



Montana Invasive Species Council

Meeting Materials Packet for September 7th, 2022

Contents

1. Meeting Agenda for September 7th, 2022
2. June 1st, 2022, Meeting Minutes
3. Feral Swine Tabletop Exercise
4. August 2022 Listening Session
5. MISC Roster September 2022

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 152, Helena, MT. Hybrid meeting.



WEDNESDAY, September 7, 2022

9:00 – 9:10 am	INTRODUCTIONS Chair Bryce Christiaens Welcome and roll call
9:10 – 9:30 am	ADMINISTRATIVE BUSINESS *ACTION: June 1, 2022 meeting minutes
9:30 – 9:45 am	MEETING UPDATE - PNWER Liz Lodman & Steve Wanderaas, MISC Tom Woolf, FWP Dr. Tahnee Szymanski, Dept of Livestock
9:45 – 10:15 am	MEETING UPDATE - FERAL SWINE TTX Dr. Tahnee Szymanski, Dept of Livestock
10:15 – 10:30 am	BREAK
10:30 – 11:00 am	PRUSSIAN CARP PRESENTATION Patrick M. Kočovský, AIS Program Manager, U.S. Geological Survey
11:00 am – 12:00 pm	MISC LISTENING SESSIONS REPORT Mindy Wilkenson, Primum Terrae LLC
12:00 – 1:00 pm	LUNCH
1:00 – 2:30 pm	MISC LISTENING SESSION & SUMMIT PREPARATION Mindy Wilkenson & Council members
2:30 – 2:45 pm	BREAK
2:45 – 4:00 pm	PARTNER UPDATES
4:00 - 4:30 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 Passage 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 Passage 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:	June 1, 2022	Time:	9:00 AM
Minutes Prepared By:	Emily Moran and Anna Passage	Location:	Montana Capitol, Room 102, 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), Andy Welch (Hydropower Representative), Paul Rossignol (Wildlife Organization), Charles Headdress (Fort Peck), Bob Cloninger (MT Department of Transportation), Jane Mangold (Montana State University – Extension), Mike Bias (Fishing Organization), Jasmine Chaffee (MT Department of Agriculture), Bob Gilbert (Private Landowner), Dennis Longknife Jr. (Fort Belknap), Amy Gannon (MT Department of Natural Resources and Conservation), Leigh Greenwood (Conservation Organization), Jan Stoddard (MT Department of Commerce), Martin Charlo (CSKT) Steve Tyrrel (Agriculture Representative).</p> <p>Liz Lodman, Emily Moran, Stephanie Criswell, Jorri Dyer</p> <p>Other Attendees: Molly Masters (MRCDC), Ian Foley (MT DoA), Sara Owens, Liz Werk, Cassidy Bender, Dan Rostad (YRCDC), Colin Threlkeld (CEMIST), Bryce Maxell (MNHP), Mindy Wilkinson, Wendy Velman (BLM), Gary Adams (APHIS)</p>			
Agenda and Notes, Decisions, Issues			
Topic	Discussion		
Welcome & Roll call	Bryce opened the meeting at 9:01 a.m. conducted roll call and confirmed quorum.		
Administrative Business	<p>Action Item: Approval of March 2, 2022, Meeting Minutes</p> <p>Motion: Jane Mangold to approve the March 2, 2022, meeting minutes. Second: Bob Gilbert Discussion: None Public comment: None Action on motion: Motion passed unanimously.</p>		
AIS Grant Cycle #2	<p>Liz Lodman, MISC</p> <p>Seven applicants within the second AIS Grant Cycle, one of the applicants was not funded, others received partial funding.</p> <ul style="list-style-type: none"> • Yak Valley Forrest Council, a new applicant for education outreach and monitoring. • Flathead Lake Biological Station for research. • Whitefish Lake Institute, partial funding for improved deacon unit for Whitefish Lake. • Yellowstone Conservation District for videos about Clam Eradication project on Lake Elmo. • Clearwater Resource Council for monitoring on several lakes in the Seeley-Swan area. • Missoula Weed County District for preparation of flowering rush biocontrol agent. • Little Bitterroot Lake Association Project was not funded 		
AIS Update	<p>Tom Woolf, Fish Wildlife and Parks</p> <p>All watercraft stations are open. Intercepted 21 boats with mussels so far, most boats were dry</p>		

docked with dead mussels but some are recently out of the water. These boats are decontaminated, locked and require a dry time. Many boats have recently been purchased from the Great Lakes or online. About a third to quarter of boats are destined for Montana and the rest are headed for Oregon, Washington and British Columbia.

The new [Call Before You Haul](#) program spearheaded by Pacific States Marine Fisheries Commission targets the state's Department of Transportation nation-wide so they can inform commercial transporters about inspection requirements. Commercial transporter calls the number, then the message is transferred to the destination state. Western states work together and share information with each other about commercial haulers.

We have great partnerships with county conservation districts and tribes to manage inspection stations. Over 13,000 inspections conducted so far this season.

Early detection crews are surveying waterbodies; no invasive mussels or other AIS have been detected so far this season.

Tiber reservoir is no longer considered a mussel positive waterbody. FWP continues to survey Tiber and other waterbodies around the state to look for invasive mussels and other AIS. FWP would like more partners to help with early detection and look for AIS.

- Tiber has not officially been delisted, waiting for final notice from Secretary of State office. All Tiber boat ramps are open.

FWP continues to do education and outreach through a media campaign, leveraging the message with partners so we can get the Clean-Drain-Dry message out to the community.

- Recent [AIS video](#) about boots and gear has been shared is well received. Many times, people don't think about waders and hip boots as a pathway to spread invasive species.

Update on neighboring stations and programs:

- All Idaho check stations are open but have challenges staffing stations. Last year they consolidated two stations in Henry's Lake area (Highway 20 & 87) to one location and stopped inspecting north bound traffic last year. They are looking at inspecting north bound traffic this year. This remains a critical corridor for boat traffic into YNP and the Madison river area.
- North Dakota and South Dakota have stations focused on boat ramps. Midwest states are eligible for Water Resource Development Act (WRDA) funds through the Army Corps of Engineer to open stations. Montana conservation districts are encouraging Dakota districts to get involved with inspection stations. Montana's risk reduces significantly if the states work together.
- Canadian traffic remains low but expect an increase this summer. The Eureka station is open. Alberta inspects south bound traffic at Port of Couatts border crossing on I-15.

Steve Wanderaas: Next week at National Conservation Districts norther region meeting in Fargo, Steve, Dean Rogge and Zach Crete will advocate for more CDs be more involved in AIS prevention.

<p>Firewood Science Advisory Panel Update</p>	<p>Amy Gannon, DNRC Leigh Greenwood, North America Forest Health Program Director, The Nature Conservancy</p> <p>The Firewood Science Advisory Panel met in Missoula on May 3-4, 2022.</p> <p>Objectives: To evaluate opportunities for managing out of state transport of firewood into Montana; to optimize the current external quarantine on ash material and understand enforcement or outreach options; to explore opportunities to promote in-state firewood production and commercial distribution while managing forest conditions; and to optimize public outreach by pulling resources among diverse stakeholders.</p> <p>Panelists: Jan Stoddard (MT Commerce), Pat Doyle (MT FWP), Kevin Kanduch (logger), Josh Vlach (OR taxonomist), Megan Schultz (UM-ITRR), Jesse Webster (TN Great Smokey Mountain NP park forester).</p> <p>Day 1: Structured presentations and background information from panelists about firewood as a resource issue. Day 2: More in depth discussion of SAP objectives and development of key findings.</p> <p>Topics centered around markets, policy, and outreach and education. Discussions included firewood exchange feasibility, opportunities for consistent funding, outreach to non-resident hunters, regional firewood policies, target audience demographics, information on firewood sourcing website/app, Made in Montana labeling, obstacles for commercial firewood vendors, markets for small diameter material, and proper corporation labeling of Montana produced firewood.</p> <p>Leigh Greenwood was awarded a hatchet of appreciation for all the messaging she has done for the State of Montana.</p> <p>Discussion:</p> <ul style="list-style-type: none"> • What is risk of pallets as a vector for hitchhiker pests/insects? Interstate movement of pallets are regulated on a state-by-state basis. Probably doesn't have pests but there is no regulation or treatment to guarantee it. Pallets can be used as firewood or re-entered into the commercial environment if facilities are available. Pallets are a separate issue from firewood with different strategies. • What is strategy to inform in-state communities about diseased wood (Dutch elm disease) to prevent movement to another city or county? There needs to be a multi-tiered outreach system to address different risks i.e., movement from out of state and movement within state. Each requires a different communication message. Communication is ongoing with city arborists, MT Urban and Community Forest Association, MT Association of Cities & Towns, Association of MT Turf and Ornament Plant Professionals, and Nursey and Landscape Association.
<p>Montana Salt Cedar Team</p>	<p>Dan Rostad, Yellowstone River Conservation District Council Molly Masters, Missouri River Conservation Districts Council Colin Threlkeld, Central & Eastern MT Invasive Species Team</p> <p>Informational update about Montana Salt Cedar Team and invasive woody plant control to include salt cedar and common buckthorn, which hosts a soybean aphid that would be destructive to crops. Want a long term, wide-scale effort to implement in multiple counties and river systems. Plan to secure funding, build a team and create a strategy that include mapping, outreach, treatment and coordination with conservation districts. The team needs funding and facilitator. Salt Cedar Team has a planning meeting in Lewistown on June 22, 2022.</p> <p>Salt cedar consumes 10 gallons of water per day, which is detrimental in drought areas. It affects the high flow channels in flood plains, causing more erosion to occur. Common buckthorn hosts a soybean aphid that would be destructive to crops. Yet to be determined if Russian olive will be included in the plan.</p> <p>Stephanie Criswell: Invasive woody plants are an "orphan" species that needs attention. Looking to</p>

