

ANNUAL REPORT

2021 UPPER COLUMBIA CONSERVATION COMMISSION (UC³)

UPPER COLUMBIA CONSERVATION COMMISSION



PARTNERS IN MANAGING AQUATIC INVASIVE SPECIES

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LIST OF ACRONYMS

AIS	Aquatic Invasive Species	FLBS	Flathead Lake Biological Station
BOR	U.S. Bureau of Reclamation	FWP	Montana Fish, Wildlife & Parks
BSWC	Big Sky Watershed Corps (AmeriCorps)	GNP	Glacier National Park
CEMIST	Central Eastern MT Invasive Species Team	MCWD	Missoula County Weed District
CFC	Clark Fork Coalition	MISC	Montana Invasive Species Council
CKISS	Central Kootenay Invasive Species Society	NPS	National Park Service
CRB	Columbia River Basin	NRCS	Natural Resource Conservation Service
CRC	Clearwater Resource Council	UCLN	Upper Columbia Lakes Network
CSKT	Confederated Salish & Kootenai Tribes	USACE	U.S. Army Corps of Engineers
DEQ	Department of Environmental Quality	USFS	U.S. Forest Service
DNRC	Department of Natural Resources & Conservation	USFWS	U.S. Fish & Wildlife Service
eDNA	Environmental DNA	WLI	Whitefish Lake Institute
E & O	Education & Outreach	WRDA	Water Resources Development Act
EQC	Environmental Quality Council	WRP	Western Regional Panel

UPPER COLUMBIA CONSERVATION COMMISSION

MESSAGE FROM CHAIR, VICE CHAIR & STAFF

Since the creation of the Upper Columbia Conservation Commission (UC³) by the 2017 Montana Legislature, I have served as the Commissioner representing Montana's electric cooperatives. Over these first five years, I have witnessed the intent of this piece of legislation ([House Bill 622](#)) come to life with the guidance and input of a passionate group of professionals and citizens in the aquatic invasive species (AIS) field in Montana. Our group strives for deep collaboration to advance progress in AIS education and outreach; citizen science and monitoring; watercraft inspection station programming; and rapid response planning and coordination.

In 2021 we welcomed five new commissioners who bring fresh perspectives and a keen interest in the mission of the UC³ to the table. We are also fortunate to have the skills and leadership of Aquatic Invasive Species Bureau Chief Tom Woolf on board from Montana Fish, Wildlife & Parks. Tom leads a skilled team, that, along with our Commission Administrator, Kate Wilson from DNRC, and many partners, has built a gold standard program for the state of Montana. Montana's methodical and thorough approach to fencing out AIS, especially zebra and quagga mussels, benefits the entire Pacific Northwest region and the citizens who live, work and play within it. In 2022, we will celebrate our successes as we move to delist Tiber Reservoir (from its "positive" for invasive mussel larvae status since 2017), and mitigation costs for taxpayers, rate payers, and recreators are avoided.



Stacey Schnebel, Chair
Board of Trustees,
Flathead Electric Cooperative
Owner, Stonefly Lounge &
UnderCurrent Web



I appreciate the opportunity to serve as the Vice Chair of the UC³, and I am proud to see the results of the work we have produced benefit Montanans. The UC³ plays a critical role for bringing partners together to coordinate on AIS issues and activities. The interest and involvement of partners and the public in AIS issues is impressive, and the UC³ provides a great forum for sharing information and identifying opportunities to help augment and enhance state and partner AIS efforts.



Tom Woolf, Vice Chair
AIS Bureau Chief,
Montana Fish, Wildlife & Parks
Co-Vice Chair, Montana
Invasive Species Council

Cover photo: Clark Fork River, near Plains,
Montana. Dusan Smetana

In 2021, the Upper Columbia Conservation Commission (UC³) rounded out its fifth year with substantial progress toward our mission and statutory duties, innovative new efforts, and great collaboration within the aquatic invasive species (AIS) community. We would like to thank our commissioners, ex-officio members, committee participants, AIS partners, and the incredibly dedicated Montana Fish, Wildlife & Parks (FWP) staff for consistently improving and expanding one of the strongest AIS prevention programs in the country. This past year, UC³ implemented the goals and objectives outlined in our 2020 – 2023 Strategic Work Plan, including but not limited to:

- Increasing AIS awareness through education and outreach
- Coordinating and expanding monitoring and citizen science efforts
- Taking legislative action to address gaps related to AIS prevention efforts
- Collaborating with partners to better protect Montana's waterbodies from the threat of AIS

Much of this work focused on expanding and improving the AIS Industry Outreach Project, augmenting AIS programming in the Upper Columbia Basin, coordinating monitoring efforts through the development of the Upper Columbia River Basin 2021 Early Detection & Monitoring Plan, and participating in the 2021 legislative session in which we worked to increase the awareness and urgency of preventing AIS introductions to the state of Montana.



Kate Wilson,
Commission Administrator
*Montana Department of Natural
Resources & Conservation*



Cassidy Bender,
Commission Coordinator
*Montana Department of Natural
Resources & Conservation*

Last year also brought considerable changes to our membership and leadership, including several newly appointed commission members and a new chair. We would like to acknowledge the tenure and participation of Lori Curtis, former UC³ chair and conservation district representative, who retired this past year. Lori was a joy to work with; we are beyond grateful for her leadership and passion for protecting the natural resources of the Upper Columbia Basin, and we wish her tremendous happiness in her next chapter! We are pleased to welcome Stacey Schnebel, Flathead Electric Cooperative representative, as our new chair, as well as several other commission members including **Onno Wieringa**, who replaces Brian Johnson, representing the Flathead River Basin; **Bruce Vincent**, who replaces Chris Parrot, representing private industry; **Rae Lynn Hays**, who replaces Lori Curtis, representing conservation districts; **Tom Ray**, who replaces Phil Matson, representing private landowners; **Phil Matson** who replaces Mike Koopal, as member at large; and **Arthur Potts**, who replaces Paul Kusnierz, representing Hydroelectric Utilities. We are excited to have these new folks at the table, working together to prevent the spread of harmful AIS. This report provides highlights of our accomplishments, projects, sources of funding, and expenditures for the fiscal year 2021 (July 1, 2020 – June 30, 2021). Together, we can effectively protect our waters, and we are honored to have the privilege to assist with these efforts.



