



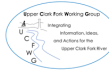
# 2023 Clark Fork Science Forum

Located @ Holiday Inn Downtown

200 South Pattee Street, Missoula, MT 59802



## “The State of the Science”



### Thursday, April 20th

<b>8:00 – 8:30</b>				Check-in/Morning Beverages/Social			
<b>8:30 – 8:45</b>				Welcome and Introductions			
<b>8:45 – 9:30</b>				<b>Keynote: Water Resources Outlook: The past, present and future of climate in the Clark Fork Basin (Kelsey Jencso, Montana Climate Office)</b>			
<b>9:30 – 9:45</b>				Break			
<b>9:45 - 12:15</b>				<b>Hydrology Session – Moderator, Brian Chaffin</b>			
<b>9:45–10:15</b>		Sara Edinberg, MBMG		MBMG Groundwater Investigations and Monitoring in the Clark Fork River Basin			
<b>10:15-10:45</b>		Kathy Chase, USGS		Stream flow, snow, and drought			
<b>10:45-11:15</b>		Karin Boyd, Applied Geomorphology		Geomorphic Connectivity in the Clark Fork River Corridor: Some Challenges and Opportunities			
<b>11:15-11:30</b>		Break					
<b>11:30-12:15</b>		Hydrology Panel Discussion					
<b>12:15-1:15</b>				Lunch (On your own)			
<b>1:15-3:45</b>				<b>Biogeochemistry Session – Moderator, Stephanie Ewing</b>			
<b>1:15-1:45</b>		Maury Valett, University of Montana		Materials and energetics: Nutrients, algae, and productivity in the Upper Clark Fork River			
<b>1:45-2:15</b>		Travis Schmidt, USGS		Prevalence and bioavailability of metals in the Upper Clark Fork River Basin			
<b>2:15-2:45</b>		Trevor Selch, MT FWP		Organics and emerging contaminants of concern for the Clark Fork Basin			
<b>2:45-3:00</b>		Break					
<b>3:00-3:45</b>		Biogeochemistry Panel Discussion					
<b>3:45-4:45</b>				Student Research Lightning Talks			
<b>4:45-5:00</b>				Clark Fork Basin Life Time Achievement Award			
<b>5:15-7:30</b>		Poster Presentation and Social		Sponsored by DNRC, Clark Fork Coalition and Trout Unlimited			



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Friday, April 21st			
8:00-8:30	Morning Beverages/Social		
8:30-9:15	Keynote: Streams of past, present, and future: Social-ecological research opportunities in the Clark Fork River Basin (Brian Chaffin, University of Montana)		
9:15-11:45	Aquatic Ecology Session – Moderator, Melissa Schaar		
	9:15-9:45	Wyatt Cross, Montana State University	Food webs.. .what’s the big deal?
	9:45-10:15	Nathan Cook, NRDP	Where are all the fish? Fifty years of Clark Fork River Fisheries Investigations
	10:15-10:45	Ben Colman, University of Montana	Linkages between aquatic and terrestrial food webs in the Upper Clark Fork Basin
	10:45-11:00	Break	
	11:00-11:45	Aquatic Ecology Panel Discussion	
11:45–12:45	Proposed and Current Research Lightning Talks		
12:45-1:00	Wrap-Up		

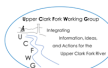
Please see additional pages for Lightning Talk Presenters, Poster Presenters, and List of Attendees.

