

# Lota - Fisk



# Gazette

OFFICIAL BIENNIAL NEWSLETTER FOR THE MINNESOTA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

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Winter Hike in Owatonna, MN. Photo by Christine Kelling.

*"Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life." – John Muir*

UFF DA 2020 IS OVER!

# President's Message

by *Craig Kelling*, *President, MNAFS*

Happy New Year!

I hope this message finds all of you in good health and good spirits. 2020 was an incredibly challenging, painful, and tumultuous year. While everyone's perception and experience with the events of this past year are different, I think we can all agree with the following statement. UFF DA... 2020 IS OVER! We can certainly see the light at the end of the tunnel and the feeling of wanting to move on and return to "normal" is not lost on me. However, let us not forget everything we accomplished. As I stated in the last issue of this newsletter, I continue to be inspired by the resilience, creativity, and passion of our membership and fisheries professionals across the Midwest. So please take some time, in this New Year, to reflect on the lessons learned, creative solutions developed, new skills gained, and challenges overcome. Take stock of the victories in your professional and personal lives and know that each of you should be proud of what you accomplished.



*President Kelling with his family. Photo by Christine Kelling*

While the pandemic forced me to adjust some of the objectives I had initially set for this Chapter, my main goal of revitalizing our committees to better serve fisheries students and professionals, remained unchanged. I firmly believe that for this Chapter to succeed and recruit new members, we need to increase the value of Chapter membership. We need to provide relevant networking, training, education, and development opportunities on a more consistent basis. This Chapter and AFS is so much more than an annual meeting, but we need to show this through our commitment to helping our student and professional members succeed in their careers. I understand this will place additional burden on our committees, but each small step toward this goal is a step in the right direction. As such, I would like to take this time to highlight a few of those steps accomplished by our committees this year.

**Continuing Education Committee** (Heidi Rantala and Tom Burri) has worked tirelessly to meet the goal of offering at least one continuing education opportunity a quarter starting in 2021. If we have learned anything this year, it is how accessible these opportunities can be when offered in a virtual format. By the time you are reading this, I am sure you will be ready to quit Zoom, Skype, Teams, etc... all together. However, they have proven to be incredibly powerful communication tools. Now that our Chapter has its own Zoom account, we hope to provide a combination of in-person and virtual events to a wider audience at more regular intervals moving forward. Our first event on January 6 was a success (thank you Nick Kludt!) and I hope it leads to many valuable opportunities in the future.

**Lead Tackle Sub-Committee** (Jay Hatch, Peter Sorensen, Paul Radomski, Jessie Koehle) has finalized a Chapter position statement on lead in sport fishing tackle. This was an extensive, collaborative effort. Thank you to all involved, including those who took the opportunity to review and provide comments. I think the result is an accurate reflection of our membership's stance on the issue and will ultimately allow us to better support actions that aim to improve fisheries and aquatic resources. In February, Chapter membership will have one last opportunity to weigh in on this topic when we vote on its acceptance at our Annual Business Meeting.

**Communications Committee** (Hanna Kruckman, Kristan Maccaroni, Craig Kelling) in 2018, this committee was revitalized starting with a new Chapter newsletter. This led to a fully formed strategic communications plan, renovated Chapter website, and an increased social media presence. In short, this committee has created numerous creative and professional outlets for members to get involved and to stay up to date on news, research, and policy related to the fisheries profession. The quantity and quality of information being solicited and shared has not gone unnoticed. In February, at the Midwest Fish and Wildlife Conference, our Chapter, through the efforts of this committee, will receive the North Central Division AFS – Best Communications Award!

**Diversity and Inclusion Committee** (members TBD) During our Annual Business Meeting in February, Chapter membership will have the opportunity to vote on the establishment of a standing Diversity and Inclusion Committee. As I have said before, progress requires diverse people, ideas, and perspectives all moving together in unity. While diversity and inclusion has been an element of the action plan for many past presidents, the creation of this committee will keep it at the forefront of our discussions. I am looking forward to working with members interested in this topic, defining a scope of work, and beginning to make meaningful strides toward a more diverse, equitable, and inclusive Chapter.

If I could summarize all of our committee's efforts this year, it would be of continual and thoughtful improvement. Constantly adjusting and refocusing to changing professional and student interests, new society initiatives, and local/national issues can be extremely daunting, especially for volunteers. This is just a sample of the accomplishments of our committees and I want to extend a huge thank you to all of you who have or continue to serve as chairs or members of our Chapter committees. I am proud of what we were able to accomplish this year and the direction we have set for the future of this Chapter.

Again, where this Chapter goes, what it does, and what it can be is ultimately up to you. It has been an absolute honor serving as President of this Chapter.

Stay safe and healthy!



*President Kelling ice fishing on Spring Lake.  
Photo by Maria Kelling*



# 2021 Midwest Fish and Wildlife Conference

by *Craig Kelling*, *President/Newsletter Editor, MNAFS*



The 81st Annual Midwest Fish & Wildlife Conference will be held virtually, Monday, February 1 - 4, 2021.

The theme of the 2021 Midwest Fish and Wildlife Conference will be “**Fostering Diversity**”. In addition to the work natural resource professionals do to encourage species diversity in the habitats they manage, it is critical that we also foster diversity and participation in the outdoors among the people we serve and in our profession. Our plenary session will feature Carolyn Finney, author of *Black Faces, White Spaces*, a seminal work on the roots of gaps in outdoor participation between white people and other ethnicities. Other plenary speakers will describe programs being used to close some of those gaps among different ethnicities and genders.

**Registration Now Open!** Online registration is now open.

**Organized symposia schedule now available!** [Read symposium overviews.](#)

**Abstracts** for [presentations within a symposium](#), [general oral presentations](#), and [posters](#) are all available to review now.

**Plenary Sessions & Presenters:** [Click here](#) to check out preliminary details for the Plenary Sessions.

**Workshops:** We’re pleased to offer the following workshops on Thursday, February 4, 2021. There is no fee to attend, but pre-registration is required for participation in all workshops. Sign up will be available on a first-come, first-serve basis via the online registration form. [Click here](#) for more information.