Yaak River In Northwest Montana. *Montana Office of Tourism and Business Development*

UPPER COLUMBIA CONSERVATION COMMISSION MEMBERS



Paul Bradford
Libby Rod & Gun Club
Representing: Kootenai River Basin
Voting Member (Libby)



Representative Neil Duram
House District 2 (Republican)
Ex-Officio Legislative Member (Eureka)



Martin Charlo
Tribal Council Member
Representing: Confederated Salish & Kootenai Tribes
Voting Member (Pablo)



Senator Janet Ellis
Senate District 41
Ex-Officio Legislative Member (Helena)



Michelle Cox
Invasive Species Coordinator - Region 1
Representing: U.S. Forest Service
Ex-Officio Member (Missoula)



Representative David Fern
House District 5 (Democrat)
Ex-Officio Legislative Member (Whitefish)



Senator Mike Cuffe
Senate District 1
Ex-Officio Legislative Member (Eureka)



Andrew Gorder
Legal Director (Clark Fork Coalition)
Representing: Upper/Middle Clark Fork River Basins
Voting Member (Missoula)



Chris Downs
Aquatic & Physical Science Programs Leader
(Glacier National Park)
Representing: National Park Service
Ex-Officio Member (West Glacier)



Rae Lynn Hays,
Administrator
(Lincoln Conservation District)
Representing: Conservation Districts
Voting Member (Eureka)



Brant Dupree
Big Sky Watershed Corps Member (2020/2021)
AmeriCorps (Missoula)



Larry Lack

Chair (Sanders County Aquatic Invasive Plants Task Force)
*Representing: Lower Clark Fork River Basin
Voting Member (Thompson Falls)*



Tom Ray

Forest Products
*Representing: Private Landowner
Voting Member (Kalispell)*



Phil Matson

Citizen/Research Technician
(Flathead Lake Biological Station)
*Representing: private landowners
Voting Member (Columbia Falls)*



Theresa Thom

Aquatic Invasive Species Coordinator - Pacific Region
*Representing: U.S. Fish & Wildlife Service
Ex-Officio Member (Portland, OR)*



Heidi McMaster

Hazmat/Invasive Species and IPM Coordinator
(Pacific Northwest Office)
*Representing: U.S. Bureau of Reclamation
Ex-Officio Member (Boise, ID)*



Bruce Vincent

President
(Environomics, Inc.)
*Representing: Private Industry
Voting Member (Libby)*



Monica Pokorny

Plant Materials Specialist
*Representing: USDA Natural Resources Conservation Service
Ex-Officio Member (Bozeman)*



Onno Wieringa

Citizen
*Representing: Flathead River Basin
Voting Member (Missoula)*



Arthur Potts

Terrestrial Program Leader (Avista)
*Representing: Hydroelectric Utilities
Voting Member (Noxon)*



Jacob Williams

Natural Resource Specialist
*Representing: U.S. Army Corps of Engineers
Ex-Officio Member (Libby)*

ABOUT THE UPPER COLUMBIA BASIN

Aquatic invasive species pose some of the greatest risks to our western waters.

- Invasive species are known to be the second-greatest cause of biodiversity loss, second only to habitat destruction.
- Introductions of aquatic invasive species can lead to a loss of recreation access for many communities that depend upon tourism.
- Invasive species can cause major and irreversible changes to our aquatic ecosystems.
- There are serious economic implications of aquatic invasive species infestations, which could result in impacts as high as \$234M in Montana alone.

The prevention of aquatic invasive species (AIS) introductions and spread provides significant benefits to the environment, state and local economies, and industries dependent on water, such as hydropower generation and irrigation. The natural resource benefits that can be attained as a result of AIS prevention in the Upper Columbia Basin are significant.

The Columbia River Basin covers nearly 260,000 square miles. It includes the headwaters portion, or “Upper Columbia,” which consists of western Montana and southeastern British Columbia. These headwaters move downstream into the states of Idaho, Washington and Oregon. The Columbia River contributes more water to the Pacific Ocean than any other river in North or South America; many states, communities, economies and industries rely on the river for benefits, such as low cost and reliable hydroelectricity, flood control, irrigation, navigation, recreation and fisheries. All of these benefits are at risk due to the threat of AIS.

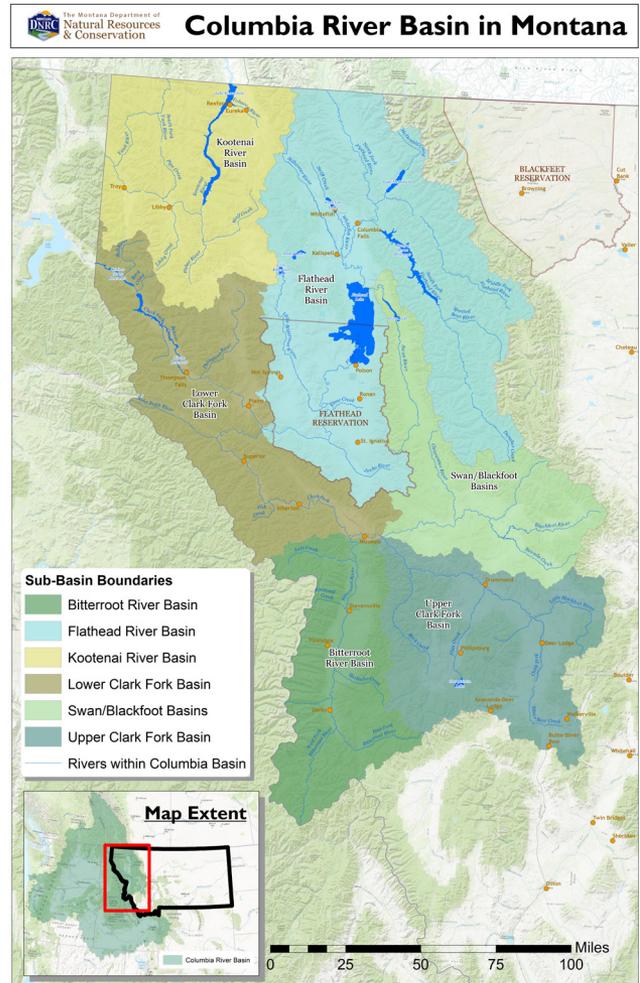


Figure 1: Upper Columbia Basin Map. DNRC

ABOUT THE COMMISSION

The mission of the UC³ is to protect the aquatic environment in Montana tributaries to the Columbia River from the threat of aquatic invasive species (AIS) to safeguard water resources, downstream interests, and the economic and ecological vitality of the region.

