizon. Monica Pokorny: A one-page flyer by topic or agency on invasive species would be helpful, something more digestible than the full report. • Bryce Christiaens: The message needs to evolve with changing demographics. We need to still be clear on our message and find the most effective route of communication. • Amy Gannon: A communication workshop is a really good idea, and it would be hugely useful.
	<p>Mindy Wilkinson and Council Members</p> <p>Purpose of the Montana Invasive Species Summit is to update partners and develop a prioritized work plan for the Council and staff. The work plan will define the type of actions that MISC will be taking on for the next few years. The desire is to have the discussions be interactive.</p>

<p>MISC Summit</p>	<p>Bryce suggested using 1-2-4-All method as a tool to lead discussion and prioritize topics brought up during the work sessions. This tool allows everybody to add their input to the discussion and is a good way to hear a bunch of ideas but also get the top 10 ideas on a given issue.</p> <p>The council discussed the different sessions and potential speakers to invite. Mindy, Liz and Bryce will continue to work on the agenda and share with the council. The draft plan for Summit is here.</p>
<p>Partner Updates</p>	<p>Martin Charlo: Tourism has been steady along with new people moving into our areas. Western Montana hasn't seen a population shift like this since homesteading. Inspection stations are operating. We held appreciations for our inspection staff as they take their jobs very seriously. There is discussion about making some of the station's permanent and possibly shifting locations to make them more effective. The Ravalli station doesn't have running water, so if a boat needs to decontaminate staff has to take it somewhere else. That location would probably shift to St. Ignatius where traffic from highway 200 coming from the west and the north could be checked. We have an aggressive lands department that works on weeds.</p> <p>Steve Wanderaas: On behalf of CEMIST, their specialty is doing education and outreach regarding invasive species. We are hiring a coordinator and will be working on a strategic plan.</p> <p>Tom Woolf: AIS update: almost 90,000 inspections, a little behind previous years but it's going well. We've got 17 stations running, two operated by CSKT, one by McCone Conservation District, one by Missoula County. Two new conservation districts are operating inspection stations and were hopeful that a couple more will take over stations next year from FWP staff. Almost 50 mussel fouled boats have been intercepted, most coming from the Midwest and a lot are recent purchases. Over 300 boats were found transporting aquatic vegetation. Enforcement has conducted over 170 traffic stops, issuing 70 citations this year. We are getting more support than ever from state police and going through state police dispatch now instead of Tip Mont which seems to be compelling a more support from enforcement entities. We are looking at site improvements for several stations for next year including on-demand hot water decontamination units to replace aging units. For early detection, over 1,500 samples have been processed with no invasive mussels detected in Montana samples so far. New populations of New Zealand Mud Snails and Curly Leaf Pond Weed have been found. We are treating Eurasian Watermilfoil in Beaver Lake with divers and barriers and in Nylon Reservoir using herbicide. We are hopeful clams have been eradicated Lake Elmo. The Yellowstone Conservation District is getting a decontamination unit for Lake Elmo. The bullfrog project has removed 1,300 bullfrogs and tadpoles and 37 snapping turtles have been removed with no new locations found. FWP is conducting a statewide survey of crayfish, no new invasive crayfish populations have been found but crayfish plague has been identified for the first time manifesting itself in North America. FWP is building a trailer that will be used for decontamination training. Pactola Reservoir in South Dakota has verified zebra mussels, this is about 70 miles from the Montana border and a significant threat since South Dakota has had trouble keeping their inspection station open and running.</p> <p>Ian Foley: Palmer amaranth contaminated Millat Seed was shipped in from out of state. That seed sale was stopped and we are doing some monitoring with the local weed districts to see if any Palmer amaranth plants grow. Jasmine and her group are working to petition NAISMA to add Ventenata to the noxious weed list. The only positive detection so far is Japanese beetle in Yellowstone County.</p> <p>Monica Pokorny: Were working with Missoula County and Extension on revegetation guidelines that considers management of invasive species. We put out a publication on how to understand seed tag labels and how to determine weed content. We've updated our weed treatment conservation practice in the last year and there will be some additional funding for those counties that are working on annual grass management. Coming out in October we are updating our pest management conservation practice. There will be a new PAMs plan, Prevention, Avoidance, Mitigation, and Suppression.</p>

