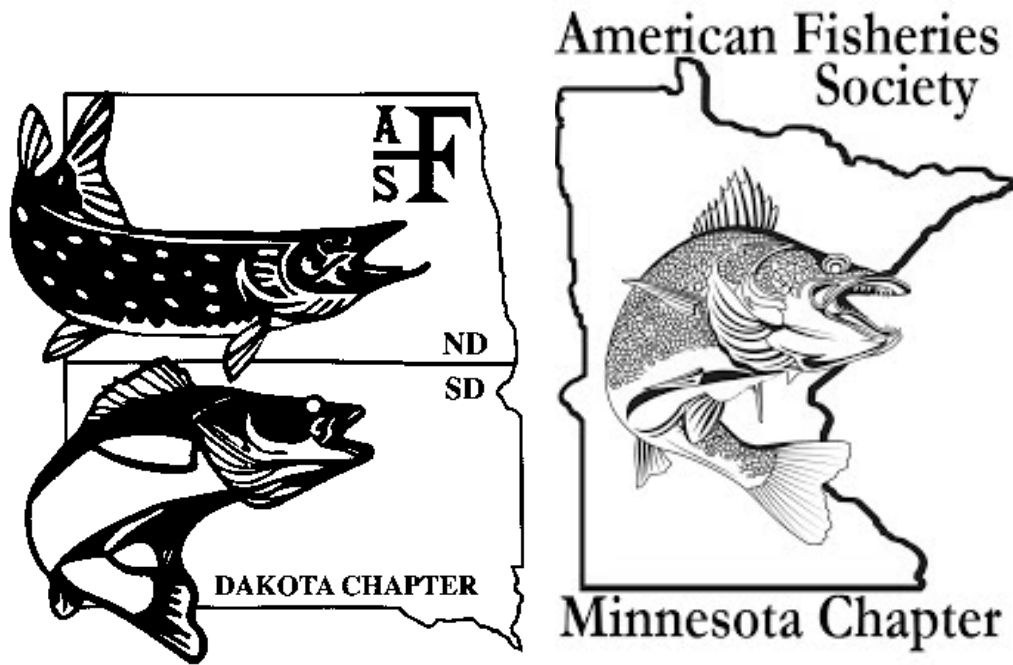


Minnesota and Dakota Chapters of the
American Fisheries Society
Annual Meeting



Fisheries in a Connected World

February 25-27, 2019

Fargo, North Dakota

To All our Volunteers

Thank you!!!

Dakota Chapter	
Joshua Wert	President
Aaron Larsen	Vice President
Amy Gebhard	Secretary/Treasurer
Jeremy Kientz	President-Elect
Steven Chipps	Past-President/Nominations
Seth Fopma	SDSU Subunit President
Ethan Rasset	VCSU Subunit President
Dan James	Continuing Education
Mike Barnes	Continuing Education
Dylan Turner	Information and Web Support
Todd Caspers	Moderator
Jake Davis	Moderator
Andre Delorme	Moderator
Scott Gangl	Moderator
Jeremy Kientz	Moderator
Steven Krentz	Moderator
Minnesota Chapter	
Paul Glander	President
Eddie Evarts	President - Elect
Calub Shavlik	Secretary/Treasurer
Patrick Schmalz	Past President
Kristan Maccaroni	Photographer/EXCOM
Jay Hatch	Scholarships Committee/EXCOM
Craig Kelling	Program/Communications Committee/EXCOM
Neil Mundahl	EXCOM
Heidi Rantala	Program Committee
Mandy Erickson	Arrangements Committee
Michelle Krecklau	Moderator and Volunteer Coordination
Hanna Kruckman	Communications Committee
Joel Hoffman	Poster Session/Membership Committee
Keith Reeves	Paper and Poster Judging coordination
Jon Hansen	Fund-Raising Committee
Owen Baird	AV coordination
Doug Kingsley	Moderator
Dale Logsdon	Moderator
Carl Pederson	Moderator
Matt Skoog	Moderator
Dave Staples	Moderator
Tanner Stevens	Moderator

And thank you to our many student volunteers!

