

JOINT CONFERENCE OF THE MINNESOTA
CHAPTERS OF AFS, SAF, & TWS

CONFERENCE PROGRAM

Conservation and Collaboration:
Interdisciplinary Management of Natural Resources



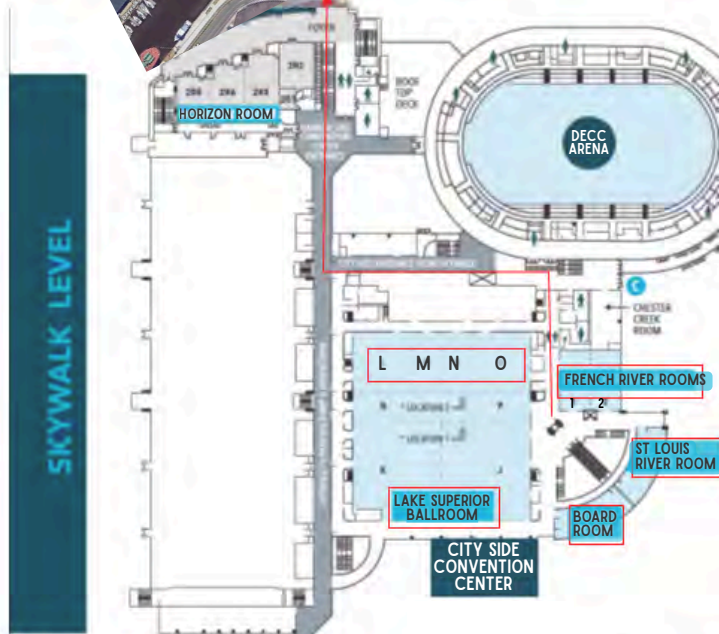
FEBRUARY 24-26, 2026

DULUTH ENTERTAINMENT
CONFERENCE CENTER
350 HARBOR DRIVE, DULUTH MN

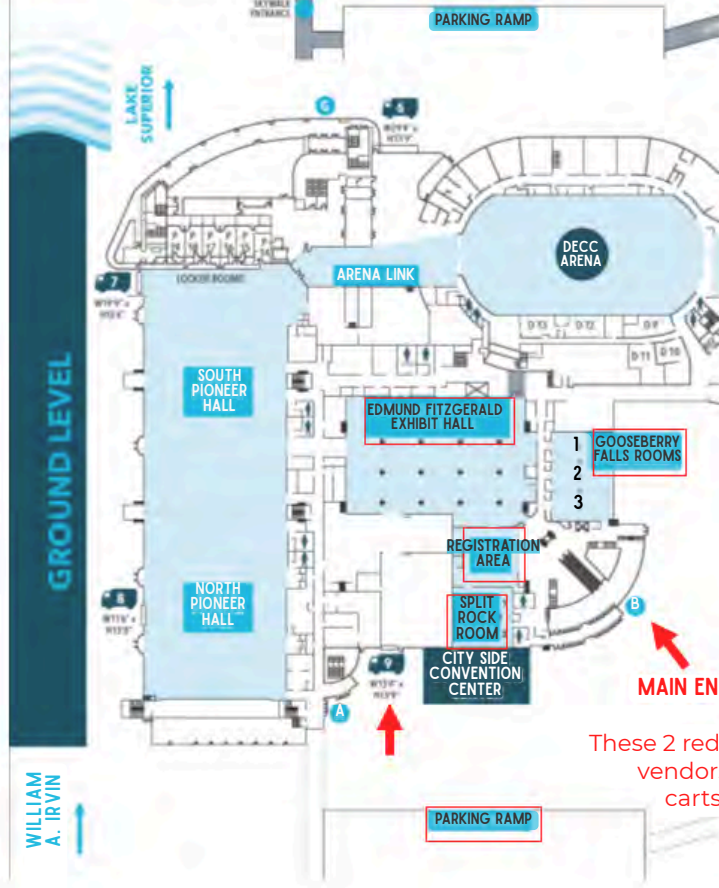
EVENT LOCATION MAP

Tuesday 6pm social is at "The Garden Canal Park"

EXIT THE DECC TOWARD THE CANAL (RED ARROW), CROSS THE FOOT BRIDGE, AND ENTER THE GARDEN VENUE FROM S. LAKE AVE



PARKING TIP: COMMUTERS CAN PARK AT THE DECC RAMP FOR \$10/DAY. FOLKS STAYING IN HOTELS CAN PARK FREE AT YOUR LODGING PLACE AND WALK TO THE DECC IF YOU CHOOSE.



Note: Rooms we'll use for our meeting are highlighted in red boxes on this map.

**DECC WiFi
password:
LiftBridge!26**

These 2 red arrows = entry way for vendors and poster setup, carts will be available

SKYWALK LEVEL

GROUND LEVEL

WILLIAM A. IRVIN

PLENARY SPEAKERS



ED ARNETT

Chief Executive Officer,
The Wildlife Society



SARAH STROMMEN

Minnesota Department of
Natural Resources Commissioner

Ed Arnett joined The Wildlife Society (TWS) staff as the CEO in November 2021. He also is a Senior Instructor and Adjunct Faculty member in the Department of Fish, Wildlife and Conservation Biology at Colorado State University and hosts the public television conservation series *This American Land*.