The commission was created in the 2017 legislative session by [House Bill 622](#). The UC³ was established to foster close cooperation and coordination between international, federal, regional, state, tribal, and local water resource managers to develop and implement comprehensive Upper Columbia River Basin prevention and management measures to prevent the introduction and/or further establishment of AIS.

The UC³ serves a vital role in not only augmenting existing AIS prevention efforts in the state of Montana, but also assisting in the protection of all the bountiful downstream resources. The management agencies, stakeholders and citizens of the entire Columbia River Basin are looking to Montana to help protect them from an introduction of zebra or quagga mussels, especially given the 2016 detection of larval mussels in two Montana reservoirs east of the Continental Divide. The longer an introduction can be curbed, the more protected the native species, the less funding spent on response efforts, and the longer we have to augment the science and develop control methods that are more likely to be effective. The UC³ meets quarterly and continues to leverage partnerships to coordinate, communicate, and support AIS prevention and management activities across the basin to best protect our waters from the threats posed by harmful AIS.

Currently the Upper Columbia Conservation Commission consists of 12 voting members, appointed by the governor of Montana, who serve four-year staggered terms; four non-voting legislative members (two from the House, two from the Senate and representing both parties); and several “ex-officio” (non-voting) state and federal agency members.

The governor-appointed voting members represent:

- Confederated Salish & Kootenai Tribes
- Conservation Districts
- Electric cooperatives
- Hydroelectric utilities
- Members at large
- Montana Invasive Species Council
- Private landowners
- Private industry
- Five sub-basins of the watershed (Upper/Middle Clark Fork River Basin; Bitterroot River Basin; Blackfoot/Swan River Basins; Kootenai River Basin; and the Lower Clark Fork River Basin).



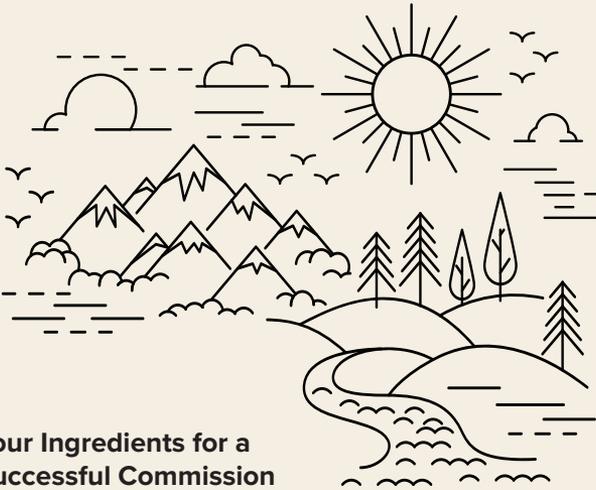
FOUNDATION FOR OUR WORK

Our Background

The UC³ was created in the 2017 legislative session by House Bill 622. This commission was established to foster close cooperation and coordination between international, federal, regional, state, tribal, and local water resource managers to develop and implement comprehensive Upper Columbia River Basin prevention and management measures to prevent the introduction and/or further establishment of AIS.

Our Mission

The mission of the UC³ is to protect the aquatic environment in Montana tributaries to the Columbia River from the threat of AIS in order to protect water resources, downstream interests, and the economic and ecological vitality of the region.



Four Ingredients for a Successful Commission

GREAT LEADERSHIP

We have strong leadership in our executive committee, dedicated commission members, and excellent staff support.

APPROPRIATE TOOLS

We have access to technology and communications tools that allow us to work efficiently and effectively.

A TRUSTED REPUTATION

We have worked hard to be civic minded, share our knowledge widely, and acknowledge and engage all entities addressing AIS.

DEDICATED PARTNERS

The list of organizations working with UC³ is long and diverse, including academia, researchers, scientists, agencies, policymakers, and community stakeholders. We continue to engage existing partners and encourage new partnerships to share in our efforts to combat AIS in the Montana portion of the Upper Columbia Basin.



STRATEGIC PRIORITIES AND ACTIONS

Education & Outreach

- Maintain and utilize three-year Education & Outreach Strategy (per statutory duties)
- Develop annual media plan for UC³ E&O
- Conduct annual industry outreach project
- Provide leadership and support on public, youth and stakeholder engagement
- Assess partner E&O efforts in basin
- Explore options/need for conducting AIS program assessment via online survey biennially
- Enhance knowledge and understanding of UC³'s work, role and responsibilities
- Encourage active engagement of E&O Committee

Monitoring & Citizen Science

- Develop annual monitoring plan (per statutory duties)
- Monitor the aquatic resources of the Columbia River Basin
- Ensure continuity of Upper Columbia Lake Network (UCLN)
- Provide support and information on how to report suspected AIS

Coordination & Collaboration

- Strive to be a source of reliable information on status of AIS in the Upper Columbia Basin
- Connect with partners and stakeholders beyond the basin
- Encourage close cooperation in AIS work among partners throughout the Columbia River Basin
- Emphasize appreciation and recognize exemplary efforts
- Provide support and assistance to state's AIS program
- Provide cooperative, inclusive and open environment to promote coordination
- Explore options for research that adds value to AIS programs

Programmatic Policy & Legislation

- Provide input, feedback and recommendations to the governor and to federal and state agency directors and staff, tribal, provincial, regional and local agencies for reducing the threats from AIS
- Explore and seek to address AIS gaps and challenges for the enhancement of AIS prevention and management in the Upper Columbia Basin and/or Montana

Business & Administration

- Develop annual monitoring plan (per statutory duties)
- Provide accounting and budgeting services
- Follow all applicable agency and board rules and requirements
- Explore options for additional funding

2020 – 2023 STRATEGIC WORK PLAN

The following UC³ strategic priorities are divided into categories based on the commission's mission and duties outlined in [House Bill 622](#) as well as roles and responsibilities to date:

- Education & Outreach
- Monitoring & Citizen Science
- Coordination & Collaboration
- Programmatic Policy & Legislation
- Business & Administration of the Commission

The specific priorities were established at a UC³ planning meeting (January 2019) to provide strategic direction for staff and to focus commission efforts for a three-year period. They will be reevaluated and updated in 2023.