**Attention Students:** Take advantage of the student/professional networking events and make connections with professionals, which can have a positive impact on your career. [Click here](#) for more information.

**Schedule at a Glance:** New details are being added regularly. Please check back for updates. [Click here](#) to view the schedule.

## About The Virtual Conference

Due to the ongoing COVID-19 crisis, the Midwest Association of Fish and Wildlife Agencies will hold its annual conference virtually. A virtual conference is the best way to engage, share and connect with our community during

this challenging time. The annual conference is a key mechanism to advance our mission, and we hope that you will join us for an exciting and innovative virtual experience.

### **What will a Virtual Conference Look Like?**

As we transition to an online event, we look forward to offering the same informative and timely content, and the unique opportunity for collaboration and connection with colleagues from across the region.

The virtual conference will include our regular offerings and opportunities for engagement, including Plenary Sessions, Awards Ceremony, Organized Symposia, On-Demand Oral Presentations, an e-Poster Gallery, and a virtual Trade Show!

### **Why Attend a Virtual Conference?**

**Cost Savings:** Participants will save money on reduced registration fees as well as eliminate travel or hotel expenses. Volume discounts for agencies will also encourage more participation from professionals who have not been able to attend in the past.

**Time Savings:** Less travel time means more time to focus on the conference sessions and networking, and to handle other work and family responsibilities.

**Sustainability:** Eliminating travel and reducing the energy required for an in-person event, our virtual conference will have a much smaller carbon footprint. It will also avoid the large amount of waste that would typically be generated at an in-person event.

**More Connections:** A virtual conference will allow participants to connect with a larger audience, many of whom may have not attended due to cost and travel constraints.

**More Knowledge:** Participants will have access to the full schedule of meetings, either live or recorded, and can move easily between sessions. **Networking Opportunities:** A virtual environment will provide new opportunities to engage fellow attendees in real-time chat, and discussion forums.

# 2020 President’s Action Plan Progress

by *Craig Kelling*, *President, MNAFS*

GOAL	OBJECTIVE	RESULTS
<b><u>Membership Services</u></b>		
Work with President-Elect for 2021 meeting and explore possible meeting partners.	<p>No annual Chapter meeting 2021. Plan business meeting in spring of 2021.</p> <p>Assist with any necessary planning and coordination for the 2021 Midwest F&amp;W meeting.</p>	2021 Annual Business Meeting is being planned and will be held at the Virtual Midwest Fish and Wildlife Conference.
Promote fisheries certification.	<p>Continues.</p> <p>Send certification requirements to Chapter membership annually.</p>	Certification requirements are in the process of being posted to the Chapter website.
Regular communication with membership.	<p>Complete migrating all relevant information (newsletter, agenda, minutes, etc...) to the chapter website and keep up to date.</p> <p>Update email distribution list based on recommendations from EXCOM and membership.</p> <p>Increase email communication on relevant topics (job announcements, new research, etc...).</p> <p>In the absence of an annual Chapter meeting, hold business meeting in the spring of 2021.</p>	<p>Website development is ongoing:</p> <ul style="list-style-type: none"> <li>• Developing online forms</li> <li>• Updating existing material</li> <li>• Incorporating historical documents</li> </ul> <p>Updated the Chapter email distribution list based on current AFS and Chapter level membership.</p> <p>Communicated, via email, all known job announcements, education opportunities, and meeting information.</p> <p>Annual Chapter Business meeting will be held in February of 2021.</p> <p>Purchased a Zoom account to better facilitate virtual communication among Chapter members and increase the quantity/quality of continuing education opportunities.</p>
Sponsor at least one continuing education workshop.	Create and distribute questionnaire to membership to gauge interest in continuing education workshop topics.	Two continuing education opportunities have been developed and are scheduled for early 2021.

	Hold two continuing education workshops before spring of 2021.	Continuing education opportunities will be available to membership on a quarterly basis (minimum).
Provide judges and maintain funding for regional and state science fair awards.	Continues.	Due to COVID-19 participation in regional and state science fairs was minimal.
Award Chapter scholarships	Continues. Explore strategies to increase the number of applicants for Chapter scholarships.	Chapter scholarships will be awarded at the 2021 Annual Business Meeting.
Maintain contact list with schools that have fisheries and related programs.	Update email distribution list.	Chapter email distribution list has been updated with current sub-unit contacts.
Encourage student involvement in the Chapter and Chapter meetings.	Explore options to reduce costs for students to attend Chapter, Regional, and National meetings.	Pursuing additional revenue/fundraising opportunities to increase the amount and quantity of travel awards available.
Recruit and retain young professionals into active roles in the Chapter.	Promote participation during the Chapter business meeting and regular updates through the Chapter newsletter.  Develop Chapter activities and programming targeted toward students and early career development.	Students and young professionals have been invited to all business meetings and most EXCOM meetings.  Students and young professionals have been recruited to committee positions and invited to participate in recent Chapter initiatives.
Enhance the diversity of Chapter members, especially in Chapter leadership positions.	Develop a new committee tasked with developing policy, communications, and programming with the goal of creating a more diverse, equitable, and inclusive Chapter.	The creation of a standing Diversity Committee has been approved by NCD and the EXCOM and will be put to membership vote at the 2021 Annual Business Meeting.
Retain post-professional contact information for retirees and increase role of retirees in chapter activities.	Update email distribution list based on recommendations from EXCOM and membership.	Chapter email distribution list has been updated based on current AFS and Chapter membership.
Increase diversity of Chapter funding sources.	Explore sponsorship options for future Chapter meetings.  Follow-up with Parent Society on new structure for proceeds from 2021 F&W Midwest meeting.	Progress on this will commence in 2021.
Review and update LRP.	Target date 2026.	Progress on this will commence in 2026.