He holds an Associate in Applied Science degree in natural resources management from Colorado Mountain College, a B.S. in fish and wildlife management from Montana State University, an M.S. in zoology and physiology from the University of Wyoming, and a Ph.D. in forest science from Oregon State University.

Prior to joining TWS, Ed served as chief scientist for the Theodore Roosevelt Conservation Partnership for nearly a decade, and worked for the US Forest Service, US Fish and Wildlife Service, Weyerhaeuser Company, and Bat Conservation International as a field and research biologist earlier in his career. He has worked with numerous species of wildlife and studied bats for more than 20 years, including research on these unique mammals for his doctorate degree. He is a Fellow and Certified Wildlife Biologist with The Wildlife Society and is a professional member of the Boone and Crockett Club. Ed lives in Colorado with his wife Glenda and their dogs.

Sarah Strommen is the commissioner of the Minnesota Department of Natural Resources, with a staff of about 2,700 people statewide. Their mission is to work with Minnesotans to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life. She has a deep understanding of natural resources and is known for her commitment to outdoor recreation and for her ability to work with diverse views and discussions for the best outcomes.

Prior to becoming commissioner, Strommen served as assistant commissioner at the DNR, as acting deputy director at the Board of Water and Soil Resources (BWSR), as policy director for Friends of the Boundary Waters Wilderness, and as associate director of the Minnesota Land Trust. She also served on Ramsey City Council and was mayor for six years before stepping down.

Strommen holds a bachelor's degree in biology and Latin American studies from Grinnell College in Iowa, where she majored in biology and Latin American studies. After graduating from college, she used a Fulbright research scholarship to do field work in Costa Rica and subsequently earned her master's degree in environmental management from Duke University. Strommen is an avid outdoors person, spending family weekends fishing, hunting, and hiking.

CONFERENCE HIGHLIGHTS

Welcome to Duluth!

Check out VisitDuluth.com for Lift Bridge facts, learn about shipping on Lake Superior, find local out about local attractions, and restaurant options, and more:

<https://visitduluth.com/food-drink>
<https://visitduluth.com/experience/attractions>

Welcome Social

Feb. 24 from 6-10pm at The Garden (next to the DECC) at 425 S Lake Ave, Duluth.

First-Time Attendee & Student Welcome Event (Feb 24, 5pm)

Feb. 24 from 5-6pm in the Split Rock Room; Co-Hosted by the Diversity, Equity, & Inclusion (DEI) and Student Relations Committees, this 1-hr welcome event is open to everyone. Geared toward first-time attendees, DEI Allies, and students; hear an overview of each organization, meet DEI committee members, learn how to get the most out of a conference, and discover how to form and energize student chapters.

Banquet, Trivia, Raffle, Awards

Feb. 25 from 6-9pm, join us in the Lake Superior Ballroom at the DECC. Great food, time to socialize, awards and scholarships presented, student winners announced, trivia game, and more. A highlight you won't want to miss!

DECC WiFi
password:
LiftBridge!26

NOTE: FOR FOLKS WITH SPECIFIC DIETARY NEEDS, PLEASE PICK UP YOUR MEAL CHOICE CARD AT REGISTRATION.

With Gratitude...

To our conference planners, Continuing education setup and instructors, Chapter officers, committee members, volunteer judges, scholarship and award reviewers, student chapter volunteers, trivia planners, presenters, students and their mentors, and DECC staff: we are so grateful for all your hard work, and we acknowledge that none of this would be possible without all of you. Thank you!

CHAPTER WEB PAGES



<https://units.fisheries.org/mnafs>

<https://www.mntws.com>

<http://www.mnsaf.org>

AFS MEETING CODE OF CONDUCT



Treat all participants, attendees, staff, and vendors with respect and consideration, valuing a diversity of views and opinions. Critique ideas rather than individuals.

Refrain from demeaning, discriminatory, or harassing behavior and speech directed toward other attendees, participants, staff, or vendors.

<https://fisheries.org/about/governance/afs-meetings-code-of-conduct>



By attending this conference, you agree to follow AFS code of conduct.

PROGRAM AT A GLANCE

Feb 24 (Tuesday)

Time	Event	Location
9am-12pm	Set up for Continuing Ed classes	Rooms L, M/N, O
9am-4pm	<i>Tribal Fish & Wildlife Coordination Meeting</i>	French River room 1&2
10am-3pm	<i>Pike Technical Team meeting</i>	Gooseberry Falls 1
11am-5pm	Registration (lunch on your own)	Ground-level registration area
1130am-6pm	Poster set up	Edmund Fitzgerald Hall
12pm-5pm	Continuing Ed class (fish, inverts, art)	Rooms L, M/N, O
230pm-4pm	<i>SAF Executive meeting</i>	St Louis River room
3pm-4pm	<i>TWS Board meeting</i>	Board room
3pm-430pm	<i>AFS Ex Com meeting</i>	Gooseberry Falls 2
5pm-6pm	Welcome event for DEI and new attendees	Split Rock Room
6pm – 10pm	Welcome Social	The Garden (next to DECC)

Feb 25 (Wednesday)

