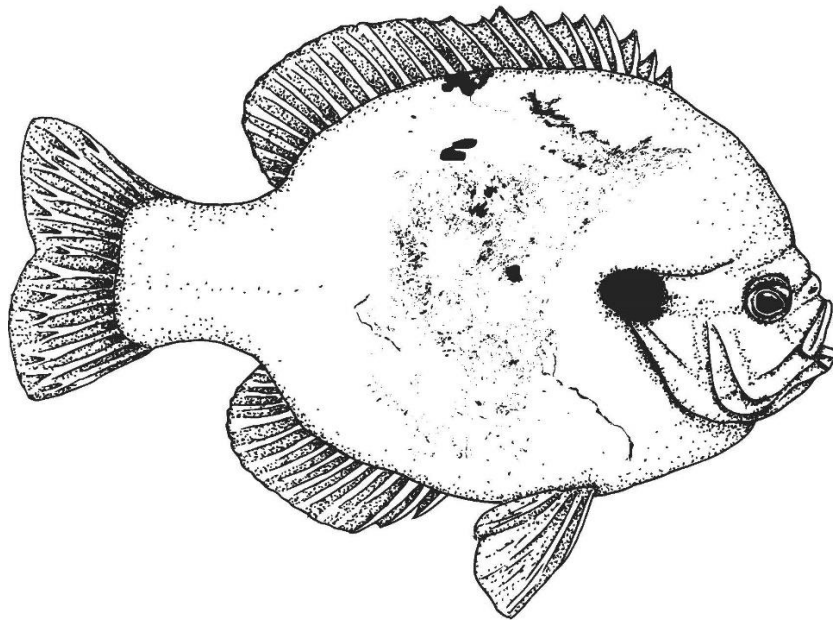


**MINNESOTA CHAPTER OF THE
AMERICAN FISHERIES SOCIETY
2022 ANNUAL MEETING**



HELPING CONSERVE OVER 10,000 FISHERIES
SINCE 1967

INVESTING IN OUR FUTURE

President's Welcome

Welcome to the 2022 Annual Meeting of the American Fisheries Society

This year's theme is Investing in the Future. The meeting is part of personal investment in enhancing our capacities for sustaining and enriching Minnesota's varied and valued fisheries. We encourage student participation because they comprise the leading edge of the fisheries profession in Minnesota. Our meeting is virtual due to the covid pandemic. Some of the first approved vaccines for covid occurred because the scientific community invested in research, much that was not focused on coronavirus. Similarly, our chosen profession also focuses on investing in the future. Particularly, we work to sustain the state's fisheries for the long term and our results inform future decisions. At a personal and chapter level, we invest in our own learning and in the upcoming generations of professionals by holding meetings, providing feedback to students and young professionals, and by participating in the process. The paths we take from beginner to seasoned pro often wind through various duties and skill sets which we often cannot predict. Investments in learning bolster our ability to adapt by remaining engaged in learning through our evolving careers. The focus on learning also enhances our mission of conserving fisheries resources for the future. When we support and invest in students, young professionals, and ourselves we support our mission in fisheries.

Have a Great Meeting!

Keith Reeves, President, Minnesota chapter AFS

AFS Meetings Code of Conduct

- **Treat all participants, attendees, AFS staff, and vendors with respect and consideration, valuing a diversity of views and opinions, and critiquing ideas rather than individuals.**
- **Refrain from demeaning, discriminatory, or harassing behavior and speech directed toward other attendees, participants, AFS staff, and suppliers/vendors.**
- **Be mindful of your surroundings and of your fellow participants. Alert AFS staff or venue event staff if you notice a dangerous situation or someone in distress.**
- **Respect the rules and policies of the meeting venue, hotels, AFS-contracted facility, or any other venue.**
- **To foster a welcoming environment, assist AFS members with impaired physical or cognitive abilities, if necessary.**

2022 Annual Meeting Planning Committee	
Keith Reeves	President
Andy Hafs	President - Elect/Program Committee
Calub Shavlik	Secretary/Treasurer
Craig Kelling	Past President
Nick Peterson	EXCOM/Fund Raising Committee
Kyle Zimmer	EXCOM
Ryan Maki	EXCOM
Jessie Koehle	EXCOM/Awards Committee
Hanna Kruckman	Communications Committee
Jay Hatch	Scholarships Committee
Mark Hove	Scholarships Committee
Patrick Schmalz	Program Committee
Michelle Krecklau	Volunteers Coordinator
Joel Hoffman	Membership Committee
Mandy Erickson	Accommodations Committee
Jon Hansen	Fund Raising Committee
Luther Wilmont	Fund Raising Committee

To All our Volunteers

Thank you!!!