COMMITTEES

Early Detection & Monitoring (Standing)

Chair: Phil Matson (Flathead Lake Biological Station)
Committee Members: Tom Woolf (MISC/FWP), Craig McLane (FWP), Joann Wallenburn (Missoula County AIS District), Katie Finley-Squeque (CSKT), Kim Bergstrom (Pinnacle Research), Cynthia Ingelfinger (WLI), Jacob Williams (USACE), Kate Wilson (Staff), Cassidy Bender (Staff), Chris Mascari (Missoula County AIS District)

Committee Purpose: *Document current monitoring efforts; develop and implement Annual Upper Columbia River Basin Aquatic Invasive Species Early Detection and Monitoring Plan; enhance coordination among monitoring partners; enhance citizen science monitoring efforts; seek consensus on protocols and standards.*

Education & Outreach (Standing)

Committee Members: Kate Wilson (Staff), Cassidy Bender (Staff), UC³ BSWC Member, Liz Lodman (MISC), Phil Matson (FLBS), Bruce Vincent (Environomics), Katie Finley-Squeque (CSKT), FWP Information Staff (as needed)



Watercraft inspection demonstration training with FWP.

Committee Purpose: *Work with stakeholders; document existing education, outreach, and advertising efforts; address gaps in current efforts; develop and implement three-year Education & Outreach Strategy; develop and implement annual media plan, AIS Industry Outreach Project, and other outreach planning and coordination.*

Legislative Committee (Ad Hoc)

Chair: Andrew Gorder

Committee Members: Phil Matson (FLBS), Tom Woolf (MISC/FWP), Bryce Christiaens (MISC/MCWD), Stacey Schnebel (Flathead Electric/Chair), Martin Charlo (CSKT), Rep. Neil Duram, Rep. Dave Fern, Sen. Mike Cuffe, Sen. Janet Ellis, FWP & DNRC legal & enforcement staff (as needed)

Committee Purpose: *Assess and prioritize AIS gaps, challenges, and issues; identify and explore potential solutions and make recommendations to commission and/or Montana legislature for action to strengthen AIS prevention and management activities.*



AIS outreach table and activity during Junior Ranger Day at Foy's Lake (Lone Pine State Park).

PROJECTS & ACCOMPLISHMENTS

In fiscal year 2021, the UC³ conducted many projects related to education and outreach, monitoring, policy involvement, and enhancing coordination. We look forward to another year of working closely with our partners and raising awareness of AIS and the associated impacts among Upper Columbia Basin residents, visitors, and businesses.

EDUCATION & OUTREACH

This year, staff accomplished successful projects in each of the categories outlined in the 2020 – 2023 Education, Outreach and Communication Strategy. This document is available [on our website](#) and describes how the UC³ will prioritize, organize, and conduct its education and outreach activities, supporting the Montana Fish, Wildlife & Park’s AIS prevention and management efforts. Each of the projects listed below is a means of implementing an organized, comprehensive, and multidimensional partnership embodying a shared goal of managing Upper Columbia waterways for AIS.

Development and implementation of an annual outreach and media plan in coordination with FWP and other partners. In 2021 this included a series of *Clean.Drain.Dry.* billboards preceding several inspection stations in western Montana (Ravalli and Anaconda, see Figure 1). Resulting from discussions with our legislative committee, these billboards illustrated a stronger regulatory message, notifying drivers that failing to stop at watercraft inspection stations could lead to fines up to \$500. The media plan also included Public Service Announcements (PSAs) on popular TV networks and radio stations across the basin, including AIS PSAs during television advertisements as a sponsor for Missoula’s minor league baseball team, the PaddleHeads. We also ran a series of advertisements in local newspapers, social media, and digital platforms (see Figures 2 – 3).



Figure 1: UC³ *Clean.Drain.Dry.* 2021 billboard outside of Evaro, Montana (before Ravalli watercraft inspection station) and Anaconda, Montana (before Anaconda watercraft inspection station).



Figure 2: UC³ *Clean.Drain.Dry.* 2021 digital advertisements.



Figure 3: UC³ *Clean.Drain.Dry.* 2021 digital advertisements.

In partnership with the Missoula County Weed District, the UC³ implemented the AIS Industry Outreach Project, engaging water-based businesses with AIS information across the Upper Columbia Basin for the third year in a row. In 2021, with the help of our returning Big Sky Watershed Corps (AmeriCorps) member, Brant Dupree, we had the great opportunity to assist Montana Fish, Wildlife & Parks (FWP), the Central & Eastern Montana Invasive Species Team (CEMIST), and their Big Sky Watershed Corps (BSWC) members in expanding the project to engage water-based businesses across the

entire state of Montana. Together, we were able to visit with over 170 water-based businesses in Montana to discuss AIS and their impacts. Additionally, UC³ staff and the BSWC members worked together to create a [3-minute informational video](#) about the AIS Industry Outreach Project that was shared during the 2021 University of Montana's Public Service Academy. This project was voted the winner of the 2021 Baucus Innovation Challenge and received a monetary award that was reinvested into the AIS outreach efforts and the BSWC members who make it all happen.



2021 Big Sky Watershed Corps (BSWC) members at end of year gathering.



Liz Lodman, FWP AIS Information Officer with BSWC members: Jennifer Riddle (FWP) and Colin Threlkeld (CEMIST).



Brant Dupree and Clean, Drain, Dry, partners, Big Arm Marina of Big Arm, Montana.