	<p>MISC for coordination support and partnership with Salt Cedar Team.</p> <p>Discussion:</p> <ul style="list-style-type: none"> • What is status of mapping the extent of salt cedar and common buckthorn along Yellowstone? No maps of common buckthorn. Some mapping of salt cedar. • What techniques and treatment options are being considered? Fort Peck has used arial and backpacking treatment. Yellowstone has treated by boat, atv, cut stump, and foliar. Treatment has not been consistent and shows the need for a coordinator to create a plan, get support/funding and create state-wide management plan.
<p>Feral Swine Response Planning</p>	<p>Liz Lodman, MISC Jared Beaver, Montana State University – Extension, Wildlife Specialist</p> <p>Feral swine authority falls under the Department of Livestock. MISC and DoL are holding a meeting and tabletop exercise with agencies that would be involved in a feral swine response, to identify resources/capacity, and begin process to create an MOU with these partners. The meeting will be held in Helena on June 30, 2022.</p> <p>Discussion:</p> <ul style="list-style-type: none"> • The Pacific NorthWest Economic Region Summit is in Calgary on July 24-28, 2022. One full day will be dedicated to invasive species, feral swine in morning and AIS in afternoon. • The Squeal on Pigs! Campaign provides good resources and is incorporated into many publications, including hunting regulations. Department of livestock receives all calls/reports.
<p>Noxious Weed Education Campaign</p>	<p>Jane Mangold – Montana State University – Extension</p> <p>Noxious Weed Education Campaign coordinator Shantell Frame Martin is a Montana State University employee supervised by Jane. The coordinator position has been funded through noxious weed trust fund grants for the past 10 years. On the ground project funding has come from USFS, BLM, DNRC, MDT.</p> <p>Noxious weed trust fund for last funding cycle only funded the coordinator at 30% of the request. Campaign does not have funding to support the coordinator at full time for another year. Starting July 1, the coordinator will work at ¾ time until February or March for 2023. The campaign activities were prioritized for full, limited, and no capacity and was shared with the steering committee for review. It is unclear what will happen to the campaign after February or March of 2023. This could be an opportunity to re-imagine to an all-taxa campaign that could increase opportunities of funding?</p> <p>Discussion:</p> <ul style="list-style-type: none"> • What is the dollar amount for the coordinator? Currently \$20-\$30k shortfall for the coordinator to be full time. Typically ask for \$70-\$75k to cover overhead and salary. Currently funded at \$25k but have been able to adjust cooperator funding agreements. • Is there a portion of the Noxious Weed Trust Fund available for education? The trust fund can support research, education, development and local co-ops. One pot of money funds all 4 projects. Funding recommendations are based on application scoring, past performance, and remaining funds is taken into consideration for funding recommendations. The money comes from general fund (90k), interest from the trust, license plate fee, federal funding, and reverted money from projects. Also allowed to accept donations (but never received any). • Many comments that this position is very important.

<p>AIS Grant Program Application Revisions</p>	<p>Tom Woolf – Fish Wildlife and Parks</p> <p>The AIS Grant review committee examined the grant guidelines and made revisions to improve the grant application process, make more effective, and address some recurring issues with scoring the grants. See document here.</p> <ul style="list-style-type: none"> • Do applicants have an opportunity to learn why their grant proposal was turned down? Yes, we provide a grant brief with all comments from the grant review committee, good and bad. • Some projects don't fit these criteria, especially capacity building. Will there be an additional category for capacity building? <p>Liz and Emily will word smith and edit the document. Propose to approve the document at an upcoming Executive Committee Meeting agenda.</p>
<p>Framework Update Plan</p>	<p>Bryce Christiaens, MISC chair Mindy Wilkinson</p> <p>Exercises that MISC has conducted on the Framework indicate that some language changes are needed but a major overhaul of the Framework is not needed. The effort has shifted to determining what Framework items should MISC take on. Stakeholder input is needed to identify priorities that MISC can address and will form the MISC workplan. The Summit will revolve around the input received from stakeholder input. Mindy shared the planning document.</p> <p>There will be an opportunity to update the framework and to join the summit planning committee. Focal areas around the listening session and Summit include the following. Please send more ideas to Liz and Emily.</p> <ul style="list-style-type: none"> • Science advisory panel suggestions <ul style="list-style-type: none"> ○ Past review and areas where we can expand • Economic impact of invasive species suggestions <ul style="list-style-type: none"> ○ Can combining efforts between economic and tourism research be beneficial • Suggestions for increased collaboration with law enforcement to improve compliance with existing laws <ul style="list-style-type: none"> ○ Are there laws that would benefit from better coordination or increased enforcement. Discussed deleting "law enforcement" and just say "suggestions for improved compliance." • Suggestions for increased capacity for existing invasive species management programs <ul style="list-style-type: none"> ○ Can we brainstorm unique solutions for capacity needs (people and funding). Council agrees to combine capacity discussion and funding discussion into one. • Statewide priority species for prevention and management • Funding mechanisms and priorities <ul style="list-style-type: none"> ○ Suggested combining this with the capacity topic <p>Suggestion from council to add a question about successful outcomes to focus areas.</p> <p>The council discussed the list of stakeholders and identifying which council members would make contact to invite them to listening sessions. Stakeholders missing from the list includes:</p> <ul style="list-style-type: none"> • Broaden County extension agents to Montana State University Extension agents & subject matter specialists • Universities - faculty, researchers, and professors • Hunters • Firewood, wood products and logging groups • Beekeepers • Irrigation groups/districts • Agri Industries • Hydropower groups/co-ops • Outdoor recreation and tourism <p>It was suggested that focus area questions be discussed at the INCA response training in August and</p>

	<p>that listening session information be provided on website.</p> <p>The council would like background information and a set out questions/discussion points to share when inviting to listening session. Mindy will provide this information. Council members are free to reach out to other constituents not on the stakeholder list.</p> <p>Stakeholders can attend listening sessions via zoom or in-person. Discussion is intended to be informal and written comments will be accepted if someone can't attend the listening sessions. Each session is schedule for 2-hours. Mindy will provide a summary of listening session at September meeting.</p>
--	--

Summit Discussion	<p>The October summit will provide an opportunity to further discuss the priorities that were identified from the August listening sessions.</p> <p>Discussion around Summit priorities include:</p> <ul style="list-style-type: none"> • Hearing from neighboring states • Legislative policy champions • What is the council overlooking and create a path forward to address • Highlight successes in invasive species management • Make this a working meeting that will have a product • Create all-taxa list of invasive species • Share that most invasive plants have been modeled by MNHP <p>To do list resulting from listening session and summit discussion:</p> <ul style="list-style-type: none"> • Revise focus areas based on suggestions • Expand stakeholders lists and which council member will make contact/invitation • Create targeted questions for council member to share with stakeholder invitations <ul style="list-style-type: none"> ◦ Create a one-pager on MISC, who we are, what we have accomplished to share with the stakeholder groups • Identify topics from listening session responses that rise to top, share at next MISC meeting and help formulate the Summit agenda • The product from the Summit will be a MISC work plan with concrete timelines and recommendations and a revised framework.
-------------------	---

