
**Minnesota Chapter
American Fisheries Society
Annual Conference**



**February 26-28, 2024
Brainerd, Minnesota**



Program at a Glance

Minnesota AFS Meeting, Feb 26-28, 2024 in Brainerd MN

Resilience & Lessons Learned:

Challenges can make us stronger; Unexpected results are learning opportunities.

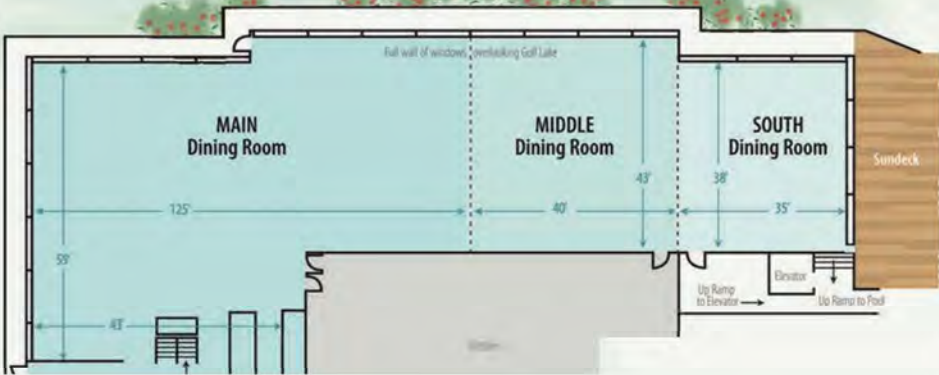
Date	Time	Event	Location
26-Feb	11:00 AM - 5:00 PM	Check in, Registration, Merch sales	Main lobby
		<i>Lunch on your own if needed: Cabana Café poolside, or 1 mile free shuttle to Legacy Grille at golf club</i>	
	11:30 AM - 12:30 PM	Ex Com meeting	Dutch Room
	12:00 PM - 5:00 PM	Fish ID workshop	Lakeshore Room 2-3
	1:00 PM - 3:00 PM	Scientific Illustration class	Lakeshore Room 1
	3:00 PM - 4:00 PM	Resume, Cover Letter workshop	Lakeshore Room 4
	11:00 AM - 9:00 PM	Poster setup	Lakeside Dining Room, South end
		<i>Note: Hotel check in states 5pm but possibly earlier if rooms are ready; inquire at desk.</i>	
		<i>Dinner on your own if needed: Cabana Café poolside, Legacy Grille at golf club, or Bear Trap bar on site</i>	
	5:00 PM - 7:00 PM	Ice fishing, weather permitting	Gull Lake: Cragun's shoreline
6:00 PM - 9:00 PM	Welcome Social, heavy apps	Lakeside Dining Room, South half	
9:00 PM - 11:00 PM	Continued socializing	Hotel Suite #371	
27-Feb	7:30 AM - 5:00 PM	Check in, Registration, Merch sales	Main lobby
	7:00 AM - 8:30 AM	Breakfast	Lakeside Dining Room
	8:20 AM - 8:30 AM	Welcome & Announcements	Lakeshore Room 2-3
	8:30 AM - 9:40 AM	Interactive Plenary - Denise Stromme	Lakeshore Room 2-4
	10:00 AM - 10:20 AM	Break	Lakeside Dining Room
	10:20 AM - 12:00 PM	Concurrent Sessions 1	Lakeshore Rooms 1-4
	12:00 PM - 1:00 PM	Lunch	Lakeside Dining Room
	1:00 PM - 2:40 PM	Concurrent Sessions 2	Lakeshore Rooms 1-4
	2:40 PM - 3:00 PM	Break	Lakeside Dining Room
	3:00 PM - 4:00 PM	Business meeting	Lakeshore Room 2-3
	5:00 PM - 6:30 PM	Poster session and social	Lakeside Dining Room
	6:30 PM - 9:30 PM	Banquet, Awards, Trivia, Raffle	Lakeside Dining Room
9:30 PM - 11:00 PM	Continued socializing	Hotel Suite #371	
28-Feb	7:30 AM - 10:00 AM	Check in, Registration, Merch sales	Main lobby
	7:00 AM - 8:30 AM	Breakfast	Lakeside Dining Room
	8:20 AM - 10:20 AM	Concurrent sessions 3	Lakeshore Rooms 1-4
	10:20 AM - 10:50 AM	Break	Lakeside Dining Room
	10:30 AM	Posters must be picked up by this time or will be discarded	
		<i>Note: Standard hotel check out time is 11:00 am</i>	
	11:00 AM - 11:45 AM	Plenary session - Dr. Matt Davis	Lakeshore Room 2-3
	11:45 AM - 12:00 PM	Closing remarks	Lakeshore Room 2-3
12:00 PM	Conference concludes		