Time	Event	Location
730am-10am	Registration (breakfast on your own)	Ground-level registration area
730am- 10am	Poster setup	Edmund Fitzgerald Hall
730am-8am	Coffee and tea available	Lake Superior Ballroom
8am-10am	Plenary sessions	Lake Superior Ballroom
10am-1020am	Break with coffee and snacks	Lake Superior Ballroom
1020am-1140am	Contributed session 1	* 7 meeting room locations
1140am-1230pm	Lunch	Lake Superior Ballroom
1230pm-120pm	Business meeting for each organization	AFS in L, SAF in M/N, and TWS in O
120pm-240pm	Contributed session 2	* 7 meeting room locations
240pm-310pm	Break with coffee and snacks	Lake Superior Ballroom
310pm-430pm	Contributed session 3	* 7 meeting room locations
430pm-6pm	Poster session and social	Edmund Fitzgerald Hall
6pm-9pm	Banquet, awards, trivia	Lake Superior Ballroom

Feb 26 (Thursday)

Time	Event	Location
730am-8am	Coffee and tea available	Lake Superior Ballroom
8am-920am	Contributed session 4	* 7 meeting room locations
920am-10am	Break with coffee and snacks	Lake Superior Ballroom
10am	Deadline for removing posters	Edmund Fitzgerald Hall
10am-1120am	Contributed session 5	* 7 meeting room locations
1120am	Meeting concludes (lunch on your own)	

* All contributed sessions consist of 7 concurrent sessions with 4 talks per session).

Locations are: Rooms L, M/N, O, French River 1, French River 2, Gooseberry 1, and Gooseberry 2.

(italics = meetings for specific committees by invite)

CONTRIBUTED SESSIONS 1

Wednesday Feb. 25

8:00 am Welcome and introductions (Lake Superior Ballroom)

8:10 am Plenary speakers:

Ed Arnett - CEO, The Wildlife Society - "Addressing Contemporary Challenges for Conservation – Why Interdisciplinary Collaboration Remains Vital"
DNR Commissioner Sarah Strommen - "Conservation and Collaboration"

10:00 am Break (Lake Superior Ballroom)

** indicates student presenter*

Room:	L	M / N	O	Gooseberry 1	Gooseberry 2	French 1	French 2
Contributed 1 Symposium:	Applied Technology	Tribal Session	Ecological Resilience	General	General	General	General
10:20 am	Trends in watercraft traffic on Minnesota lakes: Utilizing motion-activated trail cameras to provide insights on freshwater recreation. Jared Langer*	Effects of Anthropogenic Structures on Gray Wolf (<i>Canis lupus</i>) Movements on the Fond du Lac Reservation. Grace Lavan*	Comparative Analysis of Attachment Strength in Invasive and Native Lamprey Species under Static and Flowing Conditions. Lauren Willman*	How loggers identify and protect sensitive soils during their operations. Lane Moser*	Participating in the Minnesota Animal Movement Archive. Smith Freeman	Population dynamics of the carpsuckers (<i>Carpiodes</i> spp.). Alec Lackmann	Walleye Harvest Management in the Red Lakes: 20 Years of Adaptive Management. Tony Kennedy
10:40 am	Salmonid Movement and Habitat Use in Minnesota Tributaries to Lake Superior. Dylan Undlin*	Response of ma'iinganag (gray wolves) to oil pipeline construction on the Fond du Lac Reservation in northeast Minnesota. Mike Schrage	MCH, a pheromone component produced by female eastern larch beetle, interrupts the aggregation behavior of flying eastern larch beetles. Ian Grossenbacher-McGlamery*	EAB and Forest Management in Black Ash Wetlands: Impacts on wildlife, carbon storage, hydrology, forest structure and biodiversity. Erin Clark* and Steve Kolbe	Lifecycle modeling as a tool for conservation. Amanda Tveite*	Population Dynamics of Rock Bass in Select West-Central Minnesota Lakes. Ethan Rasset	St. Louis River and Western Arm Lake Superior Walleye Regulation Change. Sam Peterson
11:00 am	Acoustically conditioned bigheaded carp deter naïve fish from upstream passage. Jack Vannurden*	Ma'iingan (Wolf) Pup Survival Monitoring. Morgan Swingen	Modeling the risk of <i>Batrachochytrium salamandrivorans</i> , an emerging pathogenic fungus, in Minnesota amphibians. Emily Banks*	Long term oak regeneration after oak wilt management. Grace Haynes* and Erica Houser	Evaluating prey limits on larval walleye growth using bioenergetics-based modeling. Jeannine Doyle*	Cold Fish, Hot Data: Using Genetics to Understand Burbot Populations. Kristen Patterson	Spawning habitat partitioning of sympatric salmonid populations in the upper Bois Brule River, Wisconsin. Thomas Hrabik
11:20 am	A Comparison of Vessel and Autonomous Underwater Vehicle (AUV) Based Acoustic Estimates of Demersal Fish Density in the Great Lakes. Aidan Waterhouse*	Working Dogs for Conservation. Michele Lovara	Chytrid presence in Minnesota True Frogs (Family Ranidae). Kerri Beers*	Findings from the 2024 survey of silvicultural practices in Minnesota. Lane Moser*	Through the Looking Glass: Reconstructing Historical Trophic Ecology of Walleye by Stable Isotope Analysis of Fish Eye Lenses. Kaylee Bachman*	Wrestling with halfbeaks: A Phylogenomic Perspective on the Evolutionary Relationships of Atherinomorpha (Ovalentaria). Matt Davis	A Hidden Stronghold: Lake-Spawning Coaster Brook Trout in Grand Marais Harbor. Nick Peterson