2022 Agency & Partner Updates	<p>Jasmine Chaffee: Noxious weed awareness week is June 5-11. Dept of Ag is creating a guide for counties and others to help share information. The Governor has signed a proclamation.</p> <p>Gary Adams: We found one spongy moth and will be putting out more spongy moth delineation traps this week.</p> <p>Leigh: Spongy moth often provide great case studies for rapid response and can be used for success stories.</p> <p>Bob Gilbert: Asian Jumping Worms are in Wisconsin and Minnesota; Montana needs to be on the lookout for them.</p> <p>Bryce Christiaens: There has been a report of a pet nutria on a leash in Missoula.</p> <p>Tom Woolf: Lake Elmo is filled with fish and fish habitat, no evidence of live Asian clams so far. Yellowstone CD has a \$50,000 legislative allocation to targeted clam control and are looking to install a self-contained cleaning station at Lake Elmo that could be used by public to clean boats, beach toys and gear.</p> <p>Bob Cloninger was recognized for his service on the MISC council. Bob is retiring from MDT and this is his last MISC meeting.</p> <p>Jan Stoddard: Report on visitor season, seeing a huge booking for Glacier and Yellowstone National</p>
-------------------------------	--

	<p>Park even with rising gas prices. Tourism industry is trying to disperse people away from heavily traveled areas so you may see recreationists in places never seen before. Expecting more than 12 million visitors this summer.</p>
Wrap-up Adjourn	<p>Location for next meeting will be Helena Capitol on September 7, 2022</p> <p>Public Comment: None</p> <p>Motion: Steve Wanderass moved to adjourn the meeting. Second: Bob Gilbert Discussion: None Public Comment None Action on motion: Motion passed unanimously Meeting adjourned: 3:12 pm</p>

DRAFT

FERAL SWINE TTX - JUNE 30, 2022

AGENCY/ORGANIZATION	FIRST NAME	LAST NAME	EMAIL	Title
BLM	Rebecca	Newton	renewton@blm.gov	Montana/Dakotas Wildlife Biologist
Colorado Parks & Wildlife	Travis	Black	Travis.black@state.co.us	Northwest Regional Manager
DNRC	Mark	Bostrom	mbostrom2@mt.gov	Conservation & Resource Development Administrator
DNRC - Staff	Cassidey	Bender	cassidy.bender@mt.gov	UC3 Commission Coordinator
DNRC-Facilitator	Kate	Wilson*	kate.wilson@mt.gov	UC3 Administrator
MISC	Steve	Wanderaas*	swbarsw@midrivers.com	Vice Chair & Conservation District Representative
MISC	Steve	Tyrrel*	tyrrel@midrivers.com	Agriculture Representative
MISC	Liz	Lodman*	liz.lodman@mt.gov	Administrator
MISC	Emily	Moran	emoran@mt.gov	Administrative Assistant
MSU Extension	Jared	Beaver*	jared.beaver@montana.edu	Wildlife Specialist
MT Dept of Ag	Stephen	Vantassel	svantassel@mt.gov	vertebrate pest specialist
MT Dept of Livestock	Dan	Bugni	dbugni@mt.gov	District Investigator
MT Dept of Livestock	Travis	Elings	telings@mt.gov	Eastern Area Supervisor
MT Dept of Livestock	Tahnee	Szymanski*	tszymanski@mt.gov	Assistant State Veterinarian
MT Dept of Livestock	Clay	Vines	clay.vines@mt.gov	
MT Dept of Livestock	Paul	Johnson	pajohnson@mt.gov	District Investigator - L&C and Cascade
MT FWP	JD	Douglass	jddouglas@mt.gov	Assistant Chief of Enforcement
MT FWP	Lauri	Hanuska-Brown	LHanuska-Brown@mt.gov	Wildlife Manager
National Park Service - Glacier	Dawn	LaFleur	dawn_lafleur@nps.gov	Biologist
Tribal - Blackfeet Fish & Wildlife	Gerald "Buzz"	Cobell	gcobell@blackfeetnation.com	Director
Tribal - Blackfeet Fish & Wildlife	Joe	Hagberg	joe.h@blackfeetnation.com	Chronic Wasting Disease Coordinator
Tribal - Fort Belknap	Dennis	Longknife	dclongknife@gmail.com	Climate Change Coordinator
Tribal - Fort Peck	Charles	Headdress	charlesheaddress@yahoo.com	Vice Chair Fort Peck Assiniboine/Sioux Tribes
USDA-Veterinary Services	Vienna	Brown	vienna.r.brown@usda.gov	National Feral Swine Damage Management Program
USDA-Wildlife Services	Doug	Eckberg	doug.c.eckberg@usda.gov	District Supervisor - East
USDA-Wildlife Services	Kraig	Glazier	kraig.l.glazier@usda.gov	District Supervisor - West
USDA-Wildlife Services	Dalin	Tidwell	dalin.w.tidwell@usda.gov	State Director
USFS	Michelle	Cox	michelle.cox2@usda.gov	R1 Invasive Species Program Coordinator

* planning committee

Montana Feral Swine Response Tabletop Exercise

Thursday, June 30th, 2022

Helena, MT

Exercise Objectives:

1. Work through simulated feral swine response in MT
2. Identify gaps/needs/challenges with current authorities and/or structures across agencies
3. Identify crucial elements of MOU and response guide/plan comments
4. Identify steps forward to ensure a timely and effective response.

Dr. Vienna Brown - USDA APHIS

Vienna.r.brown@usda.gov

Damage, Diseases, and ASF Preparedness/Response Activities

Swine were first brought to the US in the 1500's by explorers as a food source. Estimated there are now 9 million feral swine in the US. Distribution and populations have increased greatly over the past 20-30 years due to:

- Anthropogenic movement (humans moving swine)
- Escapees from fenced farming and hunting operations

Feral swine are fantastic generalists, can eat everything and cause significant damage to

- all types of **agriculture** (either consume or by rooting/wallowing)
- **property** (lawns, golf courses, cemeteries, archeological sites)
- **natural resources** (out compete native fauna, eat eggs of ground nesting birds)
- **risks to humans** (a few known attacks on people) **and animals** (transmit diseases to domestic livestock, prey on lambs/calves)

APHIS National Feral Swine Program

In 2014 APHIS received \$20 million for a National Feral Swine Management Program to serve states where there are feral swine populations. Goal is to minimize damage caused by feral swine to protect agriculture and livestock, natural resources, property, and human health and safety. The program uses a 2-pronged approach:

- Suppress populations in states where feral swine populations are large and widely distributed.
- Eliminate swine in states where populations are low or newly emerging.

Activity and funding are based on 6-level scale:

- Level 5 = States with highest populations (CA, TX, OK, FL)
- Level 1 = States with low populations (ND, OR, NV, AZ, NM, UT, IL, MI, IN)
- Level 0 = No detections (MT, ID, SD, WY, NE, NY, VT and other tiny northeastern states)
 - Montana is level 0 but does receive surveillance support from APHIS because of proximity to Canada.
- Yellow "Detection Status" Level = States that thinks they have eradicated their population. States stay at this level for 2 years and continue to receive funding for surveillance. (WA, CO, MN, IA, WA VT)

2018 Farm Bill funded \$75M for feral swine split between APHIS and NRCS:

- APHIS/\$37.5M: establish and test innovative population reduction methods
 - 35 projects in 12 states (all southeast states from TX, MO, NC and south)

- NRCS/\$37.5M: provide financial assistance to producers for on-farm trapping and technology related to capturing and confining swine.

National Disease Surveillance - Three diseases of national concern

Prior to 2021 APHIS opportunistically collected samples (for historical exposure, not active infections) from feral swine, domestic hog production, and landfills. Annually collect 2,800 samples from across US.

Disease	Percent Positive 2018-2021	
CSF – Classic Swine Fever	0%	Not found in US. Infects swine only
SB – Swine Brucellosis	5.5% to 15%	Infects animals and humans
PRV – Pseudorabies	17.5% to 25%	Fatal to non-swine species

Diseases are not distributed evenly across the US, there are hot spots of activities. (i.e., Texas is greater than 25% for PRV but not across the entire state, just in some counties.)

National Surveillance Approach

Foreign animal disease surveillance system focuses on:

CSF – Classic Swine Fever	Infects swine only
AFS – African Swine Fever	Infects swine only
FMD – Foot and Mouth Disease	Infects all hoofed animals

African Swine Fever was isolated to Africa, then entered eastern Europe 10-15 years ago. In 2018 ASF entered western Europe, China and southeast Asia. Nearly 100% mortality.