Meeting Location Maps



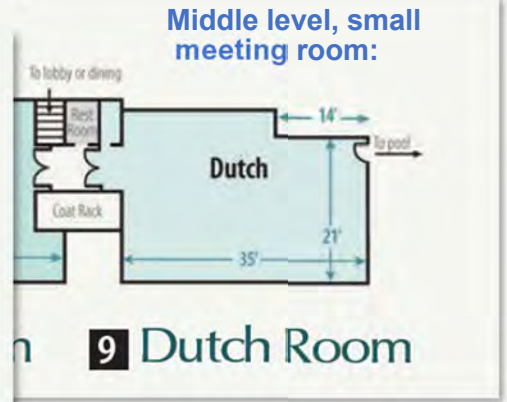
← Suite 371 and other guest rooms



← DINING ROOM:
Upper level, near main lobby



4 Lakeshore Meeting Center



9 Dutch Room

← Meeting rooms:
Lower level, directly below dining room.

Information for Presenters and Volunteers:

- Presenters need to find their moderator in advance of the session and upload their talk from a USB drive to the computer desktop, in Powerpoint or Adobe pdf format. Craguns provides projectors, screens, and microphones. Presenters have approx 15 minutes to give their talk and 5 minutes for questions and transition to next speaker (20 mins total). Student talks will be judged and eligible to win Best Student Paper and this year also a Runner Up/2nd place award.
- Moderators will use a laptop located in their designated meeting space provided to you (these belong to various chapter officers, not Craguns).
- Paper and poster judges should receive their forms at registration or before their session; turn them back in to Keith, Kamden, or registration table as promptly as possible for vote tallying by the Awards committee.
- Poster size should not exceed 36"x44" and should be printed in high resolution. Hang posters in the South end of the main dining room area on the easels provided. Find the space with your name; these will be approximately in alphabetical order by first author. Push pins will be provided. Posters will be judged Tuesday between 5:00-6:30pm; please try to be available during this time to answer questions about your poster. Remove your poster no later than 10:30am Wednesday morning. Posters left behind will be discarded after this time. Student posters will be eligible to win Best Student Paper and this year also a Runner Up/2nd place award.

General information:

- Meals and snacks will be located in the Lakeshore Dining Room. Coffee and water will also be located on the lower level near the Lakeside Meeting Rooms 1 through 4.
- Hotel rooms have fridge and microwave. Bring snacks or drinks to share during social times only to room 371.
- Full winter resort map can be found here: https://www.craguns.com/wp-content/uploads/2021/11/Craguns-Resort-Map-Winter_front-page.pdf
- Abstract book is available for download online from the Chapter website.
- Raffle item donations can be given to Nick Petersen, Andy Hafs, or any other ExCom member. Find ExCom members at the registration table, in the Dutch room, or by asking around.

Invited speakers:

Denise Stromme has over 40 years of experience in guiding and coaching others in the fields of environmental education, leadership, physical education and community well-being. Born and raised in Minnesota, she has work experience on five continents and now lives on Red Sand Lake, a sentinel lake, in the Brainerd Lakes Area.

Dr. Matt Davis from St. Cloud State University; specializes in evolution of deep sea fishes! Kindly agreed to fill in for Dr. Matt Julius, algal research expert from St Cloud, who had a sudden family emergency and could not be with us today. Dr. Davis will give a talk entitled **The Evolution of Fishes that Light up the Oceans**.