12:30 pm Business meetings for each organization

** indicates student presenter*

Room:	L	M / N	O	Gooseberry 1	Gooseberry 2	French 1	French 2
Contributed 2 Symposium:	Applied Technology	Tribal Session	Ecological Resilience	General	General	General	Policy & Program Reviews
1:20 pm	Using temperature loggers to monitor den box use by American martens, fishers, and tree squirrels. Taylor Velander*	Miin (blueberries), Prescribed Fire and Cultural Burning in Red Pine Ecosystems: The Sunken Lake Blueberry Project. Bugwajiniinii (Daniel Devault)*	Improving Walleye and Lake Whitefish Performance Indicators for Lake Water Level Management on Rainy – Namakan System. Benjamin Erb*	Behavioral Plasticity, Landscape Features Drive Variability in Fawn Space Use. Samuel Overfors*	Factors Influencing the Body Condition of Yellow Perch in Minnesota Lakes. Georgina Leramo*	Lowland conifer forests: Structure, composition, and alternative management. Laura Reuling	Managing People in Fisheries Management: An Overview of Fishing Regulations. Shanon Fisher
1:40 pm	Testing assumptions in fisher (<i>Pekania pennanti</i>) habitat suitability indices to understand fisher distribution in Minnesota. Adam Mortensen	Blueberry Burning. Erik Carlson	Bright spots and factors related to unexpected walleye success. Christopher Rounds*	Zombie Deer are Coming: Portrayal of Chronic Wasting Disease in U.S. Newspapers. Miranda Huang*	Emerald Bowfin Ecology in Three Minnesota Lakes: Abundance, Age Analysis, Diet Composition, and Stable Isotope Food Web. Griffin Blegen*	Rehabilitating Old Growth: a Synthesis Framework for Eastern Forests. Anna Yang	Volunteers Can Help You to Meet Your Mission & Conservation Goals. Amy Rager
2:00 pm	Using Traditional and eDNA Surveys to Detect Spotted Salamanders (<i>Ambystoma maculatum</i>) in Minnesota. Sam Skinner	Fond du Lac Lake Superior Subsistence Fishery. Eric Torvinen	Thermal Sensitivity of Walleye Strains: Implications for Fisheries Management in a Warming Climate. Laurel Sacco*	Grazing...it's for the birds! Krysten Zummo	Comparing life history and trophic ecology of Longnose and Shortnose Gars between Northern and Southern metapopulations. Gabrielle Gonzales*	Applications of Remote Sensing. Jennifer Corcoran	Minnesota's Wildlife Action Plan Updated for 2025-2035. Alison Cariveau
2:20 pm	Evaluating eDNA metabarcoding for fish community sampling on a remote freshwater archipelago. David Gallagher	Listening to the Lake: Tracking Subsistence Giigoonh (Fish) Movements in Grand Portage Waters. Ryan Grow	An evaluation of Cisco condition in Wisconsin waters of Lake Superior. Jeremiah Shrovnal*	A multi-model approach to flying squirrel survey planning and conservation in Minnesota. Anna Peterson*	Understanding Longnose Gar otolith age derivation, growth, and population dynamics in two large Upper Midwestern rivers. Charles Vaughan*	- - -	Public Preferences for Deer, Moose, and Wolf Wildlife Management in Northeast Minnesota. Adam Landon

2:40 pm Break (Lake Superior Ballroom)

2:40 pm Break (Lake Superior Ballroom)

** indicates student presenter*

Room:	L	M / N	O	Gooseberry 1	Gooseberry 2	French 1	French 2
Contributed 3 Symposium:	Applied Technology	Tribal Session	Ecological Resilience	Forestry for Birds	General	General	Policy & Program Reviews
3:10 pm	Protecting Upper Mississippi River from Invasive Carp - Lock and Dam 5 Deterrent Project. Carli Wagner	---	Straight River Brown Trout and Potential Bait Harvest Impacts. Carl Pederson	Forest structural complexity and its influence on black spruce peatland bird communities. Josh Kolasch*	A Comparison of Gear Efficacy for Fishes Occupying Near-Shore, Off-Channel Riverine Habitats. Charmayne Anderson	Nobody said it was easy, no one ever said it would be this hard: Quantifying fish responses to climate change in lakes of the Midwestern United States. Gretchen Hansen	Multi-disciplinary, All-Lands, Forest Resource Planning through the Regional Landscape Program. Jamie Thibodeaux
3:30 pm	Easier egg hunt: Using FluEgg modeling of silver carp ichthyoplankton drift to tailor monitoring methods and locations in Minnesota. Grace Loppnow	Thermal niches of predator and prey fish species in Mille Lacs Lake. Carl Klimah	Decay and longevity dynamics of retained snags following regeneration of red pine stands in north central Minnesota. Greg Harris*	Performance of Automated Acoustic Classifiers for Two Declining Bird Species. April Strzelczyk Haverstock*	Fish index of biological integrity monitoring and assessment: Baseline conditions in Minnesota lakes. Derek Bahr	Restoring nearshore lake ecosystems through mechanical harvest of invasive cattails. Claire Rude	Operationalizing Lidar Derived Forest Inventory. Keb Guralski
3:50 pm	eDNA to Identify Presence of Terrestrial Invasive Species in Minnesota. Kara Snow	Odibaabandamawaan odinawemaagana, Gaa-zagaskwaajimekaag adikamegwag "Looking in on our relatives, the Leech Lake Whitefish". Michael O'Brien	Monitoring the Response of Four-toed Salamander (<i>Hemidactylium scutatum</i>) Populations to Forest Management. Spencer Rettler	Wildlife responses to alternative harvesting in black spruce forests of northern Minnesota. Josh Bednar	Applying machine learning to predict and understand native and invasive aquatic species distributions. Grant Vagle	Lake restorations followed by northern pike and yellow perch stocking to improve habitat quality in shallow southern Minnesota lakes. Brian Herwig	Achieving interdisciplinary resource management through integrated forest management guidelines. David Wilson
4:10 pm	A New Tool for Early Detection of Endangered Turtles. Christopher Smith	Sturgeon Monitoring on the Lower St. Louis River. Nick Bogyo	Urban Tree Assessment - Trends in Urban Tree Populations Using Repeat Surveys and Remote Sensing. Lucas Spaete	State of Minnesota's black spruce: a bird's eye view. Steve Kolbe	Goldfish management in a shallow urban lake: familiar tactics for a new foe. Jordan Wein	Walleye Biomanipulation: Collaborative Conservation in Prairie Wetlands. Sara Vacek	Mainstreaming Prescribed Fire with the Minnesota Prescribed Fire Council. Lane Johnson