Risk factors:

- High risk introduction areas: airline passenger cargo, seaports of entry, landfills (presence in landfills guides surveillance)
- Host risks: domestic livestock population and feral swine populations

Targeted Disease Projects

- CWD, Bovine tuberculosis, leptospirosis, toxoplasmosis, trichinellosis, chagas disease, vesicular stomatitis virus, Zika virus, antimicrobial resistant bacteria, anthrax, swine brucellosis experimental infection, genome-wide association studies.
 - 2021 Caribbean Activities: Hatti/Dominican Republic has ASF.
 - Threatens the U.S. Virgin Islands and Puerto Rico (where feral swine are like pigeons, not “wild” nor fearful of people).
 - APHIS has increased their surveillance of these islands and of states that receive shipments/travel from here: Florida, Georgia, Louisiana, and Texas. Trapping and shooting are not effective tools in these populated areas.

Optimal Culling Radius - ASF Preparedness Activities is 3-2-5 Control Zones

Control area around an infected pig is: 3-kilometer infected zone + 2K buffer zone = 5K control area. Then add a 5k surveillance area.

APHIS is now partnering with industries, states, veterinarian services/partners to model the optimal culling radius. Optimal culling radius = smallest radius to reach elimination with the least amount of culling effort and ASF spread. Best guess is 7 to 15 kilometers for a single point (not multiple ASF infected animals).

Wildlife Services Response Capabilities - Control efforts for ASF

- Detect virus on landscape
- Determine extent of spread
- Carcass removal, testing and disposal
- Feral swine population reduction

Response Tools: (1) surveillance using cameras, drones, and helicopters, (2) live traps with real time cameras and remote trap doors, (3) snares, (4) judas pigs, decoy pigs, (5) fencing, (6) sharpshooters, (7) toxicants.

Dr. Tahnee Szymanski - MT Dept. of Livestock

tszymanski@mt.gov

State regulations on Feral Swine

2015 Legislature: [MCA 81-29-101 to 106](#) gave feral swine authority to Montana Dept. of Livestock (DoL). Legislation developed with Montana Fish, Wildlife & Parks (FWP) and legislators to avoid creating a hunting constituency within the state.

- **Definition of feral swine:** hog, boar, or pig that appears to be untamed, undomesticated or in a wild state or appears to be contained for commercial hunting or trapping.
 - Covers domestic pigs that escape and can revert back to feral state.
- Control of feral swine: a person, a state agency, or federal agency authorized by the state, or federal government, is allowed to control or eradicate feral swine.
 - So far only DoL and USDA-APHIS-Wildlife Services (APHIS-WS), but conversations in the past have discussed including FWP.
- Notification process: a person who knows or has reason to believe feral swine are present on private or public property must notify DoL by phone within 24 hours.
 - Person who encounters feral swine on property they own or lease can eradicate the swine if it poses an immediate threat/harm or if it will expand its range without immediate eradication.
 - DoL does not think this is effective for control of pigs
- Prohibited Actions: importing, transporting, possessing, hunting, trapping, killing, feeding, expanding the range, or profiting from them in any way.
- Hunting of feral swine is not allowed in Montana:
 - Due to reproductive efficiency and movement behavior, they cannot be effectively controlled by hunting practices.
 - Failure to eliminate all animals in the group (sounder) will cause further problems.
 - Animals that have been hunted learn behaviors to avoid hunting pressure, making them harder to eradicate.
 - Pressure applied (hunting) that is not successful in eradicating them, can scatter/move them across the landscape (up to 30 miles a day).
 - Hunting creates an incentive and culture; states with hunting see a growth in popularity around hunting and growing private industry to support hunting.
- Penalties for Violations: \$2,000 to \$10,000 for each violation and repayment of costs for eradication.
- If enforcement costs to DoL goes over \$1k and no federal funds are available, they can then tap into general fund due to this issue impacting more than just livestock.
- Response Plan: will vary depending on the type of report such as feral swine hauled into MT for release/hunting, escaped domestic swine, or ingress of swine from adjacent state/province.

- Emphasis has been on making sure reports go to Helena DoL office when they are received by field staff such as brand inspectors, FWP biologists/game wardens, local sheriff's offices. Use the 406-444-2976, even if you think its fake or not substantial.
- DoL has a contact list they will notify with information about reports received, then determines how to proceed.
- First response is to get DOL officer to the location to confirm sighting (usually it's an owned animal, not feral), if in a more remote area then involved APHIS-WS.
- Initial legislation was well supported because it came through agricultural committees.

Dr. Jared Beaver - Wildlife Extension Specialist, MSU

jared.beaver@montana.edu

Why should Montana care?

Problem

Feral swine are the perfect/worst invasive species. Can survive in most any environment. Will eat just about anything.

- Prolific breeders:
 - Lifespan 4-5 years
 - Sexual maturity in 6-10 months
 - Gestation 115 days
 - Litter size 4-14
 - 1-3 litters a year (breed year-round)
- Few natural predators
- Intelligent and mobile animals that are pressure sensitive, which makes them difficult to control/eradicate
- Cause extensive damage: ~\$2.5 billion annually
- Compete with wildlife for food, water, and space
 - Will prey on wildlife and domesticated animals
 - Consume vegetation (root, trample, dig, plow)
- Damage to agriculture and infrastructure
 - Consume crops
- Damage pasture and rangelands
 - Soil disturbance increases erosion and spreads invasive plants
 - Consume, contaminate, and destroy supplemental feed and mineral sources
- Prey on livestock, mostly calves and lambs
- Transmit disease and parasites to livestock and risk to humans (pseudorabies and brucella abortus)
- Risk to humans: they carry zoonotic diseases, cause E. coli outbreaks, cause injury and property damage

Current Status

- US: Feral pig populations were present in 17 states in 1982 vs. 38 states in 2018
- Canada: Populations expanding out of control in Canada over last 30 years
 - Don't know size and density or disease status
 - Sport hunting is widespread, success rates low
 - No national strategy
 - Transboundary spread is major concern

- University of Saskatchewan grad student regional connectivity analysis shows pigs likely to expand naturally into northern reaches of MT from Canada
- Because they are 2nd most popular game animal in North America, likely to be brought in by humans

Management Response

- Why no hunting? *Not Effective*
 - Modifies behavior and movement
 - Conflicts with trapping efforts
 - Failure to eliminate entire sounder results in further dispersion of animals
 - Once pressured they become more difficult to hunt and harder to eradicate
 - Creates a culture and incentive to hunt more (marketing, private industry, festivals)
 - Monitoring: early detection and reporting (Squeal on Pigs) is critical
 - Emerging technology with real time information on wildlife population occurrences and movement.
 - Q: Does MT have capacity to do the thermal imaging? A: YES. FWP uses in wildlife surveys (detect wounded bear). APHIS-WS has 2 drones and are unaffected by current drone restrictions.
 - Need rapid and strategic response focused on whole sounder removal
 - *Just to maintain control* of a local population you must remove >70% annually
 - This amount of control is incredibly difficult, time consuming, and expensive
 - Education & Outreach:
 - Clear and consistent message, gain public support, disseminate information, continue development of best management practices, and look into trainings/workshops.

Travis Black - Colorado Parks & Wildlife Colorado Case Study

travis.black@state.co.us

In 1996 Colorado Parks and Wildlife (CPW) Commission prohibited possession of wild pigs, but one high-fence facility was grandfathered in. They could not bring additional pigs into facility. They were caught smuggling wild pigs and facility was shut down.