<p>Network with other Minnesota professional societies, as well as AFS Chapters from neighboring states.</p>	<p>Improve collaboration with and appoint a representative to the Minnesota Chapter of The Wildlife Society.</p>	<p>Communicated with the President of the MN Chapter of The Wildlife Society on the following topics.</p> <ul style="list-style-type: none"> <li>• Midwest Fish and Wildlife Conference</li> <li>• Diversity and inclusion</li> <li>• Lead tackle</li> </ul>
<p>Host Midwest and National AFS when opportunity arises.</p>	<p>Assist with the planning and coordination for the 2021 Midwest F&amp;W meeting.</p>	<p>Assisting with the planning and coordination of the 2021 Virtual Midwest Fish and Wildlife Conference.</p>
<p>Increase collaboration with non-governmental aquatic resource groups, between agencies, and with University researchers.</p>	<p>Continues.</p>	<p>Due to COVID-19, collaboration opportunities were minimal.</p>
<p><b><u>Advocacy, Outreach, and Stewardship</u></b></p>		
<p>Disseminate and promote Chapter positions on aquatic and related natural resource issues at the State legislature via Chapter letters, Chapter resolutions, and the Fish and Wildlife Legislative Alliance (FWLA) or similar lobbying groups.</p>	<p>Increase internal coordination to ensure the Chapter is proactive in developing/disseminating positions on aquatic and related natural resource issues.</p> <p>Increase external collaboration with other groups where appropriate.</p>	<p>A lead tackle position statement has been drafted, reviewed, and a vote on acceptance will occur at the 2021 Annual Business Meeting.</p>
<p>Establish and encourage lines of communication, including but not limited to Facebook, Twitter, email, and/or web forums for exchange of information and opinion on current policy issues.</p>	<p>Follow Chapter Communications Plan to distribute information to members via email, social media, website, and newsletter.</p>	<p>Communicated primarily through email and the Chapter newsletter.</p> <p>Website development is ongoing:</p> <ul style="list-style-type: none"> <li>• Developing online forms</li> <li>• Updating existing material</li> <li>• Incorporating historical documents</li> </ul> <p>Purchased a Zoom account to better facilitate virtual communication among Chapter members and increase the quantity/quality of continuing education opportunities.</p>
<p>Increase general awareness of good aquatic stewardship by collaborating with citizen groups and local officials, and contributing to citizen stewardship programs such as the lake friendly shoreline awards.</p>	<p>Continue contribution to Lake Friendly Shoreline award.</p> <p>Explore additional opportunities.</p>	<p>Progress on this will continue in 2021.</p>



# Synopsis: Lead Fishing Tackle Statement

by *Jessie Koehle*, *Open Representative/Awards Committee Chair, MNAFS*

Over the past year, MN AFS has worked to craft a position statement regarding lead fishing tackle restrictions. This issue surfaced after the latest petition of DNR, in 2019, by interest groups pushing for lead restrictions in fishing and hunting. MN AFS was solicited for comment but had not yet formally discussed the position with its members. It seems likely that this issue will be recurring, and it made sense to try a proactive approach toward crafting a position statement that members would support, so we are ready in the event of future requests.

After reviewing the latest scientific literature, considering the parent chapter's past statements, combing through statements from other agencies, and examining regulations in other states, a draft statement was prepared by a subcommittee of MN AFS members. Briefly, the statement summarizes facts: lead is toxic, and its effects are serious; population-wide loon effects are likely; estimated rates of tackle loss in Minnesota are quite high. The statement expresses support for restricting lead in fishing tackle in Minnesota, and recommends three actions: 1) provide policy makers with facts on aquatic science and other related information; 2) work with current educational efforts pushing for lead alternatives; and 3) collaborate with other organizations to enable restrictions on lead tackle while encouraging use of nontoxic tackle. The statement is not a call for an outright ban on lead tackle. No specific regulations are suggested; the wording is intentionally vague, leaving future policy-making up to the legislators.

The draft was approved by ExCom and then comments were invited from MN AFS from Oct 19 to Nov 20, 2020. Of the written comments received, two expressed concerns, three agreed with the position as-is, and one felt the statement could have taken a more aggressive stance against lead tackle. Minor edits were made to help address the comments, and the result will be available on the chapter website.

Further discussions or questions about the lead tackle position statement can be directed toward Keith Reeves (Incoming MN AFS President) or Craig Kelling (Incoming Issues Committee Chair).

DUST OFF THE RECORDS

# 150<sup>TH</sup> Historical Display Update

by *Morgann Gordon*, 150<sup>th</sup> Historical Display Committee Chair, MNAFS

As many of you are aware, the annual meeting of the AFS was moved to a virtual format in 2020. This also meant that the 150th Historical Display was moved to next year (Baltimore 2021). This inadvertently has given me more time to collect items, ideas and ichthyological related media for our display.

Specifically, I am trying to track down photos of Linda Erickson and her quilts, Esox, and Paul “Jack” Wingate. If you do have photos, please send them my way! Similarly, if you have items of interest that you would like to see in the historical display, I would be happy to work them into our media.

I also wanted to take this chance to give everyone a brief preview of one of the infographics that I have completed. While this is a small part of the display, it is an important piece for people to relate to our Chapter and foster inclusivity throughout the parent organization.

## Who are we now?

A collective view of who makes up our Minnesota Chapter



### Academic Professionals

Specialists that offer academic guidance as well as research opportunities.



### Pollution Control Agencies

A small representation of a large and important agency with an array of expertise.



### DNR

Competing for majority with students, DNR members offer extensive networking prospects.



### Retired Professionals

Fellows that can offer our organization a wealth of knowledge.



### Federal Agencies

Looking for hardy, seasoned professionals? Look no further.



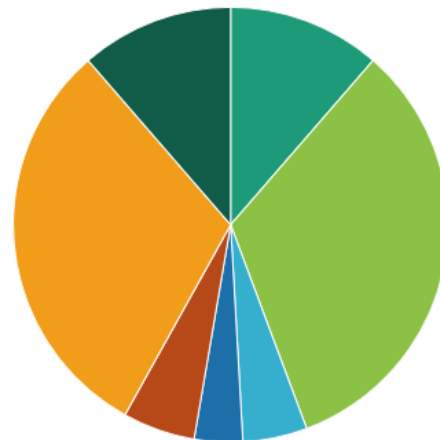
### Students

Our most ambitious members seeking to make connections with established professionals



### Others

Few but fierce members, including tribal organizations, private members, and sneaky unknowns...