# Student Research Lightning Talk Presenters

Presenter	Title	Email	Affiliation
Madison Boone	Understanding social learning in interdisciplinary environmental research: Case studies of the Montana Consortium for Research on Environmental Water Systems	<a href="mailto:madison.boone@montana.edu">madison.boone@montana.edu</a>	Montana State University
Bridger Creel	Evaluating metal flux through the riparian food web and the consequences for songbirds	<a href="mailto:bridger.creel@umontana.edu">bridger.creel@umontana.edu</a>	University of Montana
Megan Moore	A Dive into Water Resources in the Upper Clark Fork and Judith River Watersheds	<a href="mailto:mamoore5@gmail.com">mamoore5@gmail.com</a>	University of Montana
Matt Nicols	The influence of nutrient limitation on autotrophic activity along the enrichment gradient of the Upper Clark Fork River	<a href="mailto:mn169338@umconnect.umt.edu">mn169338@umconnect.umt.edu</a>	University of Montana
Jose Sanchez-Ruiz	Long-Term Recovery of Function in the Upper Clark Fork River: Assessing the Effects of Restoration on Energy Flows to Macroinvertebrate Communities	<a href="mailto:jas091988@gmail.com">jas091988@gmail.com</a>	Montana State University
Qipei Shangguan	Partitioning CO2 sources in the Clark Fork River using autonomous sensors	<a href="mailto:qipei.shangguan@umontana.edu">qipei.shangguan@umontana.edu</a>	University of Montana
Nick Wade	Warm Springs Ponds Water Quality	<a href="mailto:Nicholas.wade1@umwestern.edu">Nicholas.wade1@umwestern.edu</a>	University of Montana Western
Cort Walsh	Restoration on the Upper Clark Fork: a look at stream morphology and geochemistry	<a href="mailto:cortney.walsh@umwestern.edu">cortney.walsh@umwestern.edu</a>	University of Montana Western
Dylan White	Algal Blooms and Colloidal Particles: Using Mesocosms to Investigate how Metals Enter River Food Webs	<a href="mailto:dylan1.white@umconnect.umt.edu">dylan1.white@umconnect.umt.edu</a>	University of Montana

# Proposed and Current Research Lightning Talk Presenters

Presenter	Title	Email	Title	Affiliation
Stephen Carpenedo	Effectiveness of Wetland Restoration to Improve Water Quality	<a href="mailto:scarpenedo2@mt.gov">scarpenedo2@mt.gov</a>	Senior Wetland Specialist	Montana DEQ
Sara Eldridge	Using eDNA to detect aquatic insects for ecological monitoring in the upper Clark Fork	<a href="mailto:seldridge@usgs.com">seldridge@usgs.com</a>	Microbiologist	US Geological Survey
Andy Fischer	Flow Challenges in the Upper Clark Fork	<a href="mailto:andy@clarkfork.org">andy@clarkfork.org</a>	Project Manager	Clark Fork Coalition
Mark Mariano Jr	Monitoring the recovery of waterfowl in the Upper Clark Fork using nesting structures	<a href="mailto:mtwetlandsandwaterfowl@gmail.com">mtwetlandsandwaterfowl@gmail.com</a>	Restoration Ecologist	Montana Wetlands and Waterfowl
Craig Neesvig	Vermillion River Restoration and Monitoring Project	<a href="mailto:craig.neesvig@usda.gov">craig.neesvig@usda.gov</a>	Hydrologist	US Forest Service
Bill Pfeiffer	2023 Fish toxin study in Clark Fork	<a href="mailto:bill@montanatu.org">bill@montanatu.org</a>	Outreach Coordinator	Trout Unlimited
Bailey Tasker	Monitoring the recovery of waterfowl in the Upper Clark Fork using nesting structures	<a href="mailto:Baileyrosetasker@gmail.com">Baileyrosetasker@gmail.com</a>	Waterfowl Migration Ecologist	Rampart Solutions