Continuing education opportunities: FISH IDENTIFICATION WORKSHOP (Monday 12-5pm, in Lakeshore 2-3) Led by Amanda Craft with help from Lucas Borgstrom, Andrew Hafs, Jay Hatch, and Andrew Frank along with other volunteers - thank you! Provides hands on experience with a collection containing over 130 of the ~160 species found in MN. The first portion of the class will focus on learning the key characteristics of commonly encountered stream and lake fish and the class will conclude with an identification exam. For questions contact Amanda Craft (amanda@nfcrow.org)

RESUME & COVER LETTER WORKSHOP (Monday 3-4pm in Lakeshore 4) Held for anyone seeking advice on their resume and cover letter. This free 1-hour event is intended to further our members' professional development. Anyone signing up to receive advice MUST email their current resume/example cover letter by February 12, 2024 to Ryan Carrow (Ryan.Carrow@state.mn.us) in order to participate. Anyone willing to serve as a resume/cover letter advisor for this activity should check the box in the volunteer section during meeting registration or email Ryan directly.

ICE FISHING SOCIAL ACTIVITY: Meet up for a couple hours' ice fishing out in front of Cragun's resort lodge on the first afternoon of the conference just out in front of the main lodge/dining room area on the ice. Jessie will send an email with info to folks indicating their interest during registration. For more info or questions: jkoehle.mnafs@gmail.com

Concurrent Sessions 1: Tuesday 10:20 am to 12:00 pm

Start time	Lakeside 1 Moderator: Tom Jones	Lakeside 2-3 Moderator: Alex Letvin	Lakeside 4 Moderator: Susan Colvin
10:20	INABA: I Need A Better Acronym for these Big Fish Data - Micheal Verhoeven	Goldfish removal and restoration of a pond in Eagan MN - Jessie Koehle	Zooplankton community trends in Minnesota's Large Lakes during a decade of change - Heidi Rantala
10:40	Walleye bright spots in the upper Midwestern USA - Christopher Rounds*	Aquatic Macrophyte Community Response to Carp Removal and Invasive Macrophyte Management in Staring Lake, Minnesota - Maija Weaver *	Anthropogenic Sound Increases Zooplankton Susceptibility to Fish Predation Beneath Lake Ice - Leah Glimsdal*
11:00	Juvenile Walleye (<i>Sander vitreus</i>) Foraging Success and Growth - Noland Michels*	Developing a Germline Chimera Between Common Carp and Fathead Minnow to Quicken Genetic Biocontrol Development - Colby Johnson *	Seasonal Comparison of Diet Composition of Minnesota Fishes across Various Lake Types - Levi Feucht*
11:20	Spatial ecology of reservoir Walleye during and after spawning - Claire Rude *	Sound Strategies for Common Carp: Enhancing management through acoustic conditioning - Rebecca Bullers *	Sublethal Influences of Magnesium Chloride on Fathead Minnow (<i>Pimephales promelas</i>) Behavior - Josh Schrope*
11:40	Investigating Movement Patterns and Behavioral States of Burbot, <i>Lota lota</i> , Using Hidden Markov Models - Abigail Fountain*	Evaluating CO ₂ and Sound as an Invasive Bigheaded Carp Deterrent in a Model Lock and Dam - Michael Frett*	High school and university biologists reveal hidden historical mussel species: Is local park a refuge? - Hannah Grosser*

* = student talk

Concurrent Sessions 2: Tuesday 1:00 pm to 2:40 pm

Start time	Lakeside 1 Moderator: Kevin McDonnell	Lakeside 2-3 Moderator: Nicholas Kludt	Lakeside 4 Moderator: Jamison Wendel
1:00	Male-dominated Bluegill harvest: Does it only occur during the spawn? - Chris Uphoff	Changing Use and Selection of Stream Habitats for Redd Placement by Brown Trout Along a 4.8-km Stream Reach - Neal	BWCA Survey Sampling and Techniques - Brent Flatten
1:20	Sex ratios of angler-harvested Black Crappie, Largemouth Bass, and Pumpkinseed in several Minnesota lakes - Chris Smith	Hatchery propagation did not reduce natural steelhead productivity relative to habitat conditions and predation in a mid-Columbia River subbasin - Sean	10 years of MN DNR Lake Index of Biological Integrity Program - Jessica Massure
1:40	Optimal Spring Panfish Trap Net Sampling - Tanner Stevens	Evaluation of Walleye hatch rates at the Park Rapids hatchery - Calub Shavlik	Identification of stressors impacting Minnesota's lake fish communities - Derek Bahr
2:00	The Effects of Forward-Facing Sonar on Angler Catch and Harvest Rates - Nick Rydell	Minnesota Record Fish - Mandy Erickson	Fish community-based diagnostic tools for identifying potential stressors and tracking changes in environmental conditions - John Sandberg
2:20	Barotrauma prevalence and post release recovery of Black Crappie angled from a range of depths under the ice - Will French	Bait Supply Legislative Report - Sean Sisler	Can mechanical removal of invasive cattail benefit lake fish communities? - Amy Schrank