	<p>Jan Stoddard: The Yellowstone flood had a huge impact on places such as Gardiner, they lost most of their bookings for July. The fall and winter projections are down 20-30%. Projections for next year or after the park opens back up is believed to be closer to 2019 levels, pre covid. Hope to add Leave No Trace into more marketing for tourists and create a Leave No Trace toolkit to be used by tourism organization and businesses across the state.</p> <p>Cassidy Bender: The UC3 Big Sky Watershed Corps member Josh Abrahamson is visiting businesses throughout the Upper Columbia Basin, talking to them about AIS, and leaving outreach materials. Josh attended tabling events with the FWP AmeriCorps member to talk about AIS (county fairs, youth fly fishing camps, Flathead water cleanup). The Flathead Waters Cleanup was successful with about 100 volunteers and over 5,000 pounds of trash picked up. Unfortunately, someone found an aquarium along the Flathead River. We developed Clean.Drain.Dry coasters to drop off at breweries and restaurants. This fall we'll conduct an education and outreach survey with partners and compiled information into a report. We got an RPF to create videos in 2023, working with FWP. The next UC3 meeting is October 27.</p> <p>Jacob Bradford: BOR is working with South Dakota Fish, Game, and Parks on the Plectroglabella mussel discovery. We are requesting funds for a permanent decontamination station that recycles water, so it doesn't go into the ground. Also requesting funds for AIS personnel. We completed invasive mussel sampling for all BOR waters east of the divide, all samples came back negative. We are working with Patrick Kocovsky on a Prussian Carp briefing paper.</p> <p>Bryce Maxell: (MT Natural Heritage Program) I'm presenting a webinar for MISC on September 21 about our modeling efforts and our rapid weed reporter form. It's meant to bring more people into the fold for entering their data digitally.</p> <p>Amy Gannon: (DNRC) I have been surveying along the Idaho border for an invasive insect, BWA. There were no detections. White bark pine ecosystem is having a meeting September 15-16 in Dillon.</p> <p>Jason Allen: MDT's main focus is on Ventenata; we have a task force and we were able to treat about 150 acres. A patch of blue weed popped up on a project by Hot Springs. The area will be treated this for the next couple years so it doesn't spread.</p>
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Wrap-up Adjourn	<p>Location for next meeting will be December 13, 2022, in Helena, MT at the Capitol Building.</p> <p>Discussion/ Final Discussion:</p> <p>Public Comment: None</p> <p>Motion: Martin Charlo moved to adjourn the meeting. Second: Steve Wanderaas</p> <p>Discussion: Public Comment: Action on motion: Motion passed unanimously Meeting adjourned:</p>
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Montana Invasive Species Council

2022 Summit

October 25 & 26, 2022

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Day 1.

October 25, 2022

Agency Director’s Welcome

Purpose: The MISC framework describes shared priorities.

Bryce Christiaens, MISC Chair

The Montana Invasive Species Council was established by Executive Order in 2014 then codified in statute in 2016. The statute further instructed the Council to make policy recommendations, foster cooperation, engage in regional coordination, and identify permeant funding. The first Invasive Species Summit was held in 2016 to identify the policy and coordination priorities in the Montana Invasive Species Framework which was revisited in the second Summit in 2018. This year, the 2022 Summit goal is to establish shared priorities and a work plan that clearly states the tasks we’ll take on that fit our shared priorities.

WORK SESSION #1: Top 10 Invasive Species to Watch

Question: What are Montana's top invasive species and what is their impact? What group of species will clearly tell the story of why we manage invasive species in Montana?

- Zebra and Quagga Mussels
These species will have major impacts on the ecology of Montana's waters, damage infrastructure, and are a top regional priority.
- Annual Grasses
These species will have major impacts on the ecology of Montana's rangelands and grasslands.
- Emerald Ash Borer
Firewood transport creates a pathway and this species will impose heavy costs on urban areas.
- Feral Hogs
This species will impact livestock producers through predation and as a disease reservoir.
- Eastern Heath Snail
While this is a pest of agriculture, it highlights how programs targeting plant insect pests and diseases have made it difficult to make other species national priorities.
- Grasshoppers
The species that are responsible for the outbreaks across Montana are native and so are excluded from the official definition of invasive species. The 2020-2022 outbreaks may represent a shift in their abundance and behavior exacerbated by a changing climate.
- White-nose syndrome
This wildlife disease can be spread through visitors to local caves that bring in contaminated soil from areas with outbreaks.
- Saltcedar (*Tamarix* spp.)
The impacts of this species to water availability and access to Montana's rivers creates an ongoing impact.
- Flowering rush and Eurasian watermilfoil
The spread of aquatic invasive plants highlights the need to protect shoreline areas and improve detection programs across waterways.
- Walleye
The spread of gamefish is beneficial to a small group of advocates who promote this species but negatively impact biodiversity and other fisheries.