4:30 - 6:00 pm Poster Session and Social (Edmund Fitzgerald Hall)

6:00 - 9:00 pm Banquet (Lake Superior Ballroom)

CONTRIBUTED SESSIONS 4

Thursday Feb. 26

Room:	L	M / N	O	Gooseberry 1	Gooseberry 2	French 1	French 2
Contributed 4 Symposium:	Applied Technology	Tribal Session	Ecological Resilience	Forestry for Birds	General	General	Policy & Program Reviews
8:00 am	Innovative technology applications in fisheries management: remote monitoring buoys, an underwater game camera, and modified trap nets in Eagan, MN. Jessie Koehle	Reconstructing Forests to Foster Cultural Revitalization. Ferin Davis Anderson	The plants have it! Aquatic plant communities explain sport fish community structure in Upper Midwest Lakes. Heidi Rantala	Conservation of Eastern Forest Birds Through Audubon's Bird-Friendly Maple Program. Jacob Crawford	Evaluating the current status of lean lake trout populations in the Minnesota waters of Lake Superior. Kevin McDonnell	Flying squirrel activity at overlapping range boundaries. Katie Pfaff	Minnesota Sea Grant's role in building a sustainable aquaculture future in Minnesota. Julianne Grenn
8:20 am	Angler use of stocked trout lakes in northwest Wisconsin. Logan Cutler	Leech Lake Band of Ojibwe, Co-Management with the Chippewa National Forest. Keith Karnes	Evaluating the influence of lake characteristics, climate factors, and thermal tolerance on niche breadth and overlap of Minnesota fish populations. Cam Mosley	Forestry for Minnesota Birds Conservation Guide: Practical Management Considerations and Strategies to Support Forest Birds. Peter Dieser	Determination and Comparison of Morphometrics and Meristics Used to Identify River and Shorthead Redhorse. Devon Oliver	Hybridization of Sharp-tailed Grouse and Greater Prairie-chickens in Minnesota and North Dakota. Charlotte Roy	When Conservation Becomes Overreach: Federal Natural Resources Acts as an affront to Indigenous Sovereignty. Seth Moore
8:40 am	Can Angler PIT Tag Reporting Assist with Lake Vermilion Muskellunge Management? Kamden Glade	A Method to Estimate Moose Forage from Forest Regeneration Surveys and Implications for Forest Management. Matt Petz Giguere	Characterizing Fish Communities in Northeastern Minnesota Lakes: Creating a Framework for Classification, Monitoring, and Condition Assessment. Jessica Massure	Where Migrants Pause: Mapping Stopover Sites to Inform Avian Conservation in Minnesota. Dale Gentry	Survival of the Fishes: Expanding the Poor-Recruitment Paradigm. Lynn Waterhouse	Bird counts are more than data. Douglas Johnson	Restoration of common loons in Minnesota. Tim Mitchell
9:00 am	Now the rest of the Muskellunge DNA story.... Calub Shavlik	Collaborative Forestry Grounded in Indigenous Values. Phillip Hass	Isotope tracers inform area of concern actions in St. Louis River fish. Joel Hoffman	Small Cuts, Big Impact: Exploring the effects of small-scale, frequent harvests on game and non-game forest birds. Reid Siebers	An historic reconstruction of Minnesota's gamefish fishery describes a 50% decline in the annual number of game fish caught (and kept) since 1990. Peter Sorensen	Predator Use of Fences in Conservation Grazing Applications. Charlotte Roy	Saving Wetlands, Shaping a Legacy: 75 Years of Minnesota's WMA System. Dave Trauba
9:20 - 10:00 am	Break						