## COMMITTEE OPPORTUNITIES GALORE

# Executive Committee Elections

by *Edie Evarts*, Past President/Issues Committee Chair, MNAFS

Elections will be held for the following MN AFS Officer and Executive Committee positions:

- 2021 President - Elect (DNR)
- Federal EXCOM Representative
- Academic EXCOM Representative

Voting will occur in advance of the 2021 Midwest Fish and Wildlife Conference and announcement of the winners for each position will occur at the MNAFS Annual Business Meeting. For more information, please contact our Nominations Committee Chair Edie Evarts (eevarts.mnafs@yahoo.com).

Vote now at: <https://units.fisheries.org/mnafs/mn-afs-2021-election/>

## President Elect - Candidate

by *Andy Hafs*, Professor, Bemidji State University

My name is [Andrew Hafs](#) and I am currently a Professor of Biology at [Bemidji State University](#) (BSU). I have held this position since 2012. At BSU, my teaching focus is within the Aquatic Biology Program where I regularly teach Diversity of Life, Ethics of Fish and Wildlife Management, Limnology, Ichthyology, Fisheries Management, Fisheries Research, and Computer Applications in Statistics. I make sure the American Fisheries Society (AFS) is an important part of the aquatic biology curriculum at BSU by serving as the advisor to the Student Subunit of the American Fisheries Society, making sure the [Fisheries Biology Emphasis](#) meets AFS certification standards, and annually taking over 15 students to the Minnesota AFS Chapter meeting. Additionally, I have been the major advisor for 14 graduate students since 2012. Annually, I serve as the academic advisor for approximately 30-40 undergraduate aquatic biology students.



*President-Elect Candidate Andy Hafs. Photo provided by Andy Hafs (Bemidji State University)*

Prior to becoming a professor and moving to Minnesota, I grew up in Green Bay, WI, graduated from the University of Stevens Point - Wisconsin, received my MS at Arkansas Tech University studying population dynamics of smallmouth bass, PhD at West Virginia studying brook trout condition, and completed a post doc at the University of California – Santa Barbara studying bioenergetics of Chinook salmon. Throughout my travels around the country as a part of my educational career, I was fortunate to have excellent advisors that encouraged my participation in AFS at the university, state, regional, and national levels. As result, I have developed a strong network of friends and coworkers across the country and I have no doubt that has helped me reach many of my

career goals. The value of AFS is very clear to me and I have strived to advise my students in a manner that models those that have advised me in the past.

In addition to teaching and advising my students, research is a very important aspect of my job. I have [published](#) at least one article in a top fisheries journal annually over the past decade and hope for that trend to continue. I have strived to develop collaborations throughout Minnesota and the AFS state meetings have been instrumental in helping that process along. Of all the places I have lived and traveled to throughout my career, Minnesota and my current job have been by far the most rewarding. Running for President of the Minnesota Chapter is a great honor and if elected I would serve to the best of my abilities. I would do my best to promote all the great things the society is capable of so others can have many of the same experiences I have had.

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## Academic Representative - Candidate

by *Kyle Zimmer*, Professor, University of St. Thomas

I have a BA from Luther College, MA from St Cloud State University, Ph.D. from North Dakota State University (horns up!), and did a postdoctoral stint at the University of Minnesota. I am a professor in the Biology Department at the University of St Thomas, which I have called home for the last 17 years. I teach Biology of Sustainability, General Ecology, and Aquatic Biology. My research program has historically focused on ecology of shallow lakes, especially the influence of fish on shallow lake food webs. However, I have recently moved into deeper water, and more recently I have conducted research on impacts of zebra mussels on fish communities and energy flow in lakes, trophic ecology of cisco, and potential influences of stocking muskie on resident fish communities. I have been a member of both the state and national AFS chapters for a long time. I wish to serve as the Academic Representative to help strengthen the interactions between academia and the Minnesota Chapter of AFS. Many smaller schools across the state do not have formal fisheries programs (including St. Thomas), yet have faculty and students doing fisheries-related research. Increasing connectivity between smaller schools and MN AFS will benefit both the chapter as well as faculty and students doing fisheries research. Additionally, nearly all my research has been collaboratively with both the DNR and other universities around the state, giving me a broad perspective on fisheries issues at the state level. Lastly, St. Thomas does not have a graduate program, but undergraduates have always been a key part of my research program, and the most rewarding aspect of my career is training the next generation of AFS members. I feel our chapter should continue our work on engaging undergraduate and graduate students from across the state in fisheries science and AFS activities.



*Academic Representative Candidate Kyle Zimmer. Photo provided by Kyle Zimmer*



**Federal Representative - Candidate**

by *Ryan Maki*, Aquatic Ecologist, Voyageurs National Park

I am very pleased to be considered for the Federal Representative position on the Executive Committee of the Minnesota Chapter of the American Fisheries Society. I grew up in northern Minnesota and have enjoyed its lakes since I was a young child. My parents started taking me on trips to the BWCA and to Lake of the Woods when I was three years old, and I have spent a huge portion of my free time on lakes ever since. My wife and I take our daughters camping and fishing every year, and it has been fun to see all of this come full circle.



*Federal Representative Candidate, Ryan Maki, during 2019 Shoepack Lake Muskie population assessment Academic Representative Candidate. Photo provided by Ryan Maki.*

I earned a B.S. in biology from the University of Wisconsin-Superior and a M.S. in biology from the University of Minnesota-Duluth. I conducted limnological research and monitoring on Lake Okeechobee for the South Florida Water

Management District from 1999-2004, and I have served as an Aquatic Ecologist at Voyageurs National Park since 2004. I have been involved in a wide variety of fisheries work at Voyageurs National Park, including collaborative research on the effects of lake level management and aquatic invasive species on gamefish. I have also collaborated on fish population assessments and research and monitoring focused on coldwater fish habitat and mercury contamination in fish. I routinely work on fisheries projects with researchers and managers from universities, the Minnesota DNR, the USGS, the US FWS, and both provincial and federal agencies in Canada.

I understand the benefits and services that committees provide, and I have served on multiple committees. Through collaborative research and management and through serving on committees, I have enjoyed the opportunity to work with many members of the Minnesota Chapter of the American Fisheries Society. I have also enjoyed attending multiple meetings of the Minnesota Chapter of AFS and attending national AFS meetings in St. Paul in 2012 and Tampa in 2017. These meetings and collaborative fisheries efforts have provided insight into numerous fisheries management issues. I appreciate the role of the American Fisheries Society and its Minnesota Chapter in supporting fisheries management.