Paper and Poster Judges

Craig Kelling, Jessie Koehle, Loren Miller, Ann Schneider, Tony Sindt, Ryan Maki, and Isaiah Tolo

Moderators

Eric Altena, Rick Bruesewitz, Jon Hansen, Jay Hatch, Mark Hove, Tom Jones, Matthew Skoog, Jamison Wendel

Without you, this would not have been possible

Plenary Session

Investing in our Future

Investing from the beginning

[Bemidji State University](#) - *Luther Wilmot, Edward Carlson, Alyssa Hauser, Matthew Kvam*
[University of Minnesota](#) - *Various Students from University of Minnesota*
[University of St. Thomas](#) - *David Gallagher, Payton Johnson, Sara Kangas, Cassie Kramer*

This year during the plenary session we are excited to highlight some of our excellent students from around Minnesota. Individuals from three Universities will have an opportunity to introduce themselves, describe some of the things they have been working on, describe their involvement with MNAFS, and possibly provide some ideas on how we all can help them move forward along their career path. This is a great opportunity for everyone at the MNAFS state meeting to meet some of the future leaders in our field and learn how we can help them, and other students become successful.

Investing throughout a career, perspectives from a young professional, mid-career professional, and apex servant leader.

Hannah Anema, Brian Nerbonne, and Bradford Parsons.

The Plenary session focuses on the theme of Investing in the Future. The students share their perspectives of beginning the journey to professional fisheries status. Three professional members explore the paths that their journey has taken them. Young professional Hannah Anema discusses her emerging role in fisheries and how her personal interests enhance what she brings to her professional role and to our chapter. Mid-career professional Brian Nerbonne discusses his journey so far, what choices he has made and how they have enhanced his role in the chapter, and how his past will influence his future activities in fisheries. Apex leader Brad Parsons discusses his journey that has culminated in tackling some of the most contentious and rewarding issues in Minnesota and national fisheries. The goals of this plenary session are to celebrate our paths in the fisheries profession and encourage us to continue to invest in our students, ourselves, and our chapter as we journey toward making the world a better place by conserving, developing, and wisely using our great State's fisheries.

Plenary Session

Presenter Biographies

Hanna Anema

Hannah Anema is a College of Saint Benedict grad that became a fulltime Fisheries Technician for Minnesota DNR in 2015. She learned many technical skills needed to be a fulltime fisheries employee during her internship, laborer, and creel positions with the DNR. But Hannah also possesses skills such as artistry, creativity, emotional intelligence, and communication. Therefore, Hannah has found ways to apply her unique skillset to her job as a technician to continue to grow as a young professional and to overall enhance the work of the DNR.



Brian Nerbonne

Brian Nerbonne hails from Michigan. He has a bachelor's degree in Natural Resources from the University of Michigan and a master's degree in Fisheries Science from the University of Minnesota. Brian has been with the Minnesota Department of Natural Resources for 23 years, working in Fergus Falls and the West Metro as a fisheries specialist, stream habitat specialist in the Central Region, statewide stream habitat supervisor, and currently is the Central Region Fisheries Manager. Brian has been an AFS member for 29 years and served on the MN AFS executive committee and as chapter president before taking his current role as North Central Division president-elect.



Bradford Parsons

Brad Parsons has been the Fisheries Section Manager for the Minnesota DNR since July 2018. Prior to that, he was the Central Region Fisheries Manager starting in 2010. Prior to that, he was a fisheries research scientist in western Minnesota, focusing mostly on walleye and walleye stocking but also biomanipulation and centrarchid dynamics. He served as NCD President in 2005-06 and Minnesota Chapter president in 2001-02. At the Parent Society level, he served on the Strategic Plan Revision Committee in 2003-04, co-chaired the international symposium on fish marking in New Zealand in 2007-08, and was an Associate Editor for the North American Journal of Fisheries Management from 2000-04, and ran for Society 2nd vice-president in 2021.



Schedule at a Glance

Date	Time	Event
7-Feb	10:00 am - 10:25 am	Open House/Setup
	10:25 am - 10:40 am	Welcome, Introductions, and Instructions Keith Reeves & Andrew Hafs, MN AFS
	10:40 am - 11:10 am	Quick-Format Presentations
	11:10 am - 12:00 pm	Poster Session
	12:00 pm - 12:35 pm	Lunch
	12:35 pm - 1:20 pm	Plenary Session: Investing from the beginning (University Students)
	1:20 pm - 2:05 pm	Plenary Sessions: Investing throughout a career, perspectives from a young professional Hannah Anema , mid-career professional Brian Nerbonne , and apex servant leader Brad Parsons .
	2:05 pm - 2:25 pm	Open Discussion, Q & A
	2:25 pm - 3:05 pm	Break/Trivia Game/Presenters Meeting
	3:05 pm - 4:35 pm	MN AFS Business Meeting
8-Feb	8:00 am - 8:10 am	Welcome and Introductions Keith Reeves & Andrew Hafs, MN AFS
	8:10 am - 10:10 am	Session 1- Student Presentations
	10:10 am - 10:30 am	Break
	10:30 am - 11:50 am	Session 2 - Student Presentations
	11:50 am - 12:20 pm	Lunch Break
	12:20 pm - 2:20 pm	Session 3 - Professional Presentations
	2:20 pm - 2:40 pm	Break
	2:40 pm - 4:00 pm	Session 4 - Professional Presentations
	4:00 pm - 4:10 pm	Break
	4:10 pm - 4:30 pm	Awards
4:30 pm	Adjourn	