Concurrent Sessions 3: Wednesday 8:20 am to 10:00 am

Start time	Lakeside 1	Lakeside 2-3	Lakeside 4
	Moderator: Brooke Vetter	Moderator: Jeff Buckingham	Moderator: Brian Nerbonne
8:20	Factors Driving Isotopic Niche Size and Niche Overlap in Yellow Perch (<i>Perca flavescens</i>) - Kyle Zimmer	A reconstruction analysis of Minnesota’s fisheries catches from 1950 to 2021 describes substantial change - Peter Sorensen	Incorporating Technology to Measure Angler Effort - Jeff Reed
8:40	A Comprehensive Investigation of Reduced Catch Rates of Yellow Perch in Leech Lake - Erin Haws & Carl Pedersen	Migratory Behaviors of Bigmouth Buffalo (<i>Ictiobus cyprinellus</i>) in the Red River - Nick Kludt	Strategizing an eDNA sampling design for fish bioassessment in northern Minnesota lakes - Courtney Larson
9:00	Understanding Minnesota’s changing Yellow Perch populations - Beth Holbrook	Demographics of Flathead Catfish in Pools 2 - 9 of the Upper Mississippi River - Devon Oliver	Anglers Technology used for Fisheries Science (Round 2) - Michelle Krecklau
9:20	Comparing consumption patterns of Muskellunge, Northern Pike, Walleye, and Largemouth Bass populations - Tyler Ahrenstroff	Gaining a Lota insight from a little SNP - a pilot project - Kristen Patterson	Alpha gal syndrome – a Minnesota case study to encourage proper tick prevention - Carl Pedersen
9:40	Short and long-term effects of winterkill on the fish community of a shallow, glacial lake - Thomas Hrabik	The Effects of Road Crossings and Impervious Surface on Stream Habitat and Karst Headwater Fish & Crayfish Species in Northwest Arkansas - Susan Colvin	Minnesota fish health: overview and selected topics - Isaiah Tolo
10:00	Open	Towards a Sustainable Future for Minnesota’s Native Rough Fish - Shannon Fisher	Fish health through space and time: The more you look, the more you find - Nick Phelps

Thanks to these fine folks!

Executive Committee (ExCom) Current Members:
 (<https://units.fisheries.org/mnafs/officers>)
 President: Eric Altena, DNR
 Past-President: Andrew Hafs, Bemidji State University
 President-Elect: Jessie Koehle, City of Eagan
 Secretary-Treasurer: Calub Shavlik, DNR
 Academic Representative: Kyle Zimmer, University of St. Thomas
 DNR Representative: Nick Peterson, DNR
 Federal Representative: Ryan Maki, Voyageurs National Park
 (Open Representative: still open)

Committee recognitions & other special thank-yous to:
 Program committee chair: Mandy Erickson
 Scholarship committee: Jay Hatch and Mark Hove
 Science Fair committee chair: Matt Ward
 Awards committee: Keith Reeves and Kamden Glade
 Communications committee chair: Andy Hafs
 Fundraising committee chair: Nick Peterson
 Conference scheduling: Katie Bruesewitz & Patrick Schmalz
 Volunteer wrangling: Michelle Krecklau & Kristen Patterson
 Trivia & raffle assistance: Baylor Short & Bemidji student chapter

**Voting is in progress
 until the start of
 the Business meeting Tues
 Feb 27th, 2024. Chapter
 members who have paid
 their dues should cast their
 vote here: [https://
 units.fisheries.org/mnafs/
 mn-afs-2024-election](https://units.fisheries.org/mnafs/mn-afs-2024-election)**