Without you, this would not have been possible

Schedule at a Glance

Monday February 25, 2019	Event	Location
12:00 PM – 7:00 PM	Registration Open	<i>Dakota Hall entrance</i>
2:00 PM – 4:00 PM	Continuing Education: “Become a PowerPoint Super Hero”	<i>Dakota Hall</i>
4:00 PM – 5:30 PM	Executive Committee Meeting-Dakota	<i>Mezzanine III</i>
4:00 PM – 5:30 PM	Executive Committee Meeting-Minnesota	<i>Mezzanine IV</i>
5:00 PM – 7:00 PM	Student Social	<i>Directors Room</i>
7:00 PM – 11:00 PM	Welcome Reception	<i>Crowne and Royale</i>

Tuesday February 26, 2019	Event	Location
7:30 AM – 5:00 PM	Registration Open	<i>Dakota Hall entrance</i>
7:30 AM – 8:30 AM	Continental Breakfast	<i>Crowne and Royale</i>
8:30 AM – 8:45 AM	Chapter President’s Welcome: Joshua Wert and Paul Glander	<i>Crowne and Royale</i>
8:45 AM – 9:00 AM	Joel Hoffman: AFS Membership	
9:00 AM – 10:00 AM	Plenary Session 1: Providing Fish Passage Connectivity for the Next 100 years William Rice, USFWS	<i>Crowne and Royale</i>
10:00 AM – 10:15 AM	Break	
10:15 AM – 11:15 AM	Plenary Session 2: Reconnecting and Restoring River Ecosystems Luther Aadland, MNDNR	<i>Crowne and Royale</i>
11:15 AM – 11:45 AM	Plenary session Q & A	<i>Crowne and Royale</i>
11:45 AM – 1:00 PM	Lunch	<i>Crowne and Royale</i>
1:00 PM – 2:20 PM	Concurrent Sessions	<i>Conference, Dakota, Executive</i>
2:20 PM – 2:40 PM	Break	
2:40 PM – 4:00 PM	Concurrent Sessions	<i>Conference, Dakota, Executive</i>
4:00 PM – 5:00 PM	Business Meeting - Dakota	<i>Conference</i>
4:00 PM – 5:00 PM	Business Meeting - Minnesota	<i>Executive</i>
5:00 PM – 6:30 PM	Poster Session	<i>Crowne and Royale</i>
6:30 PM – 8:00 PM	Banquet and Awards Ceremony Guest speaker: Jeff Kopaska, NCD	<i>Crowne and Royale</i>
8:00 PM – 11:00 PM	Social and Hospitality	<i>Crowne and Royale</i>

(continued)

Schedule at a Glance

Wednesday February 27, 2019	Event	Location
7:20 AM – 8:20 AM	Registration	<i>Dakota Hall entrance</i>
7:20 AM – 8:20 AM	Continental Breakfast	<i>Pool Patio</i>
8:20 AM – 10:00 AM	Concurrent Sessions	<i>Conference, Dakota, Executive</i>
10:00 AM – 10:20 AM	Break	
10:20 AM – 12:00 PM	Concurrent Sessions	<i>Conference, Dakota, Executive</i>
12:00 – 12:30 PM	Dakota Chapter Awards	<i>Conference</i>
12:00/12:30 PM	Adjournment	-

Conference Center information

Holiday Inn

3803 13th Ave S
 Fargo, North Dakota
 58103
 701-282-2700

Check In: 3PM
 Check Out: 11AM

Driving Directions

From the North

If traveling on I29, take exit 64. You will reach a 4-way stop light. Turn left, heading east for 1 block. Hotel is located on your right.

From the South

If traveling southbound on I29, take exit 64, hotel will be right in front of you.

From the East

From I94, take exit 349B north towards Grand Forks. Take exit 64. You will reach a 4-way stop light. Turn left, heading east for 1 block. Hotel is on your right.