Thank you, and I hope to have the opportunity to serve as the next Federal Representative on the Executive Committee of the Minnesota Chapter of the American Fisheries Society.

THE GREATEST AWARD IS DOING SOMETHING YOU'RE PROUD OF

# Call for MNAFS Award Nominations

by *Jessie Koehle*, *Open EXCOM Representative/Awards Committee Chair, MNAFS*

Please email your MN AFS award nominations to Jessie Koehle at [jkoehle@cityofeagan.com](mailto:jkoehle@cityofeagan.com). Simply include the nominee's name and reason for nomination. Winners will be announced during the Annual Business Meeting, which will occur during the Midwest Fish and Wildlife virtual meeting in February 2021. Due to the nature of this joint meeting, no paper or poster judging will occur in 2021. Categories for award nominations this year are:

**Special Recognition Award** Given to an individual who has provided a remarkable contribution or service to MN AFS. Someone who has shown exceptional dedication and skill in the advancement of fisheries science or development of fisheries professionals through MN AFS would qualify for nomination.

**Dennis H. Schupp Award of Excellence** Given to someone who has shown exceptional dedication and skill that spans a substantial part of their fisheries career.

Nominations are due (January 31, 2021). Award descriptions and listing of past winners can be found at <https://units.fisheries.org/mnafs/awards>. Thank you for your consideration!

## QUARANTINE PRODUCTIVITY

# Grain of Salt – Winter Projects

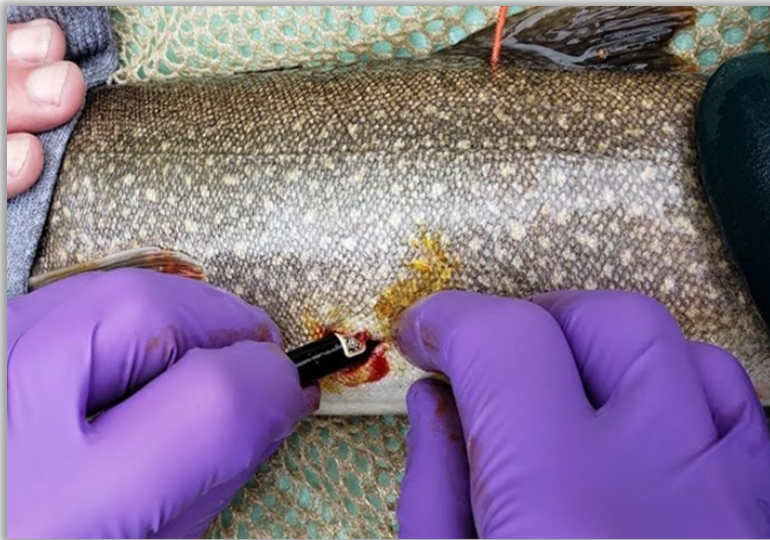
by *Matt Weberg*, Assistant Area Supervisor, Grand Marais Area Fisheries, MN DNR

Tracking Minnesota's deepwater denizens: Lake Trout acoustic telemetry in a Sentinel Lake - Of the primary coldwater species native to Minnesota Lakes, Lake Trout have the most discrete range of tolerable oxythermal conditions, and may be the least resilient to anthropogenic eutrophication and extended climate warming. Furthermore, Lake Trout populations in many native lakes face considerable angler exploitation on an annual basis, calling into question the long-term sustainability of some of these fisheries. Numerous studies have suggested that the degree of summer optimal thermal habitat volume (THV; water temperature 46-55° F, dissolved oxygen > 6.0 ppm) present within a lake can be used to estimate sustainable Lake Trout harvest levels. Using this formula, smaller and/or shallower Lake Trout lakes, which may already support low summer THV, will become further threatened as development, climate, and exploitation pressures mount.



*A 25-inch Lake Trout post-surgery and ready for release back into Trout Lake. Photo provided by Matt Weberg (MNDNR)*

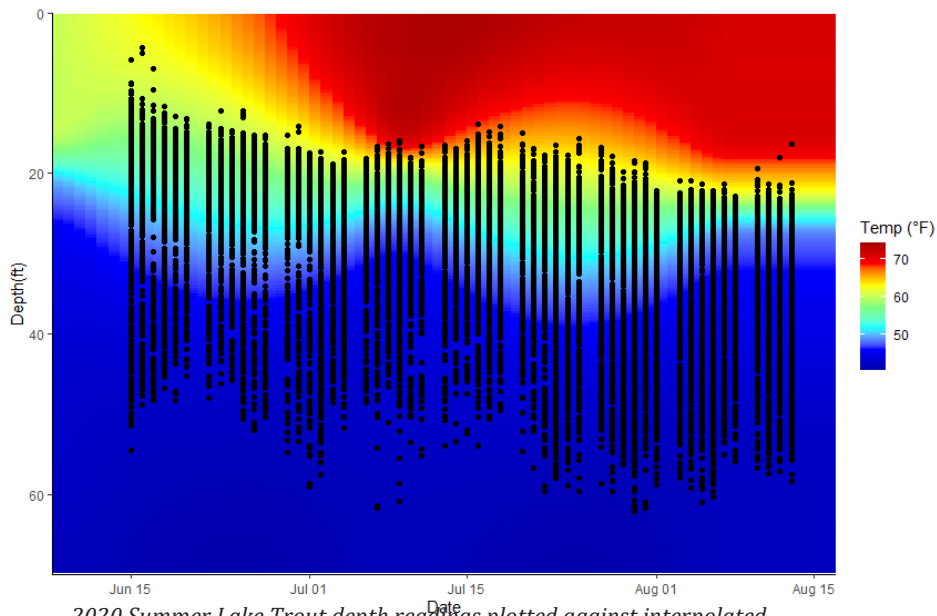
We understand the sensitivity of Lake Trout through their limited native range in Minnesota, and based on the coldwater conditions present in the lakes where they flourish. However, we lack empirical data to define a true thermal habitat envelope utilized by the species. To define this range, and provide answers to other questions related to Lake Trout behavior in inland lakes, we utilized acoustic telemetry to track a sample of Lake Trout from Trout Lake, a 259-acre DNR Super Sentinel Lake located near the City of Grand Marais. In October 2019, 29 Lake Trout ranging from 12 to 33 inches in length were implanted with depth and temperature sensing acoustic transmitters. An array of 14 data logging receivers were deployed in the lake to provide near-continuous monitoring of the sample population, and allow for spatial mapping of fish locations in the lake. The study will conclude late-winter 2021, when the transmitter batteries will expire.