- Big Sandy Creek population (eastern CO) had 250 pigs, suspected this was an illegal introduction because no other pigs in that area.
- Cimarron River population (far southeast CO) has natural corridor of travel from Texas, Oklahoma and Kansas. This was the last know population to be eradicated. All swine looked alike, pink with black spots.
- Problem statement when pigs discovered in 2000:
 - Ambiguous regulations, no clear definition, dual jurisdiction issues
 - No state definition and no clear authority
 - Dual jurisdiction issues with Colorado Dept of Agriculture (CDA) and CPW
 - Neither agency wanted to claim ownership of issue at this time
 - Antiquated CDA statute for not allowing pigs to run at large (fine \$10)
 - Lack of legal definition for distinguishing feral from domestic pigs
 - Popularity of pig hunting growing, providing incentives for landowners
 - A couple landowners were harboring pigs on private lands for sport

- CDA reluctance to get involved until PERS incident with domestic hog production in 2005 resulting in removal of several thousand pigs
- 2005 - Steps to address issues:
 - Educate CPW Commission, develop MOU with CDA
 - APHIS-WS began assisting with removal of Big Sandy population
 - 2009 - develop protocol for addressing sightings and populations
 - Educate field staff how to identify feral pigs
 - Engage with landowners, build relationships and cooperative efforts with county, state and federal agencies and law enforcement to address problem
 - Identify legislative/regulatory fixes *but* none have been made because of limits on CPW for number of bills they can introduce, and this was not considered a priority
 - currently rely solely on regulatory language within CPW and CDA
 - Use new technology/science and create database and map
 - PCA analysis, blood samples, tissue samples
 - Created *Database Submittal Sheet* that wildlife officers fill out after a sighting is reported/investigated
 - Tools: helicopter/ariel shooting, trapping, targeted shooting, game trail cameras, eDNA analysis of water samples
 - 2009 - formed **Colorado Feral Pig Task Force** with CPW, CDA, APHIS-WS, USFS
- 2019 - thought all feral pigs eradicated but in 2020 one pig was found and removed
 - PCA analysis showed pig came from Texas panhandle
- 2020 – Colorado is in *detection status*
- 2021 – CO District Wildlife Manager received anonymous tip about landowner who had pigs, they visited site and landowner admitted to having three ‘javelina’ brought from Texas
 - Pigs were identified as feral swine and destroyed, citation was issued, took blood/tissue samples which tested positive for pseudorabies

Questions:

- Steve W. Q: What is PCA? A: PCA Analysis (principal coordinate analysis) is a mapping effort looking at DNA in blood/tissue samples to identify source population from the sample.
- Charlie Q: What is pseudorabies and impact of it? A: Similar to rabies in symptoms, can cause abortions in livestock and infect other domestic pets.
- Steve T. Q: What was timeline for eradication? A: 1985 earliest antidotal evidence of feral swine in state, 1990s some pigs were killed, early 2000s ~400 pigs identified, 2009 started working toward eradication. Took more than 10 years to be comfortable saying pigs were eradicated in CO.

Kate Wilson – DNRC

kate.wilson@mt.gov

Overview of National Incident Management System (NIMS)

- Used for all kinds of incidents by all types of organizations at all levels of government- very scalable depending on type of incident (both emergencies and planned events) that need high level of coordination and organization among multiple agencies
 - MT examples: aquatic invasive species detection response, fires, COVID, flooding, etc.
 - Established common process, enables coordinated responses, and utilizes resources.
- Use ICS (Incident Command System) to guide process and planning of response in Montana (flow chart of command):

- *Incident Commander*- determines scale and need of ICS team
 - *Public Information Officer*- internal/external communication with media, public, landowners
 - *Liaison*- information between agencies and landowners
 - *Safety Office* – weather, other events
 - *Operations Section* – determines tactics and activities on the grounds
 - *Planning Section* - writes plans, documentation
 - *Logistics Section* - orders supplies, resources, and tracking
 - *Finance Section* - track financial expenditures, document funding
- Steve W- Recommends taking [ICS 100 course](#), very beneficial before response planning, available for free online

List of Acronyms

AFS	African Swine Fever
APHIS	Animal and Plant Health Inspection Service (agency under USDA)
APHIS-WS	Wildlife Services (operational program unit under APHIS)
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CMR	Charles M. Russell National Wildlife Refuge
CSF	Classic Swine Fever
CWD	Chronic Wasting Disease
DES	Disaster and Emergency Services
DOI	Department of Interior
eDNA	Environmental DNA
FMD	Foot and Mouth Disease
GNP	Glacier National Park
ICS	Incident Command System
MOU	Memorandum of Understanding
NIMS	National Incident Management System
NPS	National Park Service
NRCS	National Resources Conservation Service (agency under USDA)
PCA	Principal Component Analysis
PRV	Pseudorabies
SB	Swine Brucellosis
USDA	United States Department of Agriculture
USFS	US Forest Service
USFWS	US Fish and Wildlife Service

Montana Feral Swine Response Scenario

- Real Time Scenario: June 30th, 2022
 - Two sounders of feral swine were reported this morning on the Canada/US border near the Chief Mountain port of entry in Glacier National Park (port closed).
 - Sounder one was reported to be approximately ~8-10 in number of various size and colors. The report was made at 0615 AM by a Glacier National Park employee hiking on day off. Swine spotted ¼ mile south of the border along the Belly River in riparian/wetland area.
 - Sounder two was reported to be approximately ~12-15 in number of various sizes and colors, though mostly large (adults) and black in color. The report was made at 0700 AM by a visitor (wildlife researcher out of Texas familiar with feral swine) near Lee Creek on Glacier National Park and Blackfeet Nation border.
 - At 14:05 today a 3rd sounder was detected by Blackfeet elder who was fishing on Pike Lake. Location described as a cattle field on east shore of lake.

Breakout Group Team Kraig/Awesome:

- **MOU creation:**
 - Best case scenario: have MOU signed in advance with 5-year term.
 - Identify what initial detection capacities are, would recruit other agencies if more capacities are needed.
 - Include specifications and contacts in MOU: local law enforcement, other agencies, NPS law enforcement (federal service), border patrol, etc.
 - GNP Superintendent emergency order gives authority for immediate response but need MOU in place for any further authorities beyond rapid response (such as surveillance, control, etc.), MEPA/environmental impact assessment is needed for long term response.
 - NPS has national invasive species policy that GNP follows.
 - Trespass cows are treated differently than pigs, pigs are automatically “guilty until proven innocent” and would initiate more of an invasive species response.
 - USFS has agreement with APHIS-WS so do not need to go through that process.
 - APHIS-WS has Feral Swine EIS – can USFS tier on that?
 - Good idea for USFS to show national analysis already done but will still need to develop a localized analysis.
 - **Action:** Vienna to investigate National Park Service (Great Smokey, Big Bend) and other interagency agreements, NEPA, policies, actions, opportunities, and challenges and send information to Liz. Find examples we could model.
 - Establish relationship with Transboundary Feral Swine Working Group, look into decision tree and response plan (Canadian Cooperative Health Cooperative - Marnie Zimmer).
 - MOU with tribes in advance to have authorities and response in place, would need to get approved by tribal council.
 - APHIS-WS has existing MOU with Blackfeet & Fort Peck Tribes for operations related to all wildlife.
 - FWP would follow lead of DoL. Capacity of game wardens is available if order came from governor’s office (for this scenario FWP response would come from Region 4).
 - Would need *joint* command system (team command over one team) – state/federal/tribal.
 - MOU needs to be in place before a team could be stood up.
 - Definitions can be adopted but specific actions that can be taken need to be outlined in the MOU.

- Command from tribes would come from disaster and emergency services staff along with wildlife staff (Buzz).
 - DOI/USFWS, CMR and other wildlife refuges need to be in MOU. Contact Alberta Invasive Species group for their feral swine work/resources.
 - Distribute MOU to all partners when developed to close the loop on pre-planning activities.
 - Engage with Tribal Historic Preservation Office because impacts might affect cultural sights.
 - **Action:** Michelle to send Liz USFS programmatic policies/biological opinions to operate.
- **Initial Response:**
 - *MOU*- review and sign in advance (Livestock would be the holder of the MOU with signatories that would change depending on the location of incident) and have in place for ALL agencies.
 - Separate MOUs for tribes unless went through entity like BIA.
 - If NPS requests DoL for initial response needs, they can go. NPS has authority for initial response, the MOU is needed for prolonged response.
 - Signatories: State of MT (to authorize all agencies), GNP superintendent (Dave), USFS regional forester (Leanne), APHIS-WS regional director (Dalin), BLM, BIA (consult with tribe's wildlife and cultural staff), USFWS, border patrol (if crossing), BOR, DOI; add on private landowners around location of incident.
 - Can existing national, fire, and other MOUs apply?
 - 5-year max lifespan on MOU, can renew and reapprove with tribal councils.
- **Notification:**
 - Phone tree, local DES/emergency response resources
- **Verification**
 - DoL Investigator (one on each side of state) would be deployed right away to verify feral swine
 - Need to identify what the GNP policy is for illegal livestock
- **Tools, Resources, Training:**
 - Trail cameras (need daisy chain for signals in remote areas)
 - Drones and thermal imaging
 - Local brand inspector with local law enforcement resources
 - Horses, ATVs, helicopters
 - APHIS-WS personnel on the ground and ariel
 - Flight locations: Helena, Turner, and Billings
 - Night flight with thermal imaging is not an option for helicopters yet but is currently possible with drones (nocturnal tendencies of swine aside we are confident you will find them during daytime flights)
 - Training for detection: federal/state/tribal, extension agents, citizen scientists
 - Future need: Live traps and training for how to use, disposal equipment (dynamite), detection dogs, eDNA/PCA collection and analysis.
 - How do you mitigate non target species?
 - Use attractant/scent for traps?
 - Cell phone cameras for remote closing of traps