From the West

From I94, take exit 349B north towards Grand Forks. Take exit 64. You will reach a 4-way stop light. Turn left, heading east for 1 block. Hotel is on your right.

Did you know?

The last joint meeting of the Dakota and Minnesota Chapters in Fargo was in March 2001.

Plenary Session

Establishing Fish Passage Connectivity for the next 100 years

William Rice, US Fish and Wildlife Service, Lakewood, CO

While fish passage in the USA, Australia and Europe is fairly well established, we are at another Age of Barriers for fish species globally. Luckily, we in the USA do realize the impact of barriers and have started to assess and address them. The Great Plains host a myriad of native fish from large species like the pallid sturgeon and walleye, to smaller species, many of which are typically less than 50 mm in length and have little known in regards to their swimming performance or behavior. This talk will discuss what fish passage is and is not, the scale of the issue and what types of fishways have had success in facilitating passage. Current fish passage principles, design criteria, area case studies and data gaps are highlighted, as well as what we can learn from approaches in other countries.

William Rice is a fish passage engineer for the U.S. Fish and Wildlife Service in Lakewood, Colorado and also the regional coordinator for the National Fish Passage Program. He has over 20 years of experience spanning both stream restoration and fish passage engineering on structures from culverts and bridges to irrigation diversions, rocky ramps and dams. Mr. Rice has designed or been involved as the expert reviewer on hundreds of structures in Alaska and throughout the American West and Great Plains and most recently on projects in South East Asia. He has a B.S. (Colorado School of Mines, '91) in geological engineering and M.S. (Colorado State University, '98) in watershed science.

Reconnecting and Restoring River Ecosystems

Luther Aadland, Ph.D., Minnesota DNR, Fergus Falls, MN

River networks are the lifeblood of freshwater biodiversity. States like Minnesota and the Dakotas would be largely fishless if not for post-glacial connections to the Mississippi and other river systems. Fragmentation of these networks through dam construction causes extirpation of native fish and dependent mussel species by inundating critical habitats, altering hydrologic, sediment, and nutrient regimes, and by blocking seasonal and spawning migrations as well as preventing re-colonization following drought and other disturbances. In the Red River of the North and other watersheds, dam removal and nature-like fish passage has reestablished extirpated fish communities in upper reaches while reconnecting spawning rapids critical to lake sturgeon and other species. Local and national case examples will be discussed.

Luther Aadland has worked as a river scientist for the Minnesota Department of Natural Resources for the past 32 years. His research topics include the microhabitat requirements of fish and invertebrates, fragmentation effects on biodiversity, invasive species ecology, fluvial geomorphology, and river restoration design. Of particular interest has been the reconnection and restoration of critical habitat for sturgeon and other imperiled species. He has designed numerous river restoration, dam removal, and nature-like fish passage projects on river systems across the United States that have resulted in the return of previously extirpated fish and mussel species. Luther has a B.A. in biology (Concordia College Moorhead '79), a M.S. in zoology (North Dakota State University '82) and a Ph.D. (University of North Dakota '87) in biology with an emphasis in fisheries and stream ecology.