2021 BSWC members during an AIS training.



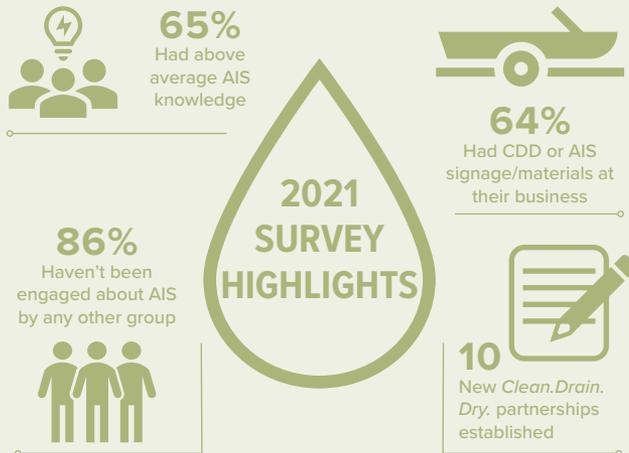
Cassidy Bender, Commission Coordinator receiving the Baucus Innovation Challenge 1st Prize at the University of Montana's 2021 Public Service Academy.

CLEAN.DRAIN.DRY. BOOTS ON THE GROUND

BY BRANT DUPREE – 2021 BIG SKY WATERSHED CORP MEMBER

AIS INDUSTRY OUTREACH

Since 2019, UC³ has implemented the aquatic invasive species (AIS) Industry Outreach Project to engage water-based businesses with the *Clean.Drain.Dry.* message and create AIS prevention partners. Over the past three years, the number of contacts and partners has been increasing, with an all-time high of 83 visits and partners in 2021. During the 2021 season, UC³ also surveyed to examine knowledge on AIS and CDD. The survey will help us improve visit effectiveness and create connections between industry professionals and state agencies.



AIS FIELD WORK

Shared with the Missoula County Weed District (MCWD), the BSWC member also focuses on AIS field projects during the summer months. In 2021 MCWD applied herbicide on AIS across 130 miles of riverways around Missoula, of which the BSWC covered 30+ miles. The BSWC member also assisted in projects on fragrant water lily (FWL) in the clearwater lake chain. MCWD created plots to measure the competitiveness of FWL against native lily species as well as test herbicides for the future removal of FWL. The BSWC member aided in the creation of 14+ plots and research.



COMMUNITY OUTREACH EVENTS

The BSWC member was able to attend eight events across western Montana this year, including rodeos, fishing camps, and lake honoring days. UC³ partnered with Montana Fish, Wildlife & Parks to cover more events and focus on spreading a unified CDD message. The majority of questions received revolved around boat check stations, fishing regulations, and quagga mussels.

SUMMARY

2021 led to incredible successes for AIS outreach, with more CDD partners than ever before and the implementation of a state-wide industry outreach program.

In AIS prevention, MCWD is paving the way for the management and removal of AIS. With the creation of Montana's first aquatic invasive species district, Missoula County continues to be a leader in the AIS field.



MONITORING & CITIZEN SCIENCE

One of the statutory duties of the commission is to develop an annual AIS Monitoring Plan for the Upper Columbia Basin. This was completed by the UC³ Monitoring Committee prior to the 2021 season and describes the planned monitoring for 2021 as well as recommendations moving forward. The recommendations included:

1. Comment on FWP Field Sampling and Laboratory Standard Operating Procedures (as needed)
2. Annual Early Detection and Monitoring Coordination Meeting and Training (held March 2021)
3. Database Expansion & Use of Data Application (increase consistency and use across state/basin)
4. eDNA Sampling Protocols Refinement (ongoing)
5. Continue to support the establishment and growth of the Upper Columbia Lakes Network (ongoing – see more information below)
6. Track Veliger Survivability in Ballast Water Studies (two studies completed, concluding that recreational boats do pose a veliger transportation risk with ballast boats. Currently awaiting results from an additional Bureau of Reclamation study. See more information in the 2021 AIS Monitoring Plan on our website)
7. Develop virtual/video training options for partners and citizen scientists (UC³ currently assessing operating funds available for video production)

The maps in Figures 4 – 6. depict the AIS monitoring efforts statewide in 2021 by FWP crews and partners, which include organizations and citizen scientists. In addition, FWP and partners conducted additional survey and control work in specific areas in the basin where AIS were detected. New detections in 2021 include New Zealand mudsnails in Mitchell Slough (Bitterroot River), Beavertail Pond and Big Sheep Creek; Red-rim melania snails in the Beaverhead and Gardiner rivers; Curlyleaf pondweed in Big Elk Creek, Two Dot, Shields River, and Big Timber; and Southern plains crayfish in Miles City. More information can be found on the [FWP AIS Monitoring Dashboard](#).

AIS SPECIES PRESENT IN MONTANA



Flowering Rush

Flowering Rush has whitish pink flowers that grow in umbrella-shaped clusters and green triangular stems that can reach 1 to 5 feet in height and can survive in water up to 10 feet deep. It invades long shorelines

and margins of slow-moving waterways cutting off recreational swimming and boating potential. Flowering rush is present in the Upper Columbia Basin, most notably in Flathead Lake.



Eurasian Watermilfoil

Eurasian watermilfoil grows in thick mats of feathery leaves and erect stalks with small reddish flowers that emerge above the water. Milfoil can quickly take over shallow lakes and rivers, preventing boating, fishing,

hunting, and swimming. It spreads by fragmentation, meaning it needs only a small sliver of a leaf to be transported on boats, motors, trailers, fishing nets or other gear to spread. It is present in the Upper Columbia Basin in many lakes and reservoirs, including Cabinet Gorge, Noxon and Thompson Falls reservoirs.



Fragrant Water Lily

Fragrant water lily is most easily recognized by its eye-catching, open bloom of either white or pink petals and wide heart-shaped leaves. The water lily can achieve extraordinary population growth, impair recreation and destabilize

underwater ecosystems. It is already present in the Upper Columbia Basin, within Holland Lake, Lake Mary Ronan, Swan Lake, and several other waterways.



New Zealand Mudsnails

Mudsnails are brown to black in color and range in size from a grain of sand to 1/8 inch long. They can outcompete native snails, impact the food chain of native trout, and be transported through vegetation and mud on

boats and gear. Mudsnails are present in the Upper Columbia Basin, populating sections of the Missouri, Madison and Bitterroot rivers along with several other reservoirs and waterbodies.