CONTRIBUTED SESSIONS 5

Thursday Feb. 26

Room:	L	M / N	O	Gooseberry 1	Gooseberry 2	French 1	French 2
Contributed 5 Symposium:	Applied Technology	Tribal Session	Ecological Resilience	Forestry for Birds	General	General	Policy & Program Reviews
10:00 am	Using Technology and Field Work to Identify and Describe Moose Use at Mineral Licks, Potential Ecological Traps. Anna Weesies	One Tribe's response to combat the threats of emerald ash borer and climate change to forested swamps around wild rice lakes. Alex Mehne	Adapting old tools for new challenges: silvicultural practices on Minnesota's state lands. Mike Reinikainen	Connecticut Warbler at the Southern Edge: Population Declines, Range Retraction, and Conservation Priorities. Alexis Grinde	Balancing Water Storage and Chinook Salmon Objectives Under Uncertainty: How Decision Analysis can Inform Resource Management Tradeoffs. Lisa Elliot	30 Years of Blanding's Turtle (<i>Emydiodea blandingii</i>) Conservation Work at Camp Ripley Training Center. Andrew Herberg	Mind the gap: Where Clean Water Act rulemaking fails to meet the science and legislative intent in defining waters of the United States. Sue Colvin
10:20 am	Movement, Habitat Use, and SARS-CoV-2 Dynamics in Suburban White-tailed Deer. James Forester	A Tribe's Climate-Adaptive Strategy for Emerald Ash Borer Mitigation of a Floodplain Forest within the Upper Mississippi River Basin. Gabriel Miller	Fire, Regeneration, and Stewardship of Minnesota's Northern Forests. Marcella Windmuller-Campione	Golden-winged Warbler productivity and fledgling movement in young forest and shrub wetland habitats of northern Minnesota. Stephen Nelson	Reconnecting Rivers: Fish Barrier Removal and Culvert Assessment on the Pomme de Terre River. Brian Mason	Wood Turtle Conservation in Northeastern Minnesota. Gaea Crozier	Taconite Mine Pit Water Discharges and Bioaccumulation of Methylmercury in <i>Aeshnidae</i> Larvae and <i>Cyprinidae</i> in the Dunka River (Babbitt MN). Andrew Gardon
10:40 am	Habitat Selection of Sympatric Bobcats and Fishers Contributing to Fisher Predation Risk. Michael McMahon	Speaker: Gene Mensch	Minnesota Fire Needs Assessment. Michael Lynch	Woodpeckers and Their Aspen Habitat in Northern Minnesota. Michael North	A cost-effective approach using eDNA and habitat assessment to inform fish passage restoration in Sand Creek, Minnesota. Sean Gibbs	Wood Turtle (<i>Glyptemys insculpta</i>) Conservation Efforts in Southeastern Minnesota. Neil Slifka	Variation in Fish Mercury Contamination: Crafting Consumption Advisories. Paul Radomski
11:00 am	Can forward-facing sonar be used to more effectively sample fish? Tyler Ahrenstorff	---	---	Status of Wood Duck Nesting Habitat in North-central Minnesota. Edmund Zlonis	Establishing the baseline: Characterizing the water quality and macroinvertebrate community in the Pomme de Terre River before channel modification. Tracey Anderson	Patterns of variation in Western Painted Turtle body condition within and between years. Heather Waye	Use of Common Tern <i>Sterna hirundo</i> chick feathers and mercury isotopes to assess changes in methylmercury exposure & remediation effectiveness in an Area of Concern. Annie Bracey
11:20 Conference concludes. Thank you for attending and have a safe journey home!							

Madison Aberle*, Sara Anderson. **Methods Optimization for Identification of Pollinator Species.** Minnesota State University, Moorhead. dg3527iy@go.minnstate.edu

Jerry BigEagle. **Restoring the Land, Strengthening the Future: Tribal Strategies in Climate Resilience.** Upper Sioux Community. jerryb@uppersiouxcommunity-nsn.gov

Jayne Bucholz*, Chloe Loch, and Chris Merkord. **Evaluation of Grassland and Riparian Bird Population Trends at the MSUM Regional Science Center.** Minnesota State University, Moorhead. jayne.bucholz@go.mnstate.edu

Sydney Bush*, Dr. Sam Jones, Jeff Ueland. **Ecological Effects of Commercial Spruce Top Harvesting in Minnesota's Boreal Forests.** Bemidji State University. sydney.bush@live.bemidjistate.edu

Drew Chilson*, Brooke Vetter. **Effect of Anthropogenic Masking Noise on Bluegill Sunfish Auditory Physiology.** University of St. Thomas. chil5452@stthomas.edu

Samantha Jones, Brian Hiller, Michael R. North, Kaysie Maleski, Richa Dhakal*. **Aspen Age Thresholds for Cavity-Nesting Wildlife.** Bemidji State University. richa.dhakal@live.bemidjistate.edu

Riley Duppong*, Gabriella Castro, Seema Mustafa, Dr. Emerson Towey. **Surveying Tick Species and Associated Pathogens in Northwestern Minnesota.** Concordia College. bduppong@cord.edu

Max Eagan*, Ken Zillig, Gretchen Hansen. **Exploration of the differences in larval thermal physiology and growth among populations of Coregonid fishes.** University of Minnesota. Eagan024@umn.edu

Susan L. Eggert, Kathryn L. Hofmeister. **The flora and fauna of forested seasonal ponds of northern Minnesota, USA.** USDA Forest Service Northern Research Station. susan.eggert@usda.gov

Luxia Feyereisen*. **Assessment of cellular repair mechanisms in slowly evolving gar fish exposed to ultraviolet radiation.** University of Minnesota, Twin Cities. lulu.feyereisen@gmail.com

Ryan Foley, Chris Smith, Jessie Schmidt. **Roads to Atlantis: At the Intersection of Roads and Freshwater Mussels.** Minnesota Department of Transportation. Ryan.Foley@state.mn.us