Concurrent Presentations - Tuesday February 26, 2019

	<i>Room: Dakota</i> <i>Moderator: Doug Kingsley</i>	<i>Room: Conference</i> <i>Moderator: Jeremy Kientz</i>	<i>Room: Executive</i> <i>Moderator: Tanner Stevens</i>
1:00 PM	Citizen Participation in Lake Management Planning – The Lake of the Woods Experience Phil Talmage	Status and Potential of Mountain Sucker in the Black Hills Seth Fopma	Implications of Fish Movement in an Internationally Managed System Henry Hansen
1:20 PM	Identifying and Conserving Resilient Freshwater Systems: Can we do it? Kristen Blann	Use of Radio Telemetry to Determine Movements and Mortality Sources of Brown Trout in Rapid Creek, Black Hills, SD Austin G. Galinat	Effect of Temperature on Growth, Energy Reserves, Settling Time, and Mortality of Endogenous Pallid Sturgeon <i>Scaphirhynchus albus</i> Larvae Joseph Mrnak
1:40 PM	Protection Framework for Minnesota Lakes That Support Unique Native Fish Communities Derek Bahr	Identifying Rainbow Smelt Spawning Sites in a Missouri River Reservoir Nicholas Kludt	Seasonal and Diel Vertical Movement of Paddlefish in the Upper Mississippi River Basin John Hoxmeier
2:00 PM	Freshwater Conservation Zones: a New Approach to Managing our Freshwater Fisheries Peter Sorenson	An Understudied Invader: Diet and Growth Rates of the Tubenose Goby Bradley Dawson	Stable Isotope Patterns in Lake Food Webs Reflect Productivity Gradients Kyle Zimmer
	<i>Room: Dakota</i> <i>Moderator: Todd Caspers</i>	<i>Room: Conference</i> <i>Moderator: Dave Staples</i>	<i>Room: Executive</i> <i>Moderator: Andre Delorme</i>
2:40 PM	Exploitation and Habitat Use of Lake Sharpe Walleyes Tanner Davis	Food Habit Assessment of Several Predators After Recent Introductions of Gizzard Shad Into Small Impoundments Brandon Vanderbush	Benthic Carbon Accumulation and Macroinvertebrate Colonization on Artificial Zebra Mussel Substrate Samuel Peterson
3:00 PM	Role of Angler Harvest on Walleye Population Dynamics in Three Western Reservoirs Cade Lyon	Percent Occurrence of Historical Sample Size of Select Stream Fishes of North Dakota Ellen Anderson	Light Could be Coupled with Sound to Create a More Species-Specific Behavioral Deterrent System for Invasive Carps Clark Dennis
3:20 PM	Muskellunge (<i>Esox masquinongy</i>) Movement Patterns and Habitat use in the St. Louis River Estuary and Southwestern Lake Superior Loren Miller	Centenarian Longevity for Bigmouth Buffalo (<i>Ictiobus cyprinellus</i>): a Record for Freshwater Teleost Fishes Alec Lackmann	Spillway Gate Settings in Mississippi River Lock and Dams can be Used to Help Native Fish Upstream Passage Anvar Gilmanov
3:40 PM	Tracing Habitat Utilization of Muskellunge (<i>Esox masquinongy</i>) in the St. Louis River and Lake Superior Using Stable Isotope Ratios Graham Hanson	Feeding Habits of Smallmouth Bass in the Sheyenne River Ethan Rasset	Laboratory Tests of Sound Deterrents Show that While Sound can be Taxon-Specific and Effective for Carp Adding an Air Curtain May Stop Native Fish Too Jane Feely

Concurrent Presentations - Wednesday February 27, 2019

	<i>Room: Dakota</i> <i>Moderator: Jake Davis</i>	<i>Room: Conference</i> <i>Moderator: Dale Logsdon</i>	<i>Room: Executive</i> <i>Moderator: Matt Skoog</i>
8:20 AM	The State of North Dakota's Stream Fish - Results of a Four Year Study Casey Williams	Minnesota River Paddlefish, Sturgeon, Backwaters, Plankton, and More: Outcomes of a 3-year ENRTF Funded Project Anthony Sindt	Evaluation of Portable Water Filtration Systems to Reduce the Transport Risk of Zebra Mussels and Asian Clams During Fish Spawning and Trap and Transfer Operations Benjamin J. Schall
8:40 AM	Stream Restoration or Habitat Improvement Project? What's the Difference? Jeff Tillma	Impacts of Spiny Water Flea on the Zooplankton Community in Lake Mille Lacs, with Implications for Higher Trophic Levels Heidi Rantala	Assessment of Short-Term Mortality of Wild Caught Female Walleye Broodstock Brian Blackwell
9:00 AM	Sand Hill River Fish Passage Restoration Nathan Olson	Unraveling the Relationships Between Nearshore Habitat and Fish Donna Dustin	Environmental Enrichment and an Exercise Routine Improves Rainbow Trout Rearing Performance Jill Voorhees
9:20 AM	Displacement of Brown Trout by Native Brook Trout in a Driftless Area Stream John Hoxmeier	Food Web Effects of Zebra Mussels and Spiny Water Flea on Minnesota's Large Walleye Lakes Gretchen Hansen	Harmful Cyanobacteria Blooms at Lake Darling: Influence of Inorganic Nitrogen and Accumulation of Toxins in Fish Tissue Joe Nett
9:40 AM	Resistance and Resilience of Brown Trout Populations in Southeast Minnesota Streams Doug Dieterman	Walleye and Yellow Perch First Year Growth Changes with Zebra Mussel and Spiny Water Flea Invasion in Minnesota's Large Lakes Tyler Ahrenstorff	A Multi-Stable Isotope Approach to Determine Mercury Sources to St. Louis River Fishes Joel Hoffman