Breakout Group Team Tahnee:

- **Step 1:** Identify land ownership to determine response
 - This scenario requires additional notification of landowners (NPS/tribal)
- **Step 2:** Seek/acquire permissions for access
- **Step 3:** Survey of situation
 - What is damage, exact location, what does access look like, number of pigs, confirmed they are wild, tools in house vs. what is needed, special consideration (baiting traps, threatened and endangered species)
- **Step 4:** Education and Outreach:
 - Trainings and workshops for both managers/responders and the public
 - Joint material development
- **Next Steps:**
 - MOU with agencies: national parks, USFWS refuges, tribes, BLM, USFS, DoL, FWP*
 - *FWP efforts must tie to a threat to fish/wildlife in order to respond
 - Possibly include Customs & Border Protection, BOR, Dept of Defense, Canadian provinces, and veterinary services in MOU
 - APHIS-WS makes agreements with private landholding (work initiation document)
 - Tools: cameras, traps, helicopter, firearms, disease/health (PCR, blood/tissue samples)
 - Monitoring needs: eDNA, cameras, thermal UAV
- **Needs/ Challenges in current structure**
 - Is water quality surveillance needed
 - Bears and threatened/endangered species will impact trapping/baiting
 - Tree/brush cover can limit ariel gunning
 - Sustained funding

Action Items

MOU Creation with statewide partners, each national park, wildlife refuge, and tribe.

- **Action:** Liz/MISC takes lead on drafting MOU. All participants help guide MOU through your agency.
 - **Action:** Liz find existing MOUs regarding search/rescue or fire that would relate to our ariel operations or surveillance needs.
- **Action:** Vienna to investigate National Park Service (Great Smokey, Big Bend) and other interagency agreements, NEPA, policies, actions, opportunities, and challenges and send information to Liz. Find examples we could model.
- **Action:** Michelle to send Liz USFS programmatic policies/biological opinions to operate.

Feral Swine Response Plan

- **Action:** Tahnee takes lead to enhance DoL feral swine response plan, add steps about jurisdictional issues, who needs to know what, and eradication expertise falls to APHIS-WS.
 - **Edits:** Clarify #2, what is meant by public land (state or federal). Combine/clarify #8 and #9.
- **Action:** Create 2nd tier notification list for local contacts depending on location of report, including Canadian provinces and parks.

Glacier Park Considerations

- **Action:** (Dawn?) check into use of attractants, authorization for traps, food restrictions, detection dog quarantine, and night shooting.

Next Steps

- **Action:** Liz and Tahnee create Annual Report, number of reports per year, response planning, and other activities.
- **Action:** Tahnee adopt Colorado's *Database Submittal Sheet* to collect uniform information on reports.
- **Action:** Travis send copy of Database Submittal Sheet and field officer training presentation.
- **Action:** Jared/MSU Extension take lead on feral swine training/education component (with input from Tahnee and Dalin).
- **Action:** Conduct another round of public meetings educating the public on feral swine with consistent messaging.

Montana Invasive Species Council

2022 Stakeholder Listening Sessions

Purpose: To have a substantial multi-party discussion with stakeholders in preparation for developing a Council Work Plan and updating the Framework.

The Montana Invasive Species Framework was developed in 2016 to lay out the areas where the Council’s efforts would have the greatest impact. The Framework was reprinted in 2019 and the objectives remain relevant. Only minor updates to this document are requested at this time and prioritized actions identified in the framework will be included in a Work Plan. The process of identifying priority tasks to include in a Council Work Plan created an opportunity to reach out to a broader audience of stakeholders for feedback. This document summarizes the issues are currently driving their work and what issues they feel Council should focus on in the short term.

During the June 1, 2022 MISC meeting, members were asked to identify constituent groups that they represented or identified as partners. Between June and August, over 110 individuals were contacted via phone, email, and personal visits and asked to participate in the Council’s listening sessions. A survey form was developed and 8 individuals responded with detailed written comments, 2 of whom also joined the live discussions held on August 25 & 26, 2022 in Helena. In total, 55 individuals participated in one or more listening session over the two days and were from federal, state, and county agencies, tribes, industry, and non-profit groups.

The comments received have been summarized by category without attribution. The suggestions, issues and comments will be used to shape the discussions at the third MISC Invasive Species Summit October 25 and 26, 2022 in Helena where the issues discussed at the listening sessions will be prioritized in the final MISC Work Plan.

Common themes	2
Background: What are the issues and concerns impacting your work now?.....	3
Quantifying Impacts	4
What new invasive species or pathways are you concerned about?	5
Species of concern:.....	5
Pathways:	5
Science Advisory Panels	6
Focused Effort	7
Capacity.....	7
Information gaps	8
Compliance	8
Communication	10

Common themes

Clear, consistent communication across jurisdictions was cited as an ongoing challenge. Beyond data sharing and reporting new observations, progress in treatment is not currently well captured.

The construction and stocking of recreational or private ponds was identified as a source of aquatic invasive species including species transported with fish for stocking.

Inconsistencies between counties within a weed district were frustrating to managers.

Gravel pits are an area where there is a mandate to source weed free gravel, but limited oversight and certification is available locally.

Aquatic invasive plants impact Montana's waters but the tools to remove them from trade, communicate their risk, engage the public in surveys, and understand their distribution and risks have been limited.

Fully funded communication specialist positions are needed to bridge experts and managers with the communities they serve. Communication takes time, requires a set of skills, and must adapt to the changing demographics of Montana's population.

Holding a workshop on communication to identifying best practices, opportunities to share messages, and identify the specific support positions needed would benefit multiple partners.

Policies to limit the risk from moving vegetation harvested along roadsides (leases that allow haying along MDT right of ways is an example) are lacking.

Consistency in policy and enforcement across borders allows for improvements in sharing resources, communication, and compliance.

Background: What are the issues and concerns impacting your work now?

Workforce development and retention. Finding housing in many areas can be difficult and limits both recruitment and retention for a variety of jobs related to invasive species management including watercraft inspection.

The increasing cost of living has made many positions harder to fill and increases staff turnover.

Demographic change. From an increasing rate population growth from newcomers to the state to a shift towards small parcel development by younger property owners without a background in managing land there are new audiences for messages about invasive species.

The increase in visitors to the National Parks has come with increased dispersed camping and use in the surrounding areas that have little infrastructure to address the impacts of this use.

Destination experience organizations (resorts, guest ranches) have moved from promotion to active stewardship of the landscapes that support visitor experience tourism. Connecting with Guides and Outfitters to ID and report invasive species expands capacity.

Acknowledging that agriculture training and outreach programs now serve a broader variety of “working lands” and that the demands on Extension have shifted to include urbanizing areas. And... urbanizing areas are no longer confined to the city centers in Montana. Smaller towns are seeing rapid growth.

Outbreaks of native species like grasshoppers have dominated producer’s pest concerns this past year.

Quantifying Impacts

- Is there a better way to present the impact of an invasive species besides one number? What is the best way to describe the value of managing invasive species?
- What are the impacts of dreissenid mussels on MDT infrastructure like culverts and bridges? What impact would the mussels have on recreational fisheries? What is the expected impact to irrigation infrastructure?
- What is the cost/benefit of prevention? How does funding prevention impact the efforts to control established species?
- What is the cost of Emerald Ash Borer establishing to Montana's urban communities?
- What impact will feral hogs have on land managers and producers? What is the cost of prevention vs ongoing management?
- What will the impacts of herbicide resistant weeds like Palmer amaranth and waterhemp on irrigated agricultural systems be for producers?
- What are the benefits of requiring weed free materials?
- What is the impact of fish importation and associated spread of pests and disease?
- For species that are not yet widespread, what is known about their impacts elsewhere?
- What is the impact of weeds on private grazing lands?
- What is the cost to small landowners and homeowners to control listed Noxious Weeds?
- What is the impact of introduced annual grasses?

What new invasive species or pathways are you concerned about?