Speed Presentations - Monday, February 7, 2022

Moderator: Matt Skoog and Eric Altena	
10:40 AM	'A Golden Opportunity: Strategies to Accelerate Growth of Golden Shiner <i>Notemigonus crysoleucas</i> in Minnesota and other Northern Climates.' Donald Schreiner
10:50 AM	'Effectiveness and costs of aquatic invasive species spread prevention in Minnesota.' Nichole Angell
11:00 AM	'Vertical Habitat Occupancy and Diel Migration Patterns of Burbot.' Tyler Robinson

Poster Session, 11:10 AM - 12:00 PM, Feb 7

Presenter	Title
Sara Kangas	Patterns of trophic position, littoral carbon use, and habitat coupling in fish among Minnesota lakes
Cassandra Kramer	Response of Invasive Bigheaded Carp to an Acoustic and CO2 Deterrent
Christopher Rounds	Optimizing eDNA for multiple AIS
Paul Radomski	A Century of Change in Minnesota's Lake Plant Communities

Student Presentations- Tuesday, February 8, 2022

Moderator: Rick Bruesewitz and Jay Hatch	
8:10 AM	'Seasonal Variations in Home-Range Size Concerning the Spawning Vulnerability of Burbot.' Tyler Robinson
8:30 AM	'Environmental influences on the growth of inland cisco populations in three Sentinel Lakes.' Edward Carlson
8:50 AM	'Spawning-Related Habitat Use of Walleye in the Big Sandy Lake, MN Watershed.' Claire Rude
9:10 AM	'Examining motivations for illegal baitfish release among Minnesota anglers.' Meg McEachran
9:30 AM	'Can Small-Scale Invasive Cattail Removal Positively Impact Fish Communities Across Minnesota?.' Brendan Nee
9:50 AM	'Spatial and Temporal Variability of Mercury in Upper and Lower Red Lake.' Tyler Orgon

Moderator: Jamison Wendel and Tom Jones	
10:30 AM	'Feeding Patterns and Diet Overlap of Muskellunge and Co-Occurring Piscivores in Minnesota Lakes.' Kamden Glade
10:50 AM	'Identifying drivers of isotopic niche overlap and trophic redundancy in fish communities across Minnesota lakes.' David Gallagher
11:10 AM	'Impacts of Cisco (<i>Coregonus artedii</i>) on food web architecture of Minnesota lakes.' Payton Johnson
11:30 AM	'Life at the top of the food chain: trophic ecology of Walleye and Northern Pike in lakes with and without zebra mussels.' Mary Thelen

Professional Presentations- Tuesday, February 8, 2022

Moderator: Mark Hove and Jon Hansen	
12:20 PM	'Neighborhood Fishing Updates from Eagan, Minnesota.' Jessie Koehle
12:40 PM	'Friday night fish fries: Can we grow Yellow Perch indoors to increase aquaculture supply chain resilience and local food security?.' Amy Schrank
1:00 PM	'Nutrient concentrations in shallow lakes reflect in-lake properties while $\delta^{13}C$ and $\delta^{15}N$ patterns in food webs are driven by lake morphometry and watershed land use.' Kyle Zimmer
1:20 PM	'Distribution and comparative influences of minnows, Black Bullhead, and invasive Common Carp on water quality, submerged plants, and invertebrate communities in shallow Minnesota lakes.' Brian Herwig
1:40 PM	'Recovery of Slimy Sculpin after a Headwater Fish Kill.' Neal Mundahl
2:00 PM	'Movement patterns of carp through Mississippi River locks and dams show how these structures can be used to block invasive carp while allowing for native fish to pass, solving the continuity conundrum.' Peter Sorensen

Moderator: Mark Hove and Jon Hansen	
2:40 PM	'Assessment and Management of Unique Muskellunge Populations in Voyageurs National Park.' Kristen Patterson
3:00 PM	'History of Balancing Native and Introduced Trout in Minnesota Streams.' Shannon Fisher
3:20 PM	'Genomic insights into likely origins of Brook Trout below barriers in North Shore tributaries and Lake Superior.' Loren Miller
3:40 PM	'Influence of terminal tackle and environmental conditions on survival of caught and released salmon and steelhead.' Sean Gibbs