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

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Poster Presentations

Long Term Trends in Mortality Rates of a Smallmouth Bass Population
Presenter: Caleb Anderson

Examining the effect of anthropogenic sound on feeding behavior in bluegill sunfish in a non-motorized lake
Presenter: Devanshi Arora

Winter kills extend past fish: impact of severe winter on lake zooplankton community
Presenter: Alia Benedict

Response of Invasive Silver and Bighead Carp to Broadband Sound and Carbon Dioxide in a Model Lock and Dam System
Presenter: Amelia Berry

Sculpin Reintroductions in Southeast Minnesota
Presenter: Loren Miller on behalf of Brian Beyerl

Impact of road salt on mussel algae clearance study offers suggestions for future research
Presenter: Hannah Grosser

The Effects of Habitat Characteristics and Location on Brook Trout Size Distribution
Presenter: Bryce Groves

The Effects of Mercury Concentrations on Burbot *Lota lota* in North-Central Minnesota Lakes
Presenter: Liam Hanley

The Influence of Ecoregions and Land Use and Land Cover on Fish Assemblages in Southern Minnesota
Presenter: Masaki Hara

A Summary of Floating and Emergent Macrophytes in Leech Lake
Presenter: Jack Hasty

Utilization of Genetic Tools in Determining Valid Morphometrics for Identification and Assessing Hybridization in *Moxostoma Carinatum*. Presenter: Cristian Hernandez

New chemical and toxicological tools to characterize water quality stressors
Presenter: Will Jacobsen

Patterns of fish traits for species of special concern in Minnesota.
Presenter: Carter Johnson

Don't judge a nongame fish by its cover-age: An assessment of Minnesota's native fishes' coverage and user engagement on a social media platform. Presenter: Faith Kelly

Interannual and Inter seasonal Differences in Diets of Largemouth Bass (*Micropterus Salmoides*), Muskellunge (*Esox Masquinongy*), Northern Pike (*Esox Lucius*), and Walleye (*Sander Vitreus*) in Bald Eagle Lake Minnesota
Presenter: Nathan Martin

Miller Valley Creek Brook Trout Population Analysis
Presenter: Colby Menden

Fillet weight and comparison for Bluegill, Crappie, and Yellow Perch
Presenter: Mikenna Patrin

A guide to the otoliths of Minnesota fishes
Presenter: Baylor Short

A fish tracking study shows that few fish pass Lock and Dam 5 even in years with flooding except via its lock, and then rarely, suggesting that it is a suitable location to stop invasive carp. Presenter: Peter Sorensen

Effects of Dam Removal on Trout Abundance in a Northern Michigan Stream
Presenter: Owen Stephenson

Variability in growth and diet of yellow perch in Pike Lake, MN
Presenter: Abigail Stott

Surveillance and a Case Study of Largemouth Bass Virus in Minnesota.
Presenter: Isaiah Tolo

Maintaining freedom from Viral Hemorrhagic Septicemia in Minnesota Waters
Presenter: Isaiah Tolo

The Clean Water Act: The Importance of Comprehensive & Uniform Federal Regulations
Presenter: Matthew Trenne

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Tips for a great conference...

Meet new people

We science types can be a little reserved... do your best to introduce yourself to several new folks during the conference! You'll be glad you did.

Play along

At this meeting you'll see question cards to discuss or write answers for, you'll be asked about your work, you'll have to introduce yourself to new folks many times. Jump in! Your energy is contagious and everyone is here to learn more about each other's work. Go ahead and share!

Mentor or be mentored

If you're an experienced professional, look for folks newer to the game and try to make them feel welcome. If you're new to the group, go ahead and ask questions, we're so glad you're here!



Volunteer

One of the best ways to learn more about an organization and to get your voice heard is by signing up to help. At this meeting, or the next one, look for ways you can help out. It makes the event better, and you'll build skills & relationships too!

Come to the business meeting

The title sounds boring, but this is where the magic happens! We discuss important topics, hear Chapter updates, induct newly elected Officers, and hear about goals for the coming year. It will be worth your time, and everyone is welcome! Join us on Tuesday Feb 27th, from 3 to 4 pm in Lakeshore Room 2-3.