WORK SESSION #1: Top 10 Invasive Species to Watch continued...

- Non-native praying mantises
These generalist predators would never be considered in a modern bio-control program but are commonly sold as natural pest control.
- Cats
Sometimes the biggest impacts from urbanization have been with us for a long time. The ability of cats to negatively impact song birds and small reptiles is well known, their spread out from urban areas in Montana is less clear.
- Starlings
Invasive birds have impacts that are concentrated with certain producers but the birds themselves are widespread.
- Rush Skeletonweed
Persistent flower stems are so tough they can hamper harvest machinery and the weed causes lost production in wheat fields.



Update: Eastern Heath Snail Science Advisory Panel and Economic Impact Report
Council speaker: Gary Adams, USDA APHIS PPQ

Xerolenta obvia Eastern Heath Snail is included in USDA's New Pest Response Guidelines for Temperate Terrestrial Gastropods but overall funding for this group of pests is low. The Science Advisory Panel convened in December 2020 confirmed that the native range of the snail and Montana are both at the same latitude and includes many similar habitats so the likelihood of establishment and continued spread is high.

The current North American populations are limited to sites near Belt, MT and Detroit, MI, and in the area surrounding Toronto, CAN. The Belt, MT population may have been imported with immigrants arriving from the snail's native range in the late 1880's and been confined by the lack of suitable habitat including limestone soils.

This snail is one of a number that climb up grasses, other vegetation, or other hard surfaces in large numbers to "aestivate" when the weather is hot. After rain they then descend once again to feed. Under some conditions, the snails will reach such high numbers as to interfere with harvesting, resulting in serious contamination, downgrading of the quality of the grain, and even complete rejection of the crop. The snails are primarily a contaminant in grain/hay production but in their native range do contaminate of fruits and vegetables.

In the field they can

transmit the spores of:

- *Alternaria* sp.
- *Fusarium* sp.
- *Phytophthora* sp.

And vector animal diseases:

- *Protostrongylus rufescens* (sheep lungworm)
- *Davainea proglottina* (cestode)
- *Dicrocoelium dendriticum* (trematode)

The spread of this species could impact top Montana crops. Montana is 3rd nationally in wheat production, 2nd in barley production, and 1st in lentils and dry peas. Approximately 80% of total grain production is exported and MDA alone certifies about 500 million pounds of grain exports annually.

Partnerships between the Department of Agriculture, USDA, Montana State University Extension, and the Belt community initiated experiments and further surveys. In 2012, the population was confined to Belt and has since spread along road corridors and with equipment and gravel moved to surrounding communities. Experiments in control efforts included a snail round up carried out by local kids collecting snails, the Montana Department of Transportation's use of heavy equipment, and applications of the extremely limited labeled molluscicides available. A voluntary best practices guide was produced that encourages cleaning equipment between sites.

The 2020 Montana Invasive Species Council organized Science Advisory Panel on Eastern Heath Snail and supported the 2022 Economic Report make the case for further action: distribute information to all interested parties, engage regional coordinating bodies for both impacted industries and invasive species, support research on both the biology of this pest and possible control strategies, encourage and support the development of funding and regulations for invasive gastropods (slugs and snails).

WORK SESSION #2: Quantify the Impacts of Invasive Species

Question: What invasive species issues would benefit from clearly quantifying the impacts?

Outcome: Identify the top three topics to support with research or review.