A 22-inch Lake Trout being implanted with an acoustic transmitter for the Trout Lake study. Photo provided by Matt Weberg (MNDNR)

fish did foray into warmer conditions; about three percent of recorded temps were above 55 °F, and the maximum fish temperature recorded was 67.6 °F. Analysis over winter 2021 will examine individual and grouped (by size) habitat use and movement patterns/tendencies at multiple time scales. We will complete the spatial analysis after the final receiver download in March 2021. Using the latter data, we hope to identify critical Lake Trout spawning locations, which could advance our ability to monitor adult population size in Trout Lake.

Through late-August 2020, we acquired over 500,000 individual temperature and depth transmissions from study fish. Temperature and depth data was grouped by season (i.e. winter, summer) for preliminary analysis. Recorded winter depths of Lake Trout ranged from zero to 70 ft (approximate max depth of Trout Lake); however, 90 percent of recorded depths were between seven and 47 ft, and only about three percent of depths were greater than 50 ft. Recorded temperatures varied little during the period of ice cover (34-38 °F). Recorded summer depths ranged from zero to 66 ft, although 90 percent of recorded depths were between 8 and 47 ft, and just two percent were greater than 50 ft. Recorded summer temperatures appeared to mesh well with the theoretical range for Lake Trout, with about 90 percent of readings between 41 and 54 °F. Study



2020 Summer Lake Trout depth readings plotted against interpolated daily water temperatures from monthly temperature-oxygen profiles of Trout Lake.

by *Jim Levitt*, Assistant Area Supervisor, East Metro Area Fisheries, MN DNR

East Metro (St. Paul) and Lake City DNR Fisheries offices collaborated to conduct a trout stream angler creel in 2019 using two roving creel clerks. The clerks interviewed anglers at six different stations on the Vermillion River and tributaries in Dakota County plus one site on Trout Brook (Dakota County) and two sites on Hay Creek in Goodhue



County. An additional component of this creel was the use of trail cameras at these same sites to allow a comparison between the clerk data and camera data. Unfortunately, technology problems caused the camera data to be very limited and confidence was lacking in the data collected by the creel clerks. For the 2020 trout angling season trail cameras were set at three of the six locations on the Vermillion River which were sampled in 2019. Due to COVID restrictions, the cameras were not operational the first three weeks of the angling season. The purpose of collecting this data is two-fold. First, we want to compare the data we collect in 2020 against that which was collected in 2019 and second, we will be able to calculate the angling pressure at these sites and compare it to an estimated pressure by subsampling the data. The one aspect lacking from the camera data will be fish harvest, which is important in the put-and-take fishery for Rainbow Trout that exists on the Vermillion River. The cameras worked almost flawlessly in 2020 (one needed to be replaced but minimal data was lost). Through the winter months the images will be processed, thus providing information on angler-hours at each location, angler trip length, angler gender (perceived), weekday versus weekend pressure and seasonality of angling pressure.



*Photo provided by Jim Levitt (MNDNR)*

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by *Loren Miller*, *Research Scientist, Fisheries, MN DNR*

Lower Mississippi strain Walleye performance in southern Minnesota - A walleye strain comparison study in the Waterville and Windom areas continues throughout this winter. This year was supposed to be the third of five years (2018-2022) in which two strains [Lower Mississippi (LMS, from Sarah L) and Upper Mississippi (MIS, from Pine R)] are stocked simultaneously into multiple lakes and their survival and growth measured for several years. Given the covid pause in stocking, extensive gillnet or electrofishing effort was put into capturing age-1 and age-2 walleye from the prior two years of stocking. (Thanks to Waterville and Windom staff and researchers Dale Logsdon and Steve Shroyer). Over 800 samples had otoliths and tissues collected to determine whether they were stocked individuals, and if so, from which strain.

Now that samples are in hand, we will evaluate stocked fish by a two-part process. First, after Dale identifies age-1 and age-2 fish, he examines their otoliths for an OTC mark incorporated into fry just prior to stocking. For those with OTC marks, Loren Miller uses genetic parentage techniques to determine strain. All parents from the LMS broodstock were previously genotyped. OTC-marked fish are genotyped and compared to LMS parents: those that assign to parents are LMS and those that don't assign are MIS. Dale and Loren (and a student) have permission to go into their labs occasionally and will spend the winter slowly making their way through the samples collected this summer. Preliminary results have shown a survival advantage to the fingerling stage by the LMS strain in most study lakes that usually remained or possibly strengthened by age-1 (Figure 1). The 2019 fingerling results were more consistent, with a significant advantage by LMS in all study lakes. We hope to resume stocking in 2021 for at least two more years and follow each year-class for at least three years, if sample sizes are suitable.