What is Minnesota AFS?

A collaboration of state agency, private, tribal, non-profit and university fishery students and professionals

The American Fisheries Society (AFS) has state chapters like ours, as well as regional divisions, student subunits, and sections. Learn more: <https://fisheries.org/about/units>

What is ExCom?

The elected officers of MN AFS (8 positions) are called the Executive Committee, or "ExCom". Each position is explained in our procedures manual, along with lots of other helpful info on what the Chapter does how, and why: <https://units.fisheries.org/mnafs/procedures-manual>

By attending this conference, you agree to comply with the AMERICAN FISHERIES SOCIETY CODE OF CONDUCT as follows:

Purpose:

American Fisheries Society (AFS) meetings are among the most respected scientific meetings of fisheries professionals in the natural resource scientific community. AFS values the diversity of views, expertise, opinions, backgrounds, and experiences reflected among all attendees, and is committed to providing a safe, productive, and welcoming environment for all meeting participants and AFS staff. All participants, including, but not limited to, attendees, speakers, volunteers, exhibitors, staff, service providers, and others, are expected to abide by this Meetings Code of Conduct. This Code of Conduct applies to all AFS meeting-related events, including those sponsored by organizations other than AFS but held in conjunction with AFS events, in public or private facilities.

Expected Behaviors:

- 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.

Unacceptable Behaviors:

- Harassment, intimidation, or discrimination in any form is unacceptable. Harassment includes speech or behavior that is not welcome or is personally offensive. Behavior that is acceptable to one person may not be acceptable to another, so use discretion to be sure respect is communicated. Harassment intended in a joking manner still constitutes unacceptable behavior. Regardless of your intent, if you are advised directly or by another party that some aspect of your speech or behavior at an AFS meeting is harassment, you are expected to stop engaging in such speech or behavior.
- Do not physically or verbally abuse any attendee, speaker, volunteer, exhibitor, AFS staff member, service provider, or other meeting guest.
- Examples of unacceptable behavior include, but are not limited to, unwelcome or offensive verbal comments related to age, appearance, or body size, employment or military status, ethnicity, gender identity and expression, individual lifestyle, marital status, national origin, physical or cognitive ability, political affiliation, sexual orientation, race, or religion. Harassment can also include the use of sexual and/or discriminatory images in public spaces or in presentations; deliberate intimidation; stalking; following; harassing photography or recording; sustained disruption of talks or other events; bullying behavior; inappropriate physical contact; and unwanted sexual attention.
- Appropriate and responsible personal use of photographs or posts to social media of another individual's oral presentation, poster, or likeness is acceptable unless permission is specifically denied by the individual.
- Do not disrupt talks at oral or poster session or activities in the exhibit hall or at other events organized by AFS at the meeting venue, hotels, or other AFS-contracted facilities.
- Any retaliation against participants for reporting unacceptable behavior is unacceptable. Like harassment or discrimination, retaliation against reporting poor behavior will be subject to consequences.

Reporting Unacceptable Behavior:

- Anyone experiencing or witnessing behavior that constitutes an immediate or serious threat to public safety at any time should contact local law enforcement (by calling 911) and immediately notifying facility security without delay.
- If you are not in immediate danger but feel that you are the subject of unacceptable behavior, you are encouraged to file a formal complaint to the AFS Ethics and Professional Conduct Committee and/or an AFS officer or the AFS Executive Director which will then be forwarded to the Ethics and Professional Conduct Committee for assessment.

Consequences:

- Anyone requested to stop unacceptable behavior is expected to comply immediately.
- Consequences to unacceptable behavior will be determined by the AFS Ethics and Professional Conduct Committee in conjunction with AFS officers and the AFS Executive Director.
- Consequences may include one or more of the following actions:
 - Dismissal from the meeting without refund
 - Reporting to your agency
 - Exclusion from any future AFS (sub unit/chapter/division) meetings for five years
 - Revoke of AFS membership without the opportunity for renewal for five years
 - If the offense is criminal, local law enforcement will be contacted.

Report incidents to the Ethics and Professional Conduct Committee using this form: <https://fisheries.org/code-of-conduct-reporting-form>



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Notes



**Thank you
for attending!**