- Analysis of the “Top 10 Invasive Species to Watch” list for the cumulative impacts to recreation and biodiversity.
- Annual grasses and hogs have impacts beyond their costs to control. What are the changes to fire regimes, property values, and threats to human safety from their spread?
- What are the impacts of aquatic invasive species on recreation? These should be considered as a group and include: threats to fisheries like proliferative kidney disease (PKD), salt cedar, Emerald Ash Borer on riparian corridors, and a new look at how zebra mussels might impact tourism.
- Wildlife diseases like white-nose syndrome and chronic wasting disease have broad impacts to populations of keystone species. Is the capacity to prevent and detect these harmful outbreaks in scope for the potential impacts they cause?
- What is the scope of the impact from rush skeleton weed on Montana agriculture?
- Feral hogs will have complex impacts on Montana. The reduction in populations of ground nesting birds, leaf litter dependent animals like salamanders, and physical disturbance of wetlands are relatively well known based on their behavior elsewhere in North America. What are the impacts to hunting opportunities, cultural adaptation, and management from the spread of feral hogs?
- Emerald ash borer (EAB) will substantially change the size structure and abundance of native ash in eastern Montana woody draws. This will have a cascade of ecological impacts but the spread of EAB will also cause loss of a substantial portion of the urban tree canopy. What are the social impacts of this invasion including indirect impacts like intensifying the heat island effect of urban areas with fewer mature trees, increased energy use to compensate for shading, and water availability?
- The future impacts of new invasive species are difficult to predict. For emerging issues, shifting management from current priorities to new targets requires quantifying their likely impacts. Increasing the capacity to quickly produce impact analyses for feral hogs, invasive praying mantises, fire regimes under new invasive annual grasses, and other emerging issues will improve response planning.

Success Story 1: Dyer's Woad Task Force

Presenters: Amber Burch, Ngaio Richards, and Mr. Toby.

“The history of dyer’s woad in Montana can be considered a success story. It was originally found in Missoula county in 1934 and has since been found in 19 counties. However, with an early detection and rapid response strategy, dyer’s woad has been eradicated from 12 counties. Populations are now monitored and managed in Beaverhead, Flathead, Missoula, Park, Lewis & Clark, Stillwater, and Treasure counties. Dyer’s woad is a priority 1A noxious weed in Montana, meaning management priorities are prevention, early detection, and eradication.”

Jane Mangold, Feb 2019, Monthly Weed Post, MSU Extension.

Legislative Panel

Rep. Marler, Rep. Duram, Rep. Curdy, Senator Cuffe.

Council Moderator: Steve Wanderaas

“How do we make invasive species a priority?”

Rep. Curdy: The work to prevent invasive species is supported by constituents. When asked about the AIS check stations, the response from residents is positive.

Rep. Marler: This issue is still a priority for the Natural Resources Committee but there are 100 representatives and 50 senators and there is turn over every 2 years. Coming to the sessions and having one on one conversations is helpful and field days outside of session for staff are useful. Tying invasive species to current legislative packages and hearings like bringing cheat grass into a discussion about sage grouse ensures that programs are working towards the same conservation goals.

Rep. Curdy: During session, turn out at hearings is key to demonstrating a sense of urgency about the issues.

All: Bill introduction can be a form of advocacy. This keeps the issues front and center and as long as the funds requested go towards Montana, there’s support for protecting resources. The credibility of those advocating for the issue is very important.

“Be honest, tell the truth, demonstrate a need.”

Keeping focus on the issues requires momentum and demonstrated work outside of the session. Regional coordination and support for your programs areas is a place where MISC can work for your programs.

When sharing your position 100 words is a better approach than 1000 words. And if you bring doughnuts and hand them out, you can get a word in!

Success Story 2: Invasive bullfrog and turtle removal - a partnership project
Presenter: Kristina Smucker

In Montana, snapping turtles are a native species east of the continental divide, but they are non-native west of the divide and can cause significant harm to native populations of pond-dwelling species like frogs, turtles, snakes, ducks, and fish. Snapping turtles likely end up in waterways in western Montana through illegal releases of animals kept as pets¹.



In 2018, FWP received a report of a snapping turtle in a backwater at Milltown State Park just east of Missoula. In 2019, FWP responded to a reported snapping turtle in the Rattlesnake Creek area just north of Missoula but was not able to locate it. Fish Wildlife and Parks, and the Montana Conservation Corps partnered in late 2020 to begin tackling reports of snapping turtles and on-going concerns with bullfrogs in western Montana. The partnership formed a five-person crew in 2021 with grant funding to survey and map FWP's Regions 1 and 2 for the animals, including the pond slider. The sliders proved too widespread to feasibly target for control with the resources and crew available. The "MCC Herptile Crew" surveyed wetlands and conducted night removal efforts for the targeted species.²

Photo: Montana Fish, Wildlife & Parks.

¹ Montana Fish, Wildlife & Parks. (2021, May 19). *Report snapping turtles in west-central Montana* [Press release]. <https://fwp.mt.gov/homepage/news/2021/may/0519-report-snapping-turtles-in-west-central-montana>

² McLaughlin, J. (2022, March 9). Biologists will be on the lookout for nonnative snappers, bullfrogs. *Hungry Horse News*. <https://hungryhorsenews.com/news/2022/mar/09/biologists-will-be-lookout-nonnative-snappers-bull/>

Panel: Recognizing the values of managing invasive species.