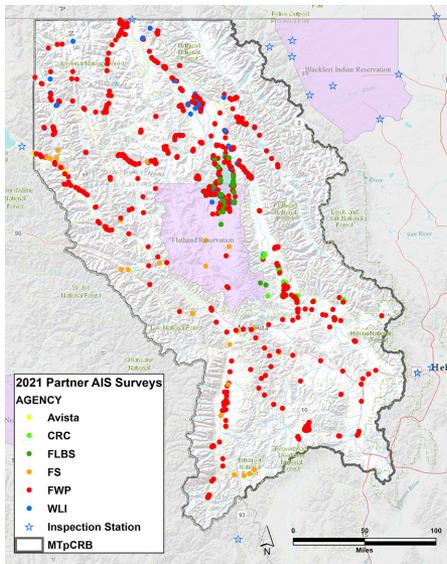


Figure 4: 2021 Upper Columbia River Basin monitoring locations represented by partner organization (courtesy Phil Matson, The University of Montana, Flathead Lake Biological Station).

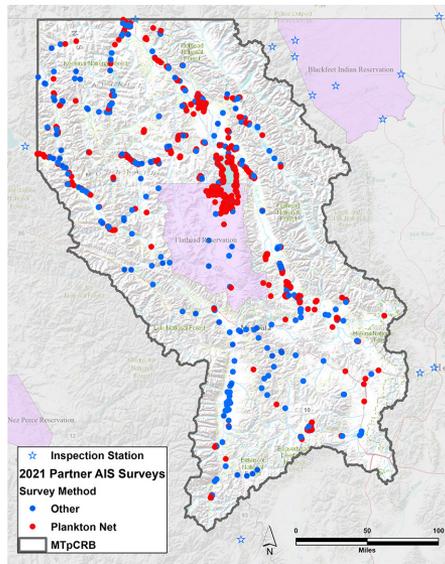


Figure 5: 2021 Upper Columbia River Basin invasive species monitoring locations represented by sampling method (courtesy Phil Matson, The University of Montana, Flathead Lake Biological Station).

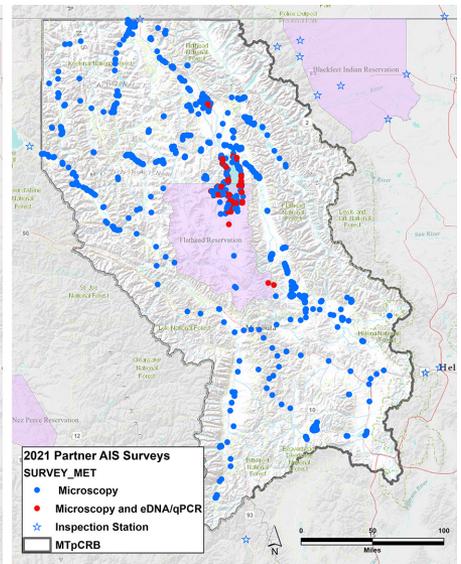


Figure 6: 2021 Upper Columbia River Basin invasive species monitoring locations represented by sampling method, microscopy and eDNA (courtesy Phil Matson, The University of Montana, Flathead Lake Biological Station).

Continuation of the Upper Columbia Lakes Network (UCLN) monitoring contract/partnership with Whitefish Lake Institute (WLI) and the Flathead Lake Biological Station (FLBS). The UCLN provides an opportunity to engage lake groups and citizens in long-term water quality stewardship. Several lake monitoring groups exist in northwest Montana, but the UCLN program is specific to AIS and aims to increase consistency in protocols, incorporate new partner groups, add to the volunteer base, and bring on more high-priority lakes that are not currently sampled. The UCLN identifies interested groups within the region, provides equipment, and offers training for AIS monitoring and decontamination protocols. The UCLN website, (ucln.net), serves as a clearinghouse for protocols and highlights and tracks monitoring efforts. Since the contract was initiated, the UCLN has built new partnerships across the basin and held several AIS monitoring trainings. The UC³ is committed to ensuring the continuance and, ideally expansion of the UCLN throughout the Upper Columbia Basin. Operating funds have been committed and additional (federal grant) funds have been awarded in 2021 and allocated for the next three years (2022 – 2024).



Since its inception, the UCLN has grown into a geographically comprehensive network of volunteers who are trained and equipped to monitor their local lakes for AIS. In 2021, 12 new volunteers from eight partner groups were trained and equipped with monitoring kits, and UCLN continues to support current volunteers with equipment needs and data uploads. Due to

UCLN volunteers collect plankton tow samples.



COVID-19 concerns, group trainings were canceled and in-person trainings adapted to social-distancing protocols.

Groups and/or individuals that have attended an AIS monitoring training or participated in UCLN to date include representatives from the following areas and organizations: Kootenai River Network, University of Montana, Clark Fork and Kootenai River Basins Council, Swan Lakers, Flathead Lakers, U.S. Army Corps of Engineers, Yellowstone National Park AIS program, Alberta Environment & Parks AIS program, Friends of Lake Mary Ronan, Conservation Districts, British Columbia East Kootenay Invasive Species Council, Little Bitterroot Lake Association, Okanagan Nation Alliance of British Columbia, BC Ministry of Environment & Climate Change Strategy, Thompson Chain of Lakes, Montana Department of Environmental Quality, Bitterroot Chapter – Trout Unlimited, Big Hole River Foundation, Georgetown Lake Association, Blackfoot Challenge, Yaak Valley Forest Council, and the University of Montana Western's Ecology and Fisheries class. In addition, WLI and the UCLN coordinator partnered with Flathead National Forest in 2020 to increase eDNA monitoring on four lakes on National Forest lands in 2020: Hungry Horse Reservoir, Tally Lake, Ashley Lake, and Upper Stillwater Lake. The samples will be analyzed for zebra mussels, quagga mussels, Eurasian watermilfoil and curlyleaf pondweed.

COORDINATION & COLLABORATION

The UC³ plays a vital role in coordination and collaboration throughout the Upper Columbia Basin. Our goal is to provide a forum to share information, improve communication and enhance partner coordination for AIS issues within the basin.