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# Poster Presentations

Presenter	Title	Email	Title	Affiliation
Brian Balmer	Using tree swallows ( <i>Tachycineta bicolor</i> ) as sentinels for ecosystem health and contaminant exposure throughout Montana	<a href="mailto:brian_balmer@fws.gov">brian_balmer@fws.gov</a>	Environmental Contaminants Specialist	U.S. Fish and Wildlife Service
Elliott Barnhart	Investigation of Hyporheic Microbial Biofilms as Indicators of Heavy Metal Toxicity in the Clark Fork Basin, Montana	<a href="mailto:epbarnhart@usgs.gov">epbarnhart@usgs.gov</a>	USGS Research Microbiologist	US Geological Survey
Ashley Bussell	Understanding aquatic-terrestrial linkages of dynamic river ecosystems in the Upper Columbia River Basin	<a href="mailto:abussell@usgs.gov">abussell@usgs.gov</a>	Physical Scientist	US Geological Survey
Sydney Driver	Missoula Public Library	<a href="mailto:sydney@familiesfirstmt.org">sydney@familiesfirstmt.org</a>	Child Enrichment Ambassador	Missoula Public Library
Christopher Ellison	Application of Surrogate Technology to Predict Real-Time Metallic-Contaminant Concentrations in the Clark Fork near Grant-Kohrs Ranch National Historic Site, Montana, Water Years 2019-20.	<a href="mailto:cellison@usgs.gov">cellison@usgs.gov</a>	Hydrologist	US Geological Survey
Rafael Feijo de Lima	Spatial discontinuities in riverine restoration: an opportunity for research?	<a href="mailto:rafael.feijo@mso.umt.edu">rafael.feijo@mso.umt.edu</a>	Postdoctoral Researcher	University of Montana
Joe Griffin	The results of 30+ years longitudinal water quality and biological monitoring of the five headwaters of the Clark Fork begs the case for more biological monitoring.	<a href="mailto:jgriffin.redmountain@gmail.com">jgriffin.redmountain@gmail.com</a>	DEQ Project Manager, Retired	Montana Technological University
Alisa Hashley	Effects of magnetite particle morphology on adsorption of copper ions from aqueous solutions	<a href="mailto:ahashley@mtech.edu">ahashley@mtech.edu</a>	Graduate Student	Montana Technological University
Andrew Hauer	CREWS Project Overview	<a href="mailto:andrew.hauer@umontana.edu">andrew.hauer@umontana.edu</a>	Project Manager	University of Montana
Lindsey King	Water Quality Long Term Monitoring Program	<a href="mailto:lrking@usgs.gov">lrking@usgs.gov</a>	Hydrologist	US Geological Survey
David Lange	Trace Element Concentrations in Sediment and Invertebrate Tissue in the Upper Clark Fork	<a href="mailto:dlange@usgs.gov">dlange@usgs.gov</a>	Hydrologic Technician	US Geological Survey
Teagan Leitzke	Removal and Recovery of Contaminants by Magnetite Adsorption Facilitated by a Continuous Flow Material Recovery System	<a href="mailto:tleitze@mtech.edu">tleitze@mtech.edu</a>	Post-Doctoral Researcher	Montana Technological University
Molly Moloney	Montana experimental stream observatory	<a href="mailto:mmoloney@usgs.gov">mmoloney@usgs.gov</a>	Hydrology Intern	US Geological Survey
Gabriella Poupart	Relationships Between Riparian Vegetation and Soil Properties Post-Remediation and Restoration of the Upper Clark Fork River	<a href="mailto:gpoupart@geumconsulting.com">gpoupart@geumconsulting.com</a>	Restoration Specialist	Geum Environmental Consulting
Qipei Shangguan	Long-term monitoring of inorganic carbon parameters in the Upper Clark Fork River using spatiotemporal surveys and autonomous sensors	<a href="mailto:qipei.shangguan@umontana.edu">qipei.shangguan@umontana.edu</a>	Graduate Student	University of Montana
Dave Stagliano	A 'long-term look' of the Macroinvertebrate Community Monitoring collected by EPA/old DEQ 1986-2020	<a href="mailto:dstagliano88@gmail.com">dstagliano88@gmail.com</a>	Aquatic Ecologist	Montana Biological Survey
Maddie Torrey	Remote Sensing Methods for River Algae Monitoring	<a href="mailto:madison.torrey@gmail.com">madison.torrey@gmail.com</a>	Undergraduate Student, Optical Remote Sensing Labo	Montana State University
Caleb Uerling	Where Have the Brown Trout Gone?	<a href="mailto:caleb.uerling@mt.gov">caleb.uerling@mt.gov</a>	Fisheries Biologist	Montana FWP
Grace Wandler	Effects of Nutrient Concentrations on Attached Algae: Clark Fork River Case Study	<a href="mailto:gracemcannew@gmail.com">gracemcannew@gmail.com</a>	High School Student	Hellgate High School
Vicki Watson, Claire Utzman	Long Term Trends in nutrients and attached algae levels in the Clark Fork River	<a href="mailto:vicki.watson@umontana.edu">vicki.watson@umontana.edu</a>	Professor Emeritus	University of Montana



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