Speakers: Jennifer Mohler - Gallatin Invasive Species Alliance, Virgil Dupuis, Salish Kootenai College Extension, Diane Medler - Discover Kalispell, Clayton Elliott - Montana Trout Unlimited
Council Moderator: Tom Woolf

Jennifer Mohler - Gallatin Invasive Species Alliance

The Upper Gallatin has experienced explosive growth and new home building. This fragmentation and changing management priorities has challenged us to find new ways to create a culture of stewardship. As part of our efforts to reach property owners and visitors we share regional outreach campaigns about clean recreation and invasive species prevention. The homeowners associations are offered 3 years of support to develop a stewardship program and by including home owners, build a sense of community pride in protecting the area's natural resources. A view of what is possible is provided by the Crail Gardens maintained by the Gallatin Invasive Species Alliance. This relatively small native plant demonstration garden has influenced the landscaping on many more acres in the surrounding area by showing off the beauty of Montana's wildflowers and what is possible with invasive species management.

Website: <https://www.gallatinisa.org/hoa-habitat-owners-association-prog>

Virgil Dupuis, Salish Kootenai College Extension

The spread of flowering rush *Butomus umbellatus* creates a closed water habitat so that trout avoid the near shore areas colonized by this plant but invasive fish like northern pike. Other species take advantage of the extra surface area provided by the stems and the increase in algae feeds snails that in turn transmit swimmer's itch. The multiple impacts on the resources provided by Flathead Lake and the clogging of irrigation ditches have inspired survey and control efforts that are supported by local landowners. Treating aquatic plants by using chemical control in areas with many landowners is typically slowed by the need to address concerns about the methods. By focusing on the resources including fish, clean water, sedimentation, and nutrient accumulation there has been broad support for the control efforts in Flathead Basin.

Website: <https://extension.skc.edu/flowering-rush/>

Clayton Elliott - Montana Trout Unlimited

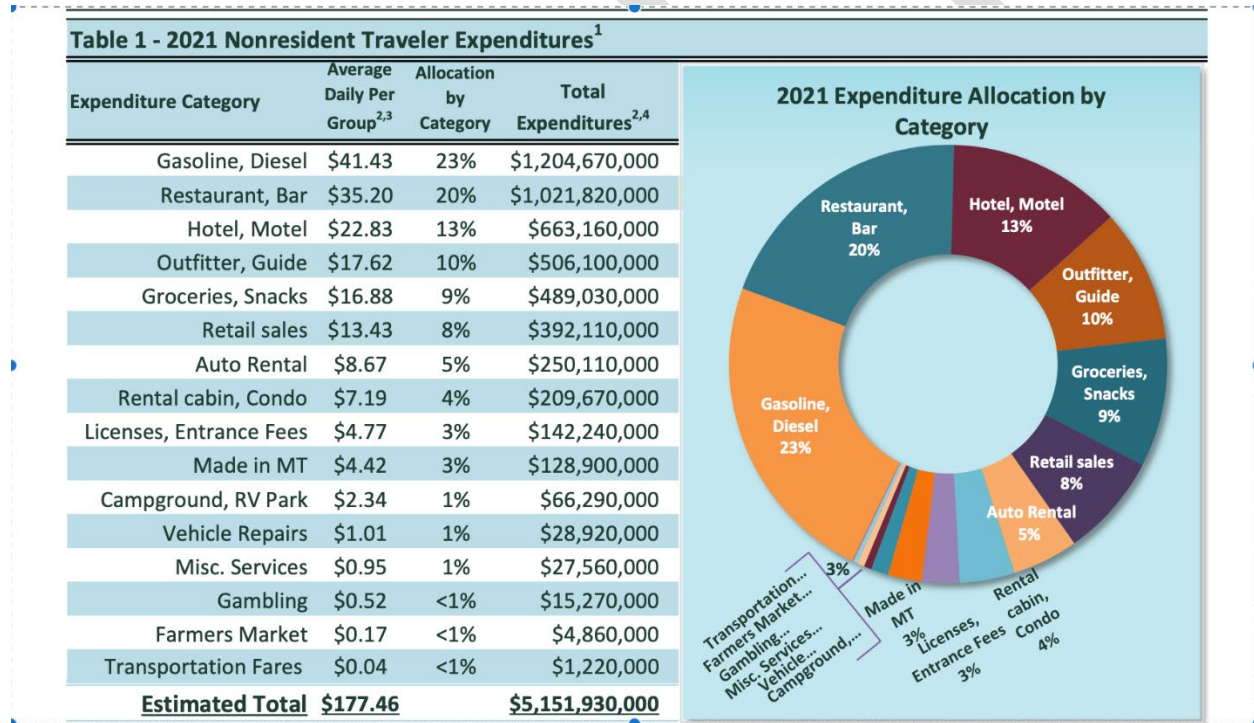
Angling for trout is worth about \$750 million per year or about 20% of all tourism spending in Montana and the number of angler days per year has doubled over the last few years. Montana Trout Unlimited has approximately 5,000 members across the state. The overarching goal of our organization is to protect cold water fisheries and warming water is a way to have conversations about global issues. Conservation management actions are local and when building support for these actions people are more likely to listen to their neighbors than state agency staff.