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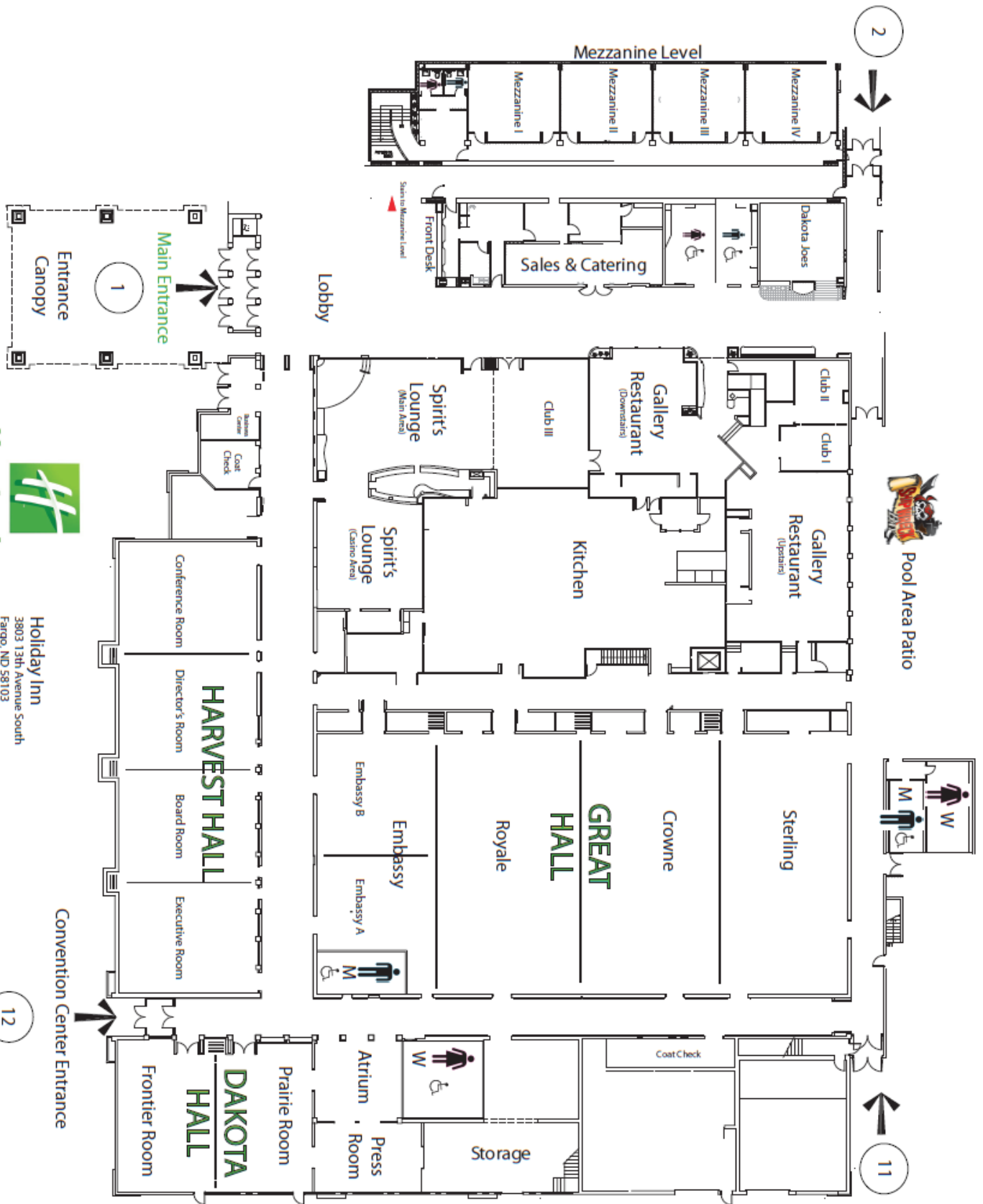
Concurrent Presentations - Wednesday February 27, 2019