2018 stocked year-class composition  
as fall fingerlings and age-1

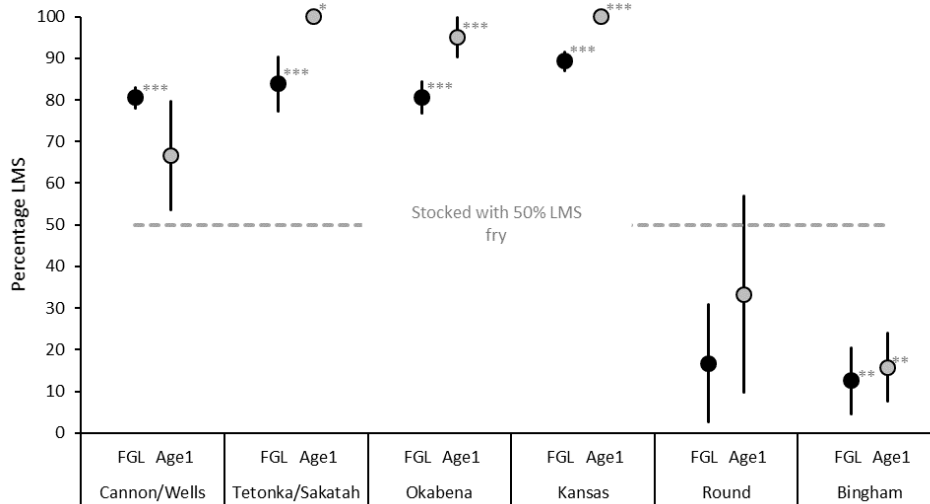
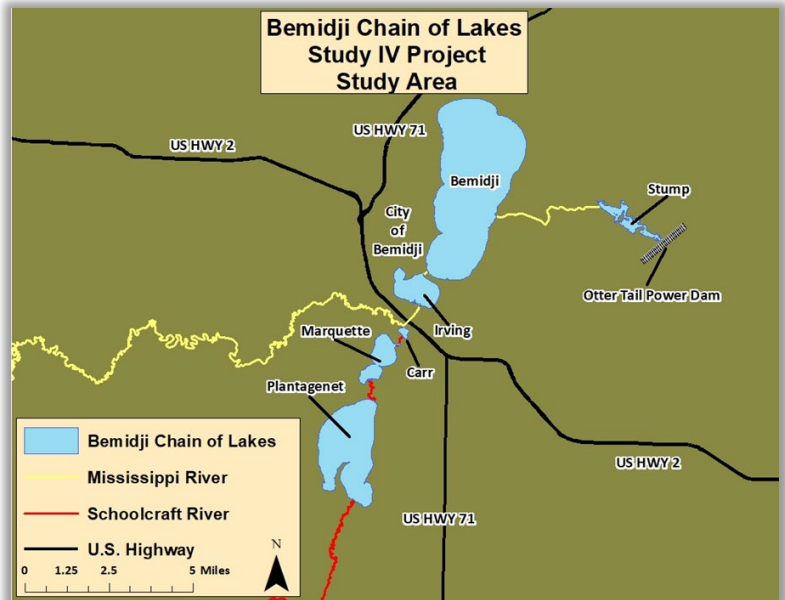


Figure 1. Percentages of stocked fish which assigned to LMS when sampled as fall fingerlings (black-filled circles) and age-1 (grey-filled circles) compared to the percentages of fry stocked into the lakes that were of LMS strain (dashed line). Values above the dashed line indicate a survival advantage by the LMS strain.

by **Ethan Karppinen**, Fisheries Specialist, Bemidji Area Fisheries, MN DNR

The Bemidji chain is a system of broadly connected lakes in the Bemidji area that supports heavy Walleye angling pressure. In addition to Lake Bemidji proper, the Bemidji chain includes lakes Irving (upstream) and Stump (downstream) connected by the Mississippi River, as well as lakes Plantagenet, Marquette, and Carr connected by the Schoolcraft River, which flows into the Mississippi River just upstream of Lake Irving. All of these lakes support moderate to robust Walleye fisheries, in particular lakes Bemidji and Plantagenet.



Lake Bemidji receives the most Walleye angling pressure within the chain and the Walleye population is thought to be sustained primarily by natural reproduction. Lake Plantagenet is the only lake within the Bemidji chain that is stocked with Walleye - approximately 740,000 fry on an alternate year rotation. In recent years, there has been internal speculation regarding the extent to which this fry stocking contributes to the overall Walleye population in the connected waters that comprise the Bemidji chain. Downstream fry drift and/or active movement of juvenile Walleye in connected systems has been recently documented using oxytetracycline (OTC) marked fry in the Bowstring and Cass chains. In both studies, OTC marked age-0 Walleye dispersed into connected waters and contributed to lakes with presumed self-sustaining Walleye populations. This initiated a Study IV project (four year project) of the Bemidji chain, beginning in 2019.

The objectives of this study are to investigate Walleye movement and fry dynamics within the Bemidji chain. Approximately 741,000 Walleye fry were OTC marked and stocked into Lake Plantagenet in the spring of 2019. In fall 2019 (year one), night electrofishing efforts collected age-0 Walleye fingerlings from lakes Bemidji (N = 109) and Plantagenet (N = 113). Age-0 Walleye were captured from multiple locations on lakes Bemidji and Plantagenet with 18.3% and 81.4% being OTC marked, respectively. Results confirm the movement of age-0 Walleye downstream from Lake Plantagenet into Lake Bemidji.

In 2020 (year two), fall night electrofishing efforts collected 101 and 96 age-1 Walleye from lakes Bemidji and Plantagenet, respectively. The age-1 Walleye will be examined for OTC marks during winter of 2020-2021 and provide a second opportunity to observe distribution of the stocked portion of the 2019 year class. The percentages of OTC marked age-1 Walleye in both lakes will be compared to the age-0 results from 2019. OTC marked Walleye fry will again be stocked into Lake Plantagenet and age-0 Walleye fingerlings will be collected for OTC marks in 2021 (year three). In 2022 (year four), a gill net assessment of each lake in the chain will document the proportion of OTC marked Walleye at ages 1 and 3, enhancing our understanding of stocking efforts in this popular Walleye fishery.

SUB-UNIT HAPPENINGS

# Student Sub-Unit Updates

By *Nolan Kerr*, President, University of Minnesota-Twin Cities, AFS Student Sub-unit



## UNIVERSITY OF MINNESOTA

We have had a somewhat slow start to the year, but we have made sure to stay active as a club and a resource for our members. Due to school-wide restrictions, we have not been able to have any in-person events year, however, we have started a series of virtual natural resources panel discussions in collaboration with another club on campus. We also have plans to host a number of guest speakers over Zoom during the rest of the year. During the winter we are hoping to do a distanced ice-fishing event, and during the spring semester we hope we will be able to get out in the field for some educational and enrichment opportunities.