Website: <https://montanatu.org/>

Diane Medler - Discover Kalispell

The power of travel is clear: Montana hosts 12.3 million visitors per year who bring in \$5.1 billion dollars to the state and pay \$388 million in state and local taxes. The draw for these visitors are the National Parks, open space, lakes and rivers, and winter sports. They take part in scenic drives, day hiking, fishing, birding, wildlife watching, and rafting. Currently, 50% of the visitor tax goes to the general fund which includes support for natural resource management. The tourism industry recognizes that we can be a pathway for invasive species and a resource to promote responsible travel. We're working to spread out the visitor season to include spring, fall, and winter and lessen the impact of the peak summer season on the communities that are stretched for resources. The rise of volun-tourism is one expression of the time and effort visitors are willing to contribute towards supporting the landscapes and species they have traveled so far to see.

Website: <https://discoverkalispell.com/>



Day 2.

October 26, 2022

Welcome

Council speaker: Jane Mangold

Update: Firewood Science Advisory Panel

Council speaker: Amy Gannon, DNRC

MISC has supported the limited staff of the Forest Pest Management team in providing outreach and sharing our messages including “Don’t Move Firewood”. In May, 2022 the Council hosted a Science Advisory Panel on Firewood in Missoula, MT. Background work for this panel began in January 2022 as a suggestion to take on emerald ash borer which evolved as the discussion and planning centered around firewood as the most likely pathway for introducing this and other pest species. The added benefit of the pathway-focused approach is that it addressed other pests as well. Before the panel was convened, we developed a “what we know” document to clarify what gaps the panel could fill in.

“When the panel ends, the work begins.”

During the spring of 2022, the organizing committee developed the purpose statement and questions to address the gaps in our knowledge. The next few months included conversations with potential panelists and work to identify experts who would be available to participate in May as the field season began.

Including the visitor industry Megan Schultz from the Institution for Tourism and Recreation Research helped us understand that there are a lot of messages out there related to travel, safety and the environment. Including firewood in a “recreate responsibly” combined message and working VisitMT.com reduces the communication load and shares the same message regionally. Finding ways to create a unified message across regions and keep updating our communication with stakeholders are areas where we’ll be increasing our effort in cooperation with MISC in the coming years.

WORK SESSION #3: Science Advisory Panels.

Question: What topics would benefit from a Science Advisory Panel review?

- Climate Change
Will the risk for known invasive species change and will native species shift their behavior?
- Invasive annual grass impacts, including the benefits of control, landowner buy-in, impacts to recreation, secondary invasions
- Developing effective messages to change behavior
- Best practices from integrated weed management through revegetation
- Noxious weed pathways: identifying the vectors and improving prevention.
- Feral hogs: What is the plan?
- Feral cat impacts from urban areas to rural populations
- Data sharing and standards
- Impacts of aquatic invasive plant control with herbicides on aquatic plant communities
- Effective techniques for vehicle decontamination from terrestrial weeds and pests
- eDNA technology has evolved, beyond mussels, how can it be used?
- Legislative tools and regulatory harmonization
- Best practices for roadside vegetation management
 - Balance best practices for weed control with providing pollinator habitat and not attracting herbivores to the road.
- Frontiers in control: What has changed that can improve management?
- Praying mantis

Update: Feral Swine in Montana

Speaker: Tahnee Szymanski – Dept of Livestock

The department of livestock is responsible for state regulations related to feral swine. All domestic pigs must be kept behind a fence. Our regulations date from 2015 as we watched other states deal with the impacts of feral swine which were being trapped and spread by people to locations well away from established populations. Over the past few years, sightings in Canada have increased. We worked with MISC to raise awareness and communicate about the threat posed to Montana by feral swine. These animals are landscape architects: they dig and modify wetlands. They predate ground nesting birds, small vertebrates and fawns and provide a disease reservoir that impacts both wildlife and livestock. While there is a hunting culture in Montana, you cannot hunt your way out of a feral swine infestation. Sows can have multiple litters per year and these intelligent animals will scatter and move if exposed to hunting pressure. Another observation from states with feral swine populations is that once a hunting constituency for swine is established there is a demand for more areas and higher densities of pigs leading to more impacts.