Kristina Barashkova, Lee Greve*, Val Kukert, Lillian Ruhland, Chris Merkord. **Establishing a Baseline Inventory of Urban Sunburst Lichens as Indicators of Environmental Health in Moorhead, Minnesota.** Minnesota State University, Moorhead. oo1858op@go.minnstate.edu

Caitlin E. Haasser*, Maria C. Ramstad, Peter J. Weinzierl, Katie P. Waugh, and Joseph C. Whittaker. **The Fall and Rise of a Richardson's Ground Squirrel Population: Using Translocation as a Supplement to Recovery.** Concordia College. chaasser@cord.edu

Tyler Haus*, Andrew Hafs. **Effectiveness of Walleye Stocking in Winter Kill Lakes.** Bemidji State University. yj9806bm@go.minnstate.edu

Bailey Hawkins, Dakota Bird. **Wolf Conflict Prevention Methods in Minnesota.** USDA APHIS Wildlife Services.
bailey.hawkins@usda.gov

Delia Denis, Makena Hedlund*. **Bat Detection in Minnesota Urban and Rural Areas Using AudioMoth Recorders.**
Concordia College. mhedlun1@cord.edu

Benjamin Hoover*, Thomas Racette, Ruby Langr, Oluwafemi Oladejo, and Susan Colvin. **Impacts of Eutrophication on Fish, Macroinvertebrate, and Mussel Assemblages across Aquatic Ecosystems.** Minnesota State University, Mankato. bthoover21@gmail.com

Jordan Hunnicutt*. **Crop Scouting Wheat and Soybeans in Northwest Minnesota.** Concordia College.
jhunnicu@cord.edu

Claire Jordaht*. **American Three-toed Woodpecker Nest Tree Selection in Black Spruce Dominated Forests of Northwestern Minnesota.** Bemidji State University. claire.jordaht@live.bemidjistate.edu

Maxwell Kattner*, Dr. Andrew W. Hafs. **Effects of Latitude on Hybrid Sunfish Ratio Latitude.** Bemidji State University.
mzknature@gmail.com

Raena Kemna*, Jacob Haus. **Space Use and Movement Behavior among Urban White-tailed Deer during a Controlled Archery Hunt.** Bemidji State University. raena.kemna@live.bemidjistate.edu

Ethan Kunz*. **Largemouth Bass Diet Changes Through The Summer in Central Minnesota.** Bemidji State University.
kunz.ethan1@gmail.com

Jenna Lawin*. **Size Structure Comparison of Bluegill in Lakes With and Without Special Regulations.** Bemidji State University. jenna.lawin@gmail.com

Max E. Lundgren*, Tracey M. Anderson. **Characterizing the macroinvertebrate community in Crissy Lake, an impounded reach of the Pomme de Terre River prior to channel modification.** University of Minnesota, Morris.
lundg264@umn.edu

Mags Martin, Nicole Menard, Monica Bryand, Joanna Eckles, Mags Edwards. **Chimney Swift Conservation in Minnesota: Using Community Engagement to Further Conservation Efforts.** US Fish and Wildlife Service.
margaret_martin@fws.gov

Grace McCullough*, Dr. Kassandra Ford, Dr. Ken Zillig. **How Smart is a Smartphone? Comparative Accuracy of Camera Types Used in Morphometric Studies of Fishes.** University of Minnesota. mccul332@umn.edu

Michael McGuigan*, Cam Mosley, Naomi Blinick, Denver Link, Kristen Blann, Gretchen Hansen. **Protecting Coldwater Fish Habitat in Minnesota Lakes.** University of Minnesota, Twin Cities. mcgui622@umn.edu

Jackson Meade*, Julia Nawrocki, Ron Moen, Michael Joyce. **Where the wild things are: A statewide survey for Minnesotan weasels.** University of Minnesota, Duluth. meade109@d.umn.edu

Ellie Meythaler*, Lauren Willman, Allen F. Mensinger. **Examining the Suction Capabilities of Adult Sea Lamprey in Varying Water Velocities.** University of Minnesota, Duluth. meyth003@d.umn.edu

Stefan Nelson. **Arrowhead Collaborative: Shared stewardship for a healthier forest landscape.** Ruffed Grouse Society & American Woodcock Society. stefann@ruffedgrousesociety.org

Malorie G. Anderson*, Chloe E. Nyberg, and Joseph C. Whittaker. **The Importance of Museums for Education and Research.** Concordia College. cnyberg@cord.edu

Oluwafemi Oladejo*, Dan Hart, Louis Magers, Ruby Langr, Bekalu Tiruneh, and Susan Colvin, PhD. **Multi-taxa Responses of Fish and Birds to Water-Quality Gradients in Shallow Prairie Lakes of Southern Minnesota.** Minnesota State University, Mankato. oladejo994@gmail.com

Danielle Otto* and Dr. Susan Colvin. **Demographic Factors and Water Quality.** Minnesota State University, Mankato. danielle.otto@mnsu.edu

Eric Otto, Brian Schwingle, and Keb Guralski. **Recent spruce budworm defoliation and susceptible forests in Minnesota.** Minnesota Department of Natural Resources. eric.otto@state.mn.us

Eleanor Puzzo*, Linnea French, Seema Tian, Joe Whittaker, Mike Bush, Jenn Sweatman. **Grazing Intensity and its Effects on Soil Nutrients and Wildlife Habitat at Darakuta Ranch, Tanzania.** Concordia College. epuzzo@cord.edu