	<i>Room: Dakota</i> <i>Moderator: Steve Krentz</i>	<i>Room: Conference</i> <i>Moderator: Carl Pederson</i>	<i>Room: Executive</i> <i>Moderator: Scott Gangl</i>
10:20 AM	Assessing Double-Crested Cormorant Impacts to Glacial Lake Percid Populations Doug Schultz	Angling Use and Kiosk Compliance at One Rural Reservoir in the Black Hills Greg Simpson	Multiple Methods to Define the Oxythermal Niche of Adult Cisco Andrew Carlson
10:40 AM	Spatial and Temporal Variability in Post-Larval Yellow Perch Density Steve Hauschildt	Evaluation of a 20-26" Walleye Protected Slot Limit on Leech Lake, MN Carl Pedersen	Stressor Induced Changes to Zooplankton with Discussion of Early Life History Implications Casey Schoenebeck
11:00 AM	Comparison of Inter-Annual Yellow Perch Catch Rates in Two Large Mesotrophic Minnesota Lakes Marc Bacigalupi	Status of Lake Sturgeon Restoration Efforts in the Red River Basin Jamison Wendel	Sampling Juvenile Fish with Boat Electrofishing as Part of a Long Term Monitoring Program Will French
11:20 AM	A Collaborative Approach for Evaluating Yellow Perch in Minnesota Bethany Bethke and Beth Holbrook	Public Input in a Post-Public Meeting World: A Border Water Case Study Nick Schlessler	Sentinel Lakes Data Tools Timothy Martin
11:40 AM	Smallmouth Bass Recruitment Dynamics in the Upper Mississippi River Tanner Stevens		