In 2022 we conducted a tabletop exercise supported by MISC that included partner agencies. Three areas that will benefit from additional planning include: identifying additional audiences for detection beyond our traditional livestock stakeholders, coordinating responses across diverse land management jurisdictions, and responding to community concerns or sightings.

81-29-102. Control of feral swine. A person, a state agency, or a federal agency authorized by the state or the federal government is allowed to control or eradicate feral swine

WORK SESSION #4: Focused Efforts to Improve Programs and Increase Capacity

Question: What invasive species issues or initiatives should the Council support with focused effort including trainings, jurisdictional review, workshops, tabletop exercises, or outreach?

- Education and Communication: Workshop
 - Targeted communication
 - Audiences: targeted efforts for specific groups including landowners
 - Focus: use the tools we have in-state to improve contact with the right audience.
 - Community-based social marketing
 - Messages that are positive give people a reason to get involved.
 - Develop modules for youth groups like scouts and 4-H
 - Tools that change with the times
 - Social media's role in communication
 - Break the scientific language barrier
 - Constant messaging
 - Promote consistent language
 - Share pre-packaged presentations across agencies
- EDRR: Planning
 - ICS training should be consistent
 - MOUs should be in place prior to rapid response efforts for priority species
 - The means to respond should be identified in advance. Where will emergency funds come from?
- Resources: Planning
 - Consistent funding
 - Invasive Species themed license plates to fund grants
- Climate change: Workshop or Science Advisory Panel
 - Current invasive species will change their behavior and native species' distributions may change. How do we plan for control and revegetation in a changing environment?
- Compliance: Workshop
 - Why are the current laws not fully enforced?
 - Is there an opportunity to modernize reporting?
 - What is the best approach to achieve invasive species control goals?
 - Work with county attorneys to develop a meeting or training that meets their needs.

Success Story 3: Asian Clam at Lake Elmo

Presenter: Craig McLane, FW&P

Asian clams were discovered in Lake Elmo near Billings in summer 2019 during a training event when FWP monitoring staff found several dead Asian clam shells near the Lake Elmo State Park boat ramp. The following month, FWP staff returned to Lake Elmo and conducted an organized grid search of Lake Elmo. Live juvenile Asian Clams were found in 2 locations and dead shells of all age sizes in several locations.

Asian clams were probably introduced by people transporting mud or water on boats and gear. The microscopic larvae can go unseen in bait buckets and livewells. FWP reminds boaters and anglers to clean, drain and dry boats and gear every time they leave the water to help prevent the spread of ALL aquatic invasive species. The clams are also still sold commercially as bait throughout the United States, and in the aquarium trade as pygmy or golden clams. It is illegal to transport bait from out of state.

To control the clams at Lake Elmo a water drawdown was planned. Due to the high number and variance of size in dead clam shells found, it appeared that a recent event killed most of the adult clams. This could have been the harsh winter of 2018-2019. In the 2019 surveys, 5 live juvenile clams were found. This may indicate that the population of Asian clams was just starting to bounce back from a kill event. The best time to draw down the lake level to kill remaining clams is while their densities are low. Drawing down and draining the lake will likely expose the clams to freezing temperatures and dry conditions which could kill the remaining clams in the lake. This was also an opportunity to improve access and community infrastructure around the area to increase fishing opportunities.

Website: <https://fwp.mt.gov/binaries/content/assets/fwp/conservation/fisheries-management/lake-elmo/asian-clams-r5-info-sheet.pdf>



Photo: Amy Benson, U.S. Geological Survey, Bugwood.org

Research hub: Montana Institute for Tourism and Recreation Research

Melissa Weddell, Director, and Megan Schultz – ITRR

Montana's Institute for Tourism and Recreation Research is funded by the lodging tax to provide research. The institute employs a team of social scientists and sends out an RFP every fall for research projects. Data is collected through the traveler intercept surveys which are conducted at neutral locations like airports, gas stations, and rest areas. Past collaborations between ITRR and the AIS program led to changes to the AIS inspection signs making it clear that all watercraft, not just motorized watercraft were required to stop. Reports can be generated by anyone via the website and staff are available to help design a report that meets your specific questions.