Anthony Raona, Anna Mangan, Grace Lavan, Michael Joyce. **Anticoagulant rodenticide exposure in Minnesota carnivores: current results and future directions.** Natural Resources Research Institute, University of Minnesota, Duluth. raona001@d.umn.edu

Kaed Rauk*, Andy Hafs. **Comparison of Calcified Structures to Estimate Ages of Northern Pike *Esox lucius* in Various Lakes.** Bemidji State University. kdrauk04@gmail.com

Tom Rawlyk. **Population Characteristics and Dynamics of Trout Populations in the Knife River Watershed.** Minnesota DNR, University of Minnesota Duluth. tommyrawlyk@gmail.com

Tom Rawlyk. **Movement and Habitat Use of Brook Trout During Changing Thermal & Flow Regimes.** Minnesota DNR, University of Minnesota Duluth. tommyrawlyk@gmail.com

Nicholas C Rush*, Jacob C Fischer, Sophie Wieland, Megan Fitzpatrick, Edmund Zlonis, Susan Ellis-Felege. **Comparing Uncrewed Aerial Vehicle (UAV) and Autonomous Recording Unit (ARU) Surveys for Detecting Waterfowl and Marsh Birds in Cattail-Dominated Seasonal Wetlands.** University of North Dakota. nicholas.c.rush@und.edu

Sammi Shimota and Morgan Swingen. **Giant Liver Fluke (*F. Magna*) and Brain Worm (*P. Tenuis*) Prevalence in the White-tailed Deer Population of NE Minnesota.** 1854 Treaty Authority. sshimota@1854treatyauthority.org

Ella Shinn*, Rowan Lindholm, Dr. Graeme Wyllie, Dr. Jennifer Sweatman. **Prevalence and Polymer Composition of Microplastics in the Prairie Pothole Region of North Dakota.** Concordia College. eshinn@cord.edu

Mobin H. Shohan*, Susan A. R. Colvin, Michael Minicozzi. **Diversity and Ecological Roles of Pupil Shapes in Freshwater Fishes.** Minnesota State University, Mankato. mobin.shohan@mnsu.edu

Christopher E. Smith. **Turtles in Trouble: Adding Passive Use Values to the Toolkit.** Minnesota Department of Transportation. Christopher.E.Smith@state.mn.us

Rebecca Smith and Donn K. Branstrator. **Body size and geometry predict zooplankton survival to air exposure.** University of Minnesota, Duluth. rbeccaasmith@gmail.com

Emanuel Soumpholphakdy*, Andrew Hafs. **Assessment of year-class strength of lake whitefish in Ten Mile Lake, Minnesota.** Bemidji State University. zz4802vl@go.minnstate.edu

Caitlin Haasser, Reygan McCanna, Tierney Stevenson*. **Relationship Between Richardson's Ground Squirrel Burrow Condition to Population Size.** Concordia College. tsteven4@cord.edu

Jake W. Stuber* & Dr. Andrew Hafs. **Neonicotinoid Bioaccumulation in Bluegill & Bullhead within Lake Julia & Lake Zumwalde.** Bemidji State University. mk0763gq@go.minnstate.edu

W.L. Varela, J. Knopf, E. Amundson, H. Christianson, and M.C. Thoms. **River Characterization of the Driftless Area (MN, WI, IA, IL): A Processed Based Approach to Understanding the Impact of Disturbances.** Saint Mary's University of Minnesota, Winona Campus. wwarela@smumn.edu

Esther Vogt*, Clarissa Pellegrini, Kristin Bondo, Amanda Palowski, Michelle Schultze, Bradley Seufzer, Tiffany Wolf, Arno Wuenschmann, abnd Declan Schroeder. **Surveillance and sequencing of A/H5N1 in Minnesota wildlife species shows emerging HA subclade and viral reassortment.** University of Minnesota. vogt0121@umn.edu

Peter J. Weinzierl*, Katie P. Waugh, Madelyn T. Barlage, Gavin M. Groshelle, Dan Mason, Joseph C. Whittaker. **Assessing the Prey Contents in Northern Saw-Whet Owl Pellets in Fargo, North Dakota.** Concordia College. pweinzie@cord.edu

Elijah Wozniak*, Andrew Hafs. **Statewide Northern Pike Response to Minnesota's 2018 Regulation Change.** Bemidji State University. elijahwozniak5@gmail.com

Parker Young*, Dr. Andrew Haffs. **Microplastic concentration in comparison to depth within Lake Bemidji.** Bemidji State University. parkeryoung355@gmail.com

Afton Gast, Suz Zeki*, Chris Merkord. **Mapping Relative Abundance of Crows and Avian Prey as Proxies for Urban Merlin Habitat in Moorhead, Minnesota.** Minnesota State University, Moorhead. afton.gast@mnstate.edu

Momo Zumbahlen*, Emily Banks, Galia Modabbernia, Jennifer Y. Lamb, Daniel A. Grear, Megan E. Winzeler, Amy C. Kinsley. **Engaging Students in Amphibian Conservation: The Minnesota Student Network for Amphibian Pathogen Surveillance.** University of Minnesota. zumba015@umn.edu



NOTES



THANK YOU SPONSORS!



Discount codes:

MeatEater Store 50% off: MEPHIL50-hmratd

FirstLite 30% off: FLPHIL30-f84qha

Phelps Game Calls 30% off: PGCPHIL30-47czuv

FHF Gear 20% off: PHIL20-t7swx3