Our strategies to accomplish this goal are:

1. Strive to be a source of reliable information on the status of all AIS in the Upper Columbia Basin
2. Connect with partners and stakeholders beyond the basin to increase information-sharing, networking, collaboration, and building relationships around AIS prevention and management
3. Encourage the close cooperation and coordination between federal, state, regional, tribal, and local water resource managers for establishment of comprehensive monitoring, data collection, and interpretation (per statute)
4. Emphasize appreciation and acknowledge the hard work of staff and partners in AIS prevention and management
5. Provide support and assistance as needed to the state's Watercraft Inspection Stations and general AIS program
6. Provide a cooperative and open environment that promotes communication and coordination among all Upper Columbia Basin (and beyond) stakeholders
7. Explore options for research of value to AIS program(s) in the Columbia River Basin



ACTIVITIES/MEETINGS IN FISCAL YEAR 2021

(JULY 1 – JUNE 30)

- **Virtual: UC³ Legislative Committee meeting (July 16)**
- **Virtual: UC³ Legislative Committee meeting (July 22)**
- Virtual: Montana Environmental Quality Council meeting (July 30)
- Kalispell: Northwest MT Fair & Rodeo AIS outreach (Aug. 19 – 24)
- Foy's Lake (Lone Pine) State Park: Junior Ranger Day AIS outreach (Aug. 30)
- Lone Pine State Park: Junior Ranger Day AIS outreach (Sept. 2)
- **Virtual: UC³ Legislative Committee meeting (Sept. 2)**
- Virtual: Montana Invasive Species Council meeting (Sept. 3)
- Virtual: Western Regional Panel annual meeting (Sept. 14 – 18)
- **Virtual: UC³ Legislative Committee meeting (Sept. 15)**
- **Virtual: UC³ Legislative Committee meeting (Oct. 1)**
- Virtual: AIS Monitoring Training (Oct. 5)
- Virtual: North American Invasive Species Management Association Conference (Oct. 6 – 9)
- Virtual: Business of Outdoor Recreation Summit (Oct. 13 – 15)
- Virtual: Montana Watershed Coordination Council Symposium (Oct. 14 – 16)
- Virtual: Lakes Commission meeting (Oct. 20)
- Virtual: Missoula County AIS District meeting (Oct. 21)
- Virtual: FWP AIS Training for Natural Resource Educators (Oct. 28)
- Virtual: Upper Midwest Invasive Species Conference (Nov. 2 – 6)
- **Virtual: UC³ meeting (Nov. 4)**
- **Virtual: UC³ Legislative Committee meeting (Nov. 11)**
- Virtual: North American Lakes Management Society Conference (Nov. 16 – 20)
- Virtual: FWP AIS Summit (Nov. 18)
- Virtual: Missoula County AIS District meeting (Nov. 18)
- Virtual: Montana Invasive Species Council (Dec. 2)
- Virtual: Columbia River Basin AIS Group/100th Meridian Winter meeting (Dec. 2 – 3)
- Mostly Virtual: 2021 Montana Legislative Session (Jan. 4 – May 13)
- Virtual: Invasive Species Information Legislative Session (Jan. 20)
- Virtual: Watercraft Inspector Training I/II (Jan. 26 – 28)



Junior Ranger Day, Lone Pine State Park.

- **Virtual: UC³ meeting (Feb. 10)**
- Virtual: National Invasive Species Awareness Week: Part I (Feb. 22 – 28)
- Virtual: Missoula County AIS District (Feb. 24)
- Virtual: Montana Watershed Coordination Council annual meeting (Feb. 26)
- Virtual: Montana Invasive Species Council (March 4)
- Virtual: FWP/UC³ AIS Monitoring Workshop (March 16)
- Virtual: Crown Managers Partnership Fire Forum (March 22 – 26)
- Virtual: Missoula County AIS District (March 24)
- Virtual: Western Regional Panel Mid-Year meeting (April 7)
- Virtual: FWP AIS Partner meeting (April 20)
- Bozeman, MT: Big Sky Watershed Corps AIS Training (April 28)
- Virtual: Missoula County AIS District meeting (April 28)
- **Virtual: UC³ meeting (May 12)**
- Virtual: National Invasive Species Awareness Week: Part II (May 17 – 21)
- Virtual: North American Invasive Species Forum (May 18 – 20)
- Virtual: Glacier Country Tourism Summit (May 19 – 20)
- Locations of Inspection Stations within the Basin:
 - Ravalli, MT: CSKT Contracted Watercraft Inspection Station (March – Oct.)
 - Troy, MT: FWP Watercraft Inspection Station (April – Sept.)
 - St. Regis, MT: FWP Watercraft Inspection Station (April – Sept.)
 - Thompson Falls, MT: CSKT Contracted Watercraft Inspection Station (April – Sept.)
- Clearwater Junction, MT: Missoula County Weed District Contracted Watercraft Inspection Station (April – Oct.)
- Sula, MT: FWP Watercraft Inspection Station (May – Sept.)
- Many Glacier, MT: Glacier National Park Inspection Program (May – Sept.)
- Anaconda, MT: FWP Watercraft Inspection Station (May – Oct.)
- Plains, MT: FWP Watercraft Inspection Station (May – Oct.)
- Whitefish, MT: Whitefish Watercraft Inspection Stations (May – Oct.)
- West Glacier, MT: Glacier National Park Inspection Program (May – Oct.)



Watercraft inspection station sign.



PROGRAMMATIC POLICY & LEGISLATION

Created in 2020, the UC³ ad hoc Legislative Committee was very active during the 2021 Montana Legislative Session (Jan. – May 2021). The Legislative Committee’s goal is to explore, prioritize, and make recommendations related to policy, programs, rules, and statutes. The committee initially focused on five findings that had come out of the Montana Invasive Species Council Law Review in 2018. These findings were also discussed at the 2019 Montana AIS Summit hosted by FWP and further at multiple UC³ meetings, hence the formation of the committee. The committee and staff held multiple meetings with FWP and DNRC directors and staff, explored options and potential unintended consequences of each potential recommendation, and, with the approval of the full commission, supported two bills through the 2021 legislative session.