*Scenes from the pandemic. Photo provided by Nolan Kerr (University of Minnesota – Twin Cities).*

By *Alaina Taylor*, President, Bemidji State University, AFS Student Sub-unit



**BEMIDJI**  
STATE UNIVERSITY

Due to the safety of our students the Bemidji AFS Subunit has been holding virtual bi-weekly meetings over zoom. Meeting topics included: fundraising virtually, internship and job opportunities, navigating job boards, AFS certification, and working on resumes/cover letters. We have also had two guest speakers join our meetings. Emma Wiermaa the Outreach Specialist for UW Stevens Point Northern Aquaculture Demonstration Facility and Shan O’Gorman a Fisheries Scientist from the University of Georgia.

FISHERIES SPECIALIST AND RESIDENT ARTIST

## Member Spotlight

by *Kristan Maccaroni*, Newsletter Co-Editor, MNAFS

This issue’s member spotlight: Hannah Anema, Fisheries Technician, Hutchinson Area Fisheries, Minnesota Department of Natural Resources.

**So, Hannah, you are a technician at Hutchinson... what does your winter look like this year? Is it different because of COVID-19?**

Compared to most other fisheries positions, I feel that my job as a fisheries technician this winter will be relatively normal. Besides virtual meetings, trainings, and seminars, most of the usual maintenance work that needs to be addressed will be accomplished similar to most years; out in our facilities and heated garage. However, this winter it will be done with a mask. Most winters my maintenance schedule consists of patching trap nets, stripping old gillnets, performing annual inventory, winterizing boats, organizing equipment, and repairing miscellaneous items (air stones, agitators, fry jugs, brails, etc...). Although the amount of equipment that needs to be repaired this year is slightly less than a normal winter. The extra time will be spent doing a deep cleaning and organization of tools and equipment in our exceptionally large garage.

**I remember that you are taking some fisheries classes online through Oregon State University. Is that fun? Do you hope to reach the Specialist level?**

I actually finished my last final at Oregon State University 2 hours before they shut down the libraries due to COVID-19 back in March. I really lucked out there! Although it was a challenge completing course work while working full





time and keeping up with art commissions, it was very fulfilling to finally be qualified for a specialist position. The program designs at OSU made classes doable for anyone completing coursework remotely. I look forward to applying for specialist positions when they become available.

**You have created some seriously good art for the Chapter t-shirts. Many thanks; it is so good have a talented artist in-house! Have you been drawing your whole life? What got you into drawing and do you have formal training?**



Thank you! I have really enjoyed creating designs for the Minnesota Chapter these past couple of years. I started drawing from a young age. My Grandpa was a painter and my dad is a talented artist as well. He ended up going into advertising with his artistic talents. When I was younger, I always loved art and ended up taking art classes every Tuesday in Minneapolis. In college, I had a scholarship that required me to take at least one art class every semester on top of my Environmental Studies major. Taking art classes in college really affirmed that I could take the techniques and practices I learned when I was younger and apply them to more complex projects. Now that I am completely done with college courses, my painting and other projects have really taken off. In addition to designing t-shirts for AFS, I have also been designing quite a few T-shirts for the local brewery (Bobbing Bobber Brewing Company). The bonus is that most of these shirts have been fish themed! As for my painting, I have quite a few fish themed pieces that are for sale at the brewery and I hope to organize my own personal art show in the next few years.

**What's the biggest fish you've caught, and where was it?**

I did not "catch" the fish hook and line, but last year I speared a 36" Northern Pike. I speared it on a lake that shall remain nameless, but it is one the Hutchinson office manages. Besides from that, I would say I tend to catch a lot more "eater" fish than trophy sized fish. I eat fish for most of my home cooked meals. However, another impressive fish that I caught while ice fishing was a 14" Yellow perch. I was convinced to have the fish mounted, so I am looking forward to starting my trophy wall with something a little different from a mature buck or giant walleye. This winter I plan to get out on the river quite a bit more in search of a huge lake sturgeon.

**What species do you most enjoy fishing for in the Hutch area?**

That is hard to say. I feel like it is hard to settle on just one species. I love ice fishing for Walleyes, panfish, and spearing pike; but I also love top water fishing for bass. Another activity I love to do in the early spring, while the lakes are still frozen, is fish for Common Carp and Big Mouth Buffalo in the South Fork Crow River. The fight is amazing and it is a fun transition from the hard water season to fishing opener in May.

## WHAT IS NEXT?

# Upcoming Events

by *Craig Kelling*, President/Newsletter Editor, MNAFS

## The 81st Annual Midwest Fish & Wildlife Conference



February 1 – 3, 2021.

The theme of the 2021 Midwest Fish and Wildlife Conference will be “**Fostering Diversity.**” In addition to the work natural resource professionals do to encourage species diversity in the habitats they manage, it is critical that we also foster diversity in participation in the outdoors among the people we serve and who work in our professional ranks. Our plenary session will feature Carolyn Finney, author of *Black Faces, White Spaces*, a seminal work on the roots of gaps in outdoor participation between white people and other ethnicities. Other plenary speakers will describe programs being used to close some of those gaps both among different ethnicities and genders.

Website: <http://www.midwestfw.org/>

## 151<sup>st</sup> AFS Annual Meeting



August 8 – 12, 2021

The American Fisheries Society, President Elect Brian Murphy, and the Potomac and Tidewater Chapters are excited to host the 151st AFS Annual Meeting, August 8–12, 2021. Baltimore, also known as “Charm City,” is famous for its blue crabs and crab cakes, as well as a vibrant cargo port and numerous nearby fishing opportunities in the

Chesapeake Bay, Patapsco River, and Gunpowder Falls State Park. Baltimore will be a fantastic location to continue to commemorate 150 years of fisheries science achievements, so be sure to join us for special celebrations throughout the conference. The past, present, and future of fisheries science will be on display as we bring together professionals from across North America and countries throughout the world under the theme of “Investing in People, Habitat, and Science.” We will solicit symposia topics, contributed papers, and posters that exemplify the latest research in fisheries science and that will benefit a range of audiences with the aim of advancing the science of fisheries ecology, conservation, and management. Look for the first Call for Papers in Fall 2020!

Website: <https://afsannualmeeting.fisheries.org/2021-annual-meeting-in-baltimore/>

OPPORTUNITIES TO GET INVOLVED

# Committee Member Update