Website: <https://itr.umn.edu/interactive-data/instructions-classic.php>

Panel: Sharing Your Message.

Coordinated communications, messages and methods that are better adapted to a changing population.

Speakers: Cassidy Bender – AIS, Jennifer Riddle – Invasive Species Action Network,
Leigh Greenwood – Don't Move Firewood

Council Moderator: Kate Wilson

Leigh Greenwood – Don't Move Firewood

The purpose of our "Don't Move Firewood" campaign is to protect forests by changing human behavior. About half of all US residents use firewood so having message that says "no" is OK as long as it is followed by a message of what we should do next. In developing this message, we asked who residents would trust with information about what to do and the answer was generally state foresters. To tell them what to do, think of effective passive reminders like your dentist uses: a text the day before your appointment. Having these reminders visible where firewood is used acts in the same way. The campaign website has a suite of tools and includes links to local rules to make sure it's possible to find and then comply with firewood regulations.

Cassidy Bender – Aquatic Invasive Species

The sole focus the Upper Columbia Conservation Commission is to prevent aquatic invasive species spread in the Columbia River Basin. Our work is coordinated with FWP and adds on to the media plan 140+ radio PSAs, ads in 2 magazines and 8 newspapers, and a billboard. In 2023 a video content is planned and expanding outreach to public gathering places including brew pubs through themed coasters. We're also reaching trusted sources by providing training to water sport retailers and training watershed partnership members in outreach skills.

Jennifer Riddle – Invasive Species Action Network

"Don't Let It Loose" is both a message and a campaign to reduce the release of pet animals. Not all states have a single point of contact for pet retail locations or provide independent pet store licenses so contact with this industry requires targeted local efforts. Reaching the public is supported by the development of signs for high risk waterbodies and a strong effort to provide classroom education and teacher packets to reach kids. Resources for pet stores include adding this message to the care sheets created for new pet owners and new efforts like sponsoring the fly tying for conservation event that included spotted lanternfly.

MONTANA INVASIVE SPECIES COUNCIL



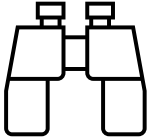
Protecting Montana's Economy, Natural Resources and Public Health.

Invasive species include plants, animals, and pathogens that are non-native to our ecosystem and cause harm to natural and cultural resources, the economy, and human health. Some non-native plants and animals have caused vast damage to our natural resources as well as our economy, despite the tireless efforts of many people to mitigate those impacts.

But other species have not yet become established in Montana. Some, such as feral hogs, and the emerald ash-borer, could have devastating consequences. In recent years, we have greatly improved our system of perimeter defense and inspection stations. However, gaps remain. We are fortunate that Montana remains relatively free of invasive species that have wreaked havoc in other states.

To address this complex problem, the Governor’s Office established the Montana Invasive Species Council (MISC) in 2015. The Council is a diverse group of scientists and resource managers charged with developing “a science-based, comprehensive program to identify, prevent, eliminate, reduce, and mitigate the impacts of invasive species in Montana.” This group of partners developed a comprehensive statewide framework to focus their efforts. In the fall of 2022, the Council met with stakeholders and hosted a statewide summit attended by 200 individuals to develop a revised work plan.

MANY IMPACTS, COORDINATED PARTNERSHIP

	<p>Scientific Advisory Panels The panels, “inform Montana’s efforts based on the current status, trends, and emerging technology as they relate to invasive species management in Montana.” Panels are organized by a subcommittee of the Council, composed of subject experts most relevant to the topic, meet at a public workshop, and share their results via a report.</p> <p>[Upcoming panel topics]</p>
	<p>Impacts of Invasive Species MISC has collaborated with researchers and economists to determine the economic impact of invasive species in Montana, including the potential impact of the introduction of invasive aquatic mussels to Montana waterways and the economic impact of the expansion of eastern heath snails.</p> <p>[Planned impact studies]</p>
	<p>Building capacity and identifying new threats Increased capacity for existing invasive species management programs can overcome barriers to successful management. The partnership will support emerging issues with focused effort including trainings, jurisdictional review, workshops, tabletop exercises, or outreach.</p> <p>[Emerging issues for MISC focus]</p>