Species of concern:

- **Annual grasses aka Early Season Invasives**
 - Ventenata
 - Cheatgrass
- Buckthorn
- Turkish hawkbeard
- Free-range domestic cats
- **Zebra and Quagga mussels**
- Invasive birds including pigeons, house sparrows, starlings
- Prussian carp
- Diseases that import exports.
Example: *Ditylenchus dipsacii* (dry pea)
- Wheat stem sawfly
- **Herbicide resistant weeds**
(Palmer amaranth, waterhemp, are both on the seed list only)
- *Alyssum desertorum*
- The impact of Emerald Ash Borer on riparian tree cover.
- Aquatic invasive plants
- Salt cedar
- **Feral hogs**
- “Native to the US...east of the Divide” like bullfrogs and red-eared sliders.
- Northern pike
- Invasive diatoms and zooplankton
- Common buckthorn
- Spongy moth
- Asian long-horn beetle

Pathways:

- Private ponds. Lack of inspection at private ponds leaves gaps in detection.
- Roadside leases to cut and bale hay benefit MDT but can spread weeds.
- Crops that have been damaged and are not harvested for their intended market are occasionally made into hay and sold as forage. Potential to spread insects and weeds.
- The import of hay and forage after disasters including fires can pose risks not currently mitigated by existing clean forage certifications.
- Ornamental plants in trade that are either highly visible so they are assumed to be OK, or are being newly introduced via landscaping and gardening.
- Unregulated trade in AIS plants.
- Urban forests exposed to wood packing material, nursery stock, and other risks yet there are few resources to diagnose sick trees for new pests.
- Risk with the movement of agricultural vehicles between fields is mitigated with a requirement that equipment must be cleaned when leaving quarantine areas. This does not currently apply to non-quarantined pests.

Science Advisory Panels

Aquatic Invasive Species:

- Follow up: have the recommendations for eDNA and sampling locations changed over the past 5 years?
- What are the barriers to within agency compliance with existing AIS regulations? Do staff have the resources to comply?
- What new control methods are available for dreissenid mussel eradication?

Terrestrial Invasive Species:

- Develop annual invasive grass population prioritization and control methods. How do annual grasses change ecosystem function in wildlife habitat values? How can they be comprehensively managed?
- How should invasive species management practices be modified to cope with a changing climate? Climate change will increase the risk from some invasive species and new pathways will open. What are our future risks?
- Preventing the spread of invasive species during natural disaster response including wildfire and flooding requires pre-planning, what is needed?
- Applying Comparative Risk Assessment procedure to prioritize invasive species that have economic and environmental impacts. How should small populations of new invasive species be ranked and evaluated for a rapid response effort?
- Restoration after invasive species removal can be complicated by the secondary invasion of other species. What are the recommended pathways to effective restoration in Montana?

Focused Effort

Capacity

What would improve the response to invasive species in Montana?

Dreissenid mussels:

- A second large scale mussel response may not have the same tools available as the first response. Containment may be limited to actions that reduce the impact on the resource users and access closures may be more difficult to accomplish.
- What other tools will be available? Clarifying the legal and practical use of products and techniques to control mussels is needed.
- Resources available for sampling or monitoring do now allow the collection and processing on the time scale needed for a rapid response.
- Would it be possible to coordinate check stations across state borders? What would need to be in place?

Prevention:

- Having the capacity to monitor pathways would allow a less reactive focus on invasive species management.
- Prevention requires consistent investment and funding levels are unpredictable or are narrowly tied to one species. Consistent prevention investment is needed.
- Increasing capacity to identify and delimit aquatic invasive plants by training staff who do field monitoring in riparian areas and wetlands would increase capacity.
- Build capacity of sniffer dogs that can detect invasives.
- Quickly identifying pests and pathogens in urban trees is needed as both native and established pathogens are changing their behavior with climate change and new species are introduced.

Funding, communication, research:

- Staffing shortages have many causes but addressing pay levels should be considered.
- Long term prevention requires steady, proactive funding.
- Fully funded permanent professional communication positions are needed to improve public understanding and cooperation with invasive species management.
- Building and regularly maintaining regional directories of staff who manage lands and waters would improve reporting and response to invasive species.
- Support positions that provide identification services. Stagnant funding to the National Plant Diagnostic Network and Extension Implementation Program has reduced programmatic capacity.
- Training for new diseases and agricultural pests of concern directly to existing MDA and Extension staff.
- Aquatic invasive plants are not regulated to the level that AIS animals are and so are not included in surveys that would allow an accurate assessment of their distribution or impacts. Response is currently limited and management options should be reviewed including a strike team.
- Model predicted invasion risk of invasives under future climate scenarios.
- Improved reporting and data flow for terrestrial invasives between observation and response by the appropriate agency. Increased capacity for partners to collect data.

- Identify tribes with weed management plans who would like to have assistance updating the documents to increase access to grants.
- Which groups are being missed by current outreach about invasive species regulations?

Information gaps

- Forecasts of invasive species impact based on risk of invasion maps.
- Share data about water quality and conditions to predict which water bodies are at the highest risk from dreissenid mussel establishment.
- Identify where boaters are being missed. This could build on the Fort Peck surveys by determining state entry points, time of day for travel, and path.
- What AIS policies have had the greatest impact? What are the remaining gaps?
- What are the risks associated with the movement of fish into private fishing ponds?
- What is in place to manage new populations of high priority aquatic invasive plants?
- Is there a comprehensive way to address invasive annual grasses?
- How quickly could approvals be in place for a rapid response? Would an EA be needed for each AIS plant targeted for rapid response or could there be blanket coverage?
- Where can partners find information about grants that are currently available for invasive species management or messaging?
- Removal of invasive grasses vs improving the health of a rangeland may lead to the desired outcomes for productivity, diversity and sustainability. Does management to improve range health meet the same goals as invasive species control?
- Regenerative land management encourages looking across the landscape instead of managing individual species. How does this approach impact noxious weeds?
- What is in place to manage new populations of high priority aquatic invasive plants?

Compliance

- Draft a summary of the invasive species laws and their agency contacts for all partners. [Completed in 2018: <https://invasivespecies.mt.gov/misc/docs/Law-Review-Compendium-October-2018-1.pdf>]

Aquatic Invasive Species:

- Working through regional partner organizations, participate in a legislative panel promoting harmonized regional regulations and fines for AIS.
- Reducing barriers to boaters obtaining a prevention pass. Allowing FWP to include this pass in an app that allows out of state boaters to purchase permits would also allow a short training opportunity. Businesses that provide fishing licenses should also be able to provide the pass. Not having a visible sticker is a missed opportunity.
- FWP wardens that conduct boat safety inspections to include AIS.
- Drive by rates for AIS inspection stations are a concern.
- Where are boaters and anglers being missed? Survey users or identify other methods to clarify where bypass is happening with the current inspection stations.
- The \$10 fee to record the building of recreational or private ponds does not cover the cost to inspect and enforce rules related to the transport and introduction of fish.

Noxious Weeds:

- What is a reasonable standard of compliance with the Noxious Weed Laws, what is the economic or ecological threshold for suppression that is expected? Should the County Weed Control Act specify a threshold?
- For organic growers and landowners to prefer not to use herbicides, what is the efficacy of non-chemical control and what are the current best practices for this approach? This summary should be included in the county letters to landowners.
- The turnaround time between identification of a weed law violation and action is longer than the duration of the control window for species of concern.
- Renewing the effort to reach all residents about Noxious Weed Laws and their purpose. Weed Boards should have more capacity to reach landowners to encourage compliance before complaints are filed.
- County attorneys should be included in efforts to provide education about Noxious Weed Laws. There is variation between counties in the application of the law.
- Identify ways to work across landscapes and between counties for high impact weeds.
- The regional order to use weed free material could be improved if enforcement staff had the authority to check tags on certified weed free material.
- Allow noxious weed reporting to be anonymous to protect residents from disputes with their neighbors.
- Updating State and County Noxious Weed Lists to promote consistency of response within the state. The County Weed Act needs to be rewritten and simplified. Including the Weed Board in response delays meaningful action.
- Identify ways to work across counties to address high impact invasive weeds. Interstate coordination of listed weeds could support a regional approach to control.
- Improve communication and compliance with specific landowners including railroads, utilities, and mining operations for noxious weed control. Federal and state partners may have gaps in their management coverage that allows for the buildup of listed weeds. For example, block management occurs every 10 years and is not able to adequately address the spread of weeds.
- The application for gravel pits does not allow for meaningful feedback on the risk posed by the movement of materials.
- Encourage public land users of all types to comply with weed seed removal.
- Contaminated batches of seeds are still a risk. Improved compliance with seed laws are needed.
- Allowing haying along roadsides requires a permit but the permit conditions are not enforced. Weeds along road corridors creates a high risk for the hay produced in these areas.

Forestry:

- Increasing consistence between state and private lands for equipment decontamination would reduce risk.