Poster Presentations

Presenter	Title
Joseph Amundson	Age-0 Walleye Growth Rates Following Spiny Water Flea <i>Bythotrephes longimanus</i> Invasion
Owen Baird	Effects of Reduced Daily Limits on Bluegill and Black Crappie Size in Four Central Minnesota Lakes
Brandt Boekhout	Larval Rainbow Smelt Emergence and Growth Patterns in a Missouri River Reservoir
Lucas Borgstrom	Increased Effort and Funding have Resulted in Increased Knowledge of Minnesota's Nongame Fishes
Nicolas Brown	Relationships Between Walleye Feeding Behavior and Relative Weight in Two of Minnesota's Large Lakes
Jake Carleen	The Effects of Wetland Connectivity and Fish Presence on Amphipod Density in Western Minnesota
Michael Collins/Anna Estes	Examining Black Bullhead (<i>Ameiurus melas</i>) Age and Growth in Shallow Minnesota Lakes
Shannon Fisher	Proposed VHS Free Zones
Dalton Flahaven	Longnose Sucker in the Black Hills
Cooper Folmer	Evaluation of Age and Growth Rates of Smallmouth Bass, Pre and Post Construction of East End Devils Lake Outlet
Alex Franzen	Rough Fish No More: Research and Management of Rare Hiodon and an Endangered Freshwater Mussel
Natalie Ganzel	Dietary Niche Overlap Among Fish Species in Shallow Minnesota Lakes
Ryan Grow	Comparing Ship-based Down-looking to Sled-based Up-looking Acoustic Estimates of Pelagic Fishes in Lake Superior's Upper Water Column
Catherine Hegedus	Effects of Alternative States and Fish Stocking on Energy Flow and Food Web Characteristics of Shallow Lakes
Sarah Howe	How Big is the Buffet: What Determines Niche Space of Fish in Lakes?
Peter Jacobson	Loss of Coldwater Fish Habitat in Glaciated Lakes of the Midwestern United States After a Century of Land Use and Climate Change
Jennifer Johnson	Low-Cost Bathymetric Mapping of the Missouri River - A Focus on Pallid Sturgeon
Craig Kelling	The Future of Conservation: Are Hunters and Anglers Enough?
Rachel Klaras	Dietary Niche Breadth and Composition of Dominant Fishes in Shallow Southern Minnesota Lakes
Jason Kral	Presence of the Endangered Pallid Sturgeon in the Confluence of the James River and the Missouri River
Danelle Larson	Comparison of Consumption and Excretion Rates of Yellow Perch and Black Bullhead in Managed Shallow Lakes Using Bioenergetics Modeling
Timothy Martin	Sentinel Lakes Data Tools

Presenter	Title
Brian Mason	Potential Biotic and Abiotic Effects of Isolation in Coves within the Harlan County Reservoir, Nebraska
Jayne Menard	Evaluation of Mussel Growth Rate in the Sheyenne River Post Devils Lake Outlet
Tim Monahan	Methodology and Inspection History for BKD in Minnesota State Coldwater Hatcheries
Chuck Mordhorst	Effects of Mermithid (Nematoda: Mermithidae) Parasitism on Predation of Black Fly Larva (Diptera: Simuliidae) by Trout Species in Rapid Creek
Neal Mundahl	Brown Trout, Pool Habitats, and Stream Habitat Improvement
Tait Ronningen	Fish Passage Assessment of the Sheyenne River Watershed, North Dakota
Garrett Rowles	Spatial Distinction of Water Chemistry in the North Platte River and Lake McConaughy, Nebraska
Nick Schlessler	Results of a Review of Bag and Size Limits for the Mississippi River Portion of the Minnesota/Wisconsin Border Waters
Calub Shavlik/Mandy Erickson	Lake Whitefish and Cisco Recreational Gill Netting Participation Survey
Allison Shorter	Age and Growth of Recently Reintroduced Lake Sturgeon Populations Compared to an Established Population
Alicia Skolte	Size and Abundance of Brown Trout Associated with Under-Bank Cover and Mid-Channel Boulders in Garvin Brook's 2014 and 2017 Habitat Improvement Projects
Aaron Sundmark	Understanding Stakeholder Desires for Small South Dakota Lakes
Craig Tangren	Effects of Rainbow Trout on Brook Trout Populations in Lake Superior Tributaries
Dylan Turner	Movement of Hatchery-Reared, Age-0 Paddlefish in Lake Sharpe, South Dakota
Will Varela	A Survey of Brown Trout Spawning in the Whitewater River and Garvin Brook in Southeastern Minnesota
Kelsey Vitense	Assessing Thermal-Optical Walleye Habitat in Minnesota Lakes to Help Guide Management
Cole Weaver	35 years of Land Management; is the Whitewater River in SE MN still Impaired by Total Suspended Sediment?
Paige Wiehr	Statewide Decline of White Crappie in Minnesota Lakes
Taylor Young	Assessing the Role of Nutrients in Harmful Cyanobacteria Blooms on the Des Lacs Lakes, North Dakota



Holiday Inn
 FARGO

HARVEST HALL

DAKOTA HALL

Holiday Inn
 3803 13th Avenue South
 Fargo, ND 58103
 701-282-2700 | www.fargohil.com