1. The “AIS List” bill was an agency bill (sponsored by Rep. Duram) intended to clean up the statutes related to the authorities provided to agencies for the management of AIS. This bill aimed to clarify the responsible state agency and enable the development of an AIS list by FWP via rulemaking that would aid in the prevention and awareness of the aquatic species of concern to the state of Montana. This bill died in committee for unknown reasons.
2. The “Pull the Plug” bill was a bill sponsored by Rep. Duram that intended to raise awareness of the *Clean.Drain.Dry* behaviors most effective at preventing the spread of AIS, which include the draining of all standing water from boats. This bill sought to require drain plugs to be disengaged during transport of watercraft. The bill also specified that any vessel with plugs that are not able to be pulled would be expected to take reasonable actions to ensure that the boat is cleaned, drained and dry prior to further use. The intended benefits of this bill were to increase consistency across western jurisdictions, raise boater awareness of behaviors that prevent AIS, decrease the amount of standing water at inspections, increase the ease of compliance and enforcement, and enhance the boater experience at inspection stations. The bill raised much awareness during the 2021 legislative session about AIS and how they are transported. It was amended during the session to reflect the current rule, requiring standing water to be drained (but not requiring drain plugs be pulled during transport). It was signed by the governor on April 14, 2021 ([see details on HB 152 here](#)).

The UC³ also worked in partnership with the Montana Invasive Species Council (MISC) during the 2021 legislative session to host an invasive species information session to educate Montana’s legislators on the threat of invasive species to our natural resources, native species, recreation opportunities, and economy. The poster on the next page was created by MISC to exemplify the many different pathways and forms of invasive species that can harm Montana’s land and water.


PEOPLE and their activities **MOVE INVASIVE SPECIES** from one place to another which can **HARM** our **lands, waters,** and **native species**. **Take these simple actions to help.**

PROTECT MONTANA'S LAND & WATER

Play Clean Go
Always wash and dry your boots, bikes, and off-road vehicles between uses.
playcleango.org



DONTMOVE FIREWOOD.org
Buy it where you burn it or gather it on-site. Firewood can harbor insects and diseases, and Montana depends on healthy forests.
dontmovefirewood.org

Find homes for unwanted pets and properly dispose of aquarium plants and water, never dump into waterways. Unused bait goes in the trash.
dontletitloose.com



Clean your gear before and after recreating. Remove weed seeds and burs stuck to your shoes, clothing, and pets and dispose in trash. Wash mud from the wheel wells and undercarriage of your vehicle.
weedawareness.org



CLEAN. DRAIN. DRY.
Boats can spread harmful aquatic plants, animals and diseases. Clean, drain, and dry your watercraft and gear after every outing.
cleandrindrymt.com



Feral swine can impact our water, fish, birds, crops, livestock, and the environment. If you think you see a feral swine, call 406-444-2976.
squealonthepigsmt.com



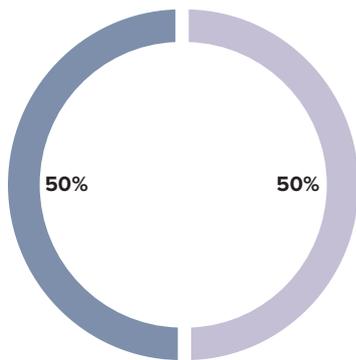


INVASIVESPECIES.MT.GOV 

Learn more about what we can all do to **PROTECT** the places we love.

All-taxa poster created by the Montana Invasive Species Council that was shared with Montana legislators during the 2021 invasive species information session.

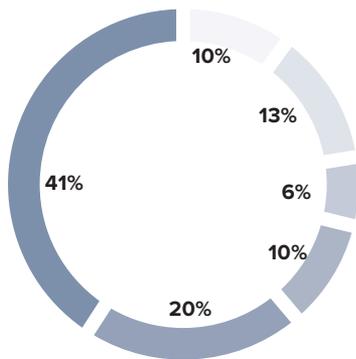
BUSINESS & ADMINISTRATION



Funding Sources FY21

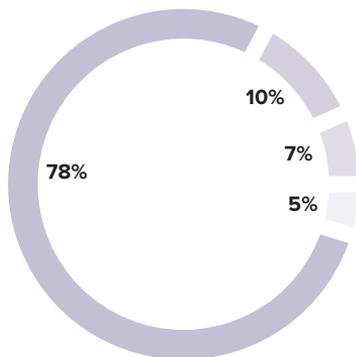
- State Allocation: \$40,000
- Bureau of Reclamation Grant: \$40,000

**Bureau of Reclamation Grant active 2019 – 2021. Total value \$120K, remaining portion in FY21 ~\$40,000.*



FY21 Expenditures - State Operating Funds \$40,000

- Travel, Meetings & Sponsorships, \$4,000, 10%
- Monitoring, \$5,000, 13%
- Staff Supplies & Travel, \$2,527, 6%
- Reports & Publications, \$4,000, 10%
- BSWC, \$8,130, 20%
- Education & Outreach, \$16,343, 41%



FY21 Expenditures - Bureau of Reclamation Grant \$40,000

- Travel, \$1,887, 5%
- Indirect, \$2,646, 7%
- Monitoring, \$4,230, 10%
- Edu & Outreach, \$31,237, 78%

Budget: Sources & Expenditures (FY2021)

The UC³ was initially allocated \$10,000 for their first biennium (2018 – 2019) or \$5,000 for each fiscal year. This was increased to \$80,000 per biennium in the 2019 legislative session, or \$40,000 in operating funds per fiscal year. In late 2019 the UC³ was awarded a multiyear federal Bureau of Reclamation (BOR) grant that included funding for three projects in the Upper Columbia Basin: 1) augmenting AIS education and outreach; 2) expanding AIS citizen science monitoring; and 3) developing an industry outreach project. This BOR grant was active 2019 – 2021, the projects were completed, the funds spent as intended, and the grant was closed out in FY21. The UC³ applied for and was awarded a second BOR grant in mid-2022 that provides funding for the continuation of both the Industry Outreach Program and the Upper Columbia Lakes Network (UCLN) monitoring program. This grant will provide ~\$58k for three years (2021 – 2024) and will be available in fiscal year 2022. A breakdown of the UC³ funding sources and expenditures for fiscal year 2021 (July 1 – June 30) appears to the left.



UPPER COLUMBIA CONSERVATION COMMISSION



PARTNERS IN MANAGING AQUATIC INVASIVE SPECIES