Jurisdiction and cooperation:

- Jurisdictional issues make it unclear who is the lead for managing invasive species across landscapes. For Tribal lands, it could be BIA, Tribe, State of MT, Aphis or USFWS and for the Crow Reservation, there is 1 staff for 2+ million acres.
- Establish support for compliance with weed control requirements for leases of tribal lands that are not currently enforced.
- Establish protocols to reduce disease transmission and pest spread by commercial tree trimmers working in urban areas.
- Engaging with agencies that focus on commerce could better address the risk from organisms in trade.

Communication

Aquatic Invasive Species:

- Non-residents may not be reached by local aquatic invasive species outreach. Which groups are being missed?
- Broadening the effort to contact out of state boaters should include other points of contacts including campground hosts and possibly new ambassador positions at boat launches. Could other visitor industry partners assist with training ambassadors?
- Painted messages at boat launches can be expanded.
- Increased penalties for drive-bys for avoiding AIS inspections.
- Fishing Access Sites are a place where there is an opportunity to increase messages about AIS prevention.
- Making sure that Montana is included in horizon scanning work to identify what species are being moved in trade. The contact will be via the Western Regional Panel and the Columbia River Taskforce. New species of concern can include both familiar threats like Northern Pike and new ones like invasive diatoms and zooplankton.

Noxious Weeds:

- Reporting on invasive species management focuses on acres controlled. Because prevention is so important, how can the need to contain species before they become widespread be measured and encouraged?
- What are the techniques being used successfully to reach small scale landowners in urbanizing areas? This is not a traditional target for Extension staff. What other models have been used to add landowner contact specialists in other states?
- Whether it is related to equipment, plants for planting, or fill, the message “don’t move dirt” covers a lot of ground.
- Don’t forget the basics. Clear information about standards for weed control and how to contract for or carry out restoration is still needed for landowners.
- Increase the adoption of weed seed free hay with backcountry hunters and recreationists.

All Taxa

- Ongoing education is needed about what laws apply to invasive species.
- Tribal specific outreach building on the knowledge from members who have experience managing invasive species through their work.

- For agencies that have their own communication capacity for their programs, the move to all-taxa communications will be challenging.
- Invest in better user interfaces for existing databases to allow the information to reach a broader audience.
- Work jointly with the USFS to common forest management goals across landscapes.
- While Clean, Drain, Dry and Don't Move Firewood have been a good cooperative messaging opportunities, the Hungry Pests campaign focusing on preventing agricultural pests and diseases should be tied into annual communication efforts.
- Shifting to modern communication strategies that target the different audiences with short videos, photos and messages that are delivered in smaller pieces instead of the traditional newsletters is needed to reach the public.
- Is there message fatigue in adding more invasive species regulations and prevention messages to constituent groups?
- What are the currently used databases for tracking invasive species in Montana? How can they be more user friendly and easily shared?
- Interjurisdictional protocols for reporting new invasive species should be revisited and updated annually.



2022 MISC Membership

Executive Committee

County Weed Districts

Bryce Christiaens, Chair
Weed District Manager
2825 Santa Fe Court
Missoula, MT 59808-3916
406-258-4217
Bryce@missoulaeduplace.org

Conservation Districts

Steve Wanderaas, Vice Chair
Private Landowner, CD Supervisor
664 MT Hwy 201
Vida, MT 59274
406-525-3641
swbarsw@midrivers.com

MT FWP Representative

Tom Woolf, Vice Chair
AIS Bureau Chief
P.O. Box 200701
Helena, MT 59620
(406) 444-1230
twoolf@fwp.gov

MISC Administrator

Liz Lodman
Montana Invasive Species Council
PO Box 201601
Helena, MT 59620-1601
406.444.0547
liz.lodman@mt.gov

Agriculture

Steve Tyrrel
Integrated Ag. Services, Vice President/CEO
141 Homestead Road
Lavina, MT 59046
406-855-7600
tyrrel@midrivers.com

Blackfoot Nation

Gerald Cobell
Blackfoot Fish and Wildlife Department
24 Starr School Road
Browning, MT 59417
406-338-2430
gcobell@blackfeetnation.com

Chippewa Cree

Brandon Gopher
Box Elder MT 59521
brandon@chippewa-cree.org

Confederated Salish and Kootenai Tribes

Martin Charlo
P.O. Box 278
Pablo, MT 59855
406-675-2700
martin.charlo@cslt.org

Conservation Organization

Leigh Greenwood
Nature Conservancy, Don't Move Firewood
Campaign Manager
255 West Front Street
Missoula, MT 59802
406-544-5099
lgreenwood@tnc.org

Fishing Organization

Michael Bias
Fishing Outfitters Association of Montana
mikebias@3rivers.net

**Fort Belknap Indian Community**

Dennis Longknife, Climate Change Coordinator
PO Box 983 Harlem, MT 59526
656 Agency Main Street
Harlem, MT 59526
C: 406-390-5690
W:406-353-8348
dclongknife@gmail.com

Fort Peck Assiniboine & Sioux Tribe

Charles Headdress
Vice Chairman
PO Box 935
Poplar, MT 59255
(406) 768-7668
cheaddress@fortpecktribes.net
charlesheaddress@yahoo.com

Hydropower Representative

Andy Welch
NW Energy, Hydropower Compliance Specialist
208 N. Montana Ave. Ste. 200
Helena, MT 59601
406-444-8115
andrew.welch@northwestern.com

MT Dept of Ag Representative

Jasmine Chaffee
302 N. Roberts
Helena, MT 59620
W:406-444-3140
C: 406-461-9207
jchaffee@mt.gov

MT Dept of Commerce Representative

Jan Stoddard, Bureau Chief
Industry Services & Outreach
301 S. Park Ave.
Helena, MT 59620-0533
406-841-2894
jstoddard@mt.gov

MT DNRC Representative

Amy Gannon
Pest Management Specialist
2705 Spurgin Road
Missoula, MT 59804
406-542-4283
agannon@mt.gov

MT Dept of Transportation Representative

Jason Allen
PO Box 201001
Helena, MT 59620-1001
406-444-6991
jallen@mt.gov

Private Landowner Representative

Bob Gilbert
PO Box 1228
Sidney, MT 59270
406-439-1939
elkbug@hotmail.com

University Extension

Jane Mangold
MSU Ext, Noxious Weed Specialist
P.O. Box 173120
Bozeman, MT 59717-3120
406-994-5513
jane.mangold@montana.edu

Wildlife Organization

Paul Rossignol
fshnwalli@msn.com

Vacancies

- Crow Tribe
- Little Shell Tribe of Chippewa Indians
- Northern Cheyenne Tribe



Agency Representatives

U.S. Army Corps of Engineers

Patricia Gilbert
Natural Resource Specialist
PO Box 208
Fort Peck, MT 59223
406-526-3411
Patricia.l.gilbert@usace.army.mil

U.S. Bureau of Land Management

Wendy Velman
Botany Program Lead
Montana/Dakotas State Office
5001 Southgate Drive
Billings, MT 59101
406-896-5032
wvelman@blm.gov

U.S. Bureau of Reclamation

Cara Riwai-Couch
7794 Folsom Dam Rd.
Folsom, CA 95630
916-537-7000
criwaicouch@usbr.gov

U.S. Customs and Border Protection

Nadja Seymour
Agriculture Specialist
Co-Chair Pest Risk Committee
39825 Interstate 15
Sweetgrass, MT 59484
406-335-2282
Nadja.c.seymour@cbp.dhs.gov

USDA Animal, Plant & Health Inspection Service

Gary Adams
State Plan Health Director
1629 Ave D., Suite A-5
Billings, MT 59102
406-657-6282
Gary.d.adams@aphis.usda.gov

U.S. Forest Service

Michelle Cox
Invasive Species Program Coordinator
Northern Region (R1)
26 Fort Missoula Road
Missoula, MT 59804
406-329-3669
michelle.cox2@usda.gov

USDA Natural Resources Conservation Service

Monica Pokorny
Plant Materials Specialist
10 East Babcock Street, Room 469
Bozeman, MT 59715-4704
406-587-670
Monica.Pokorny@mt.usda.gov

U.S. Fish & Wildlife Service

Jessica Zarate
Invasive Species Strike Team
4567 Wildfowl Lane
Stevensville, MT 59870
406-544-2552

Bill Sparklin
Invasive Species Biologist
922 Bootlegger Trail
Great Falls, MT 59404
406-727-7400
william_sparklin@fws.gov

Yellowstone National Park

Steve Bekedam
PO Box 168
Yellowstone, MT 82190-0168
307-344-2185
Steven_bekedam@nps.gov

Department of Livestock

Tahnee Szymanski
Assistant State Veterinarian
406-444-5214
TSzymanski@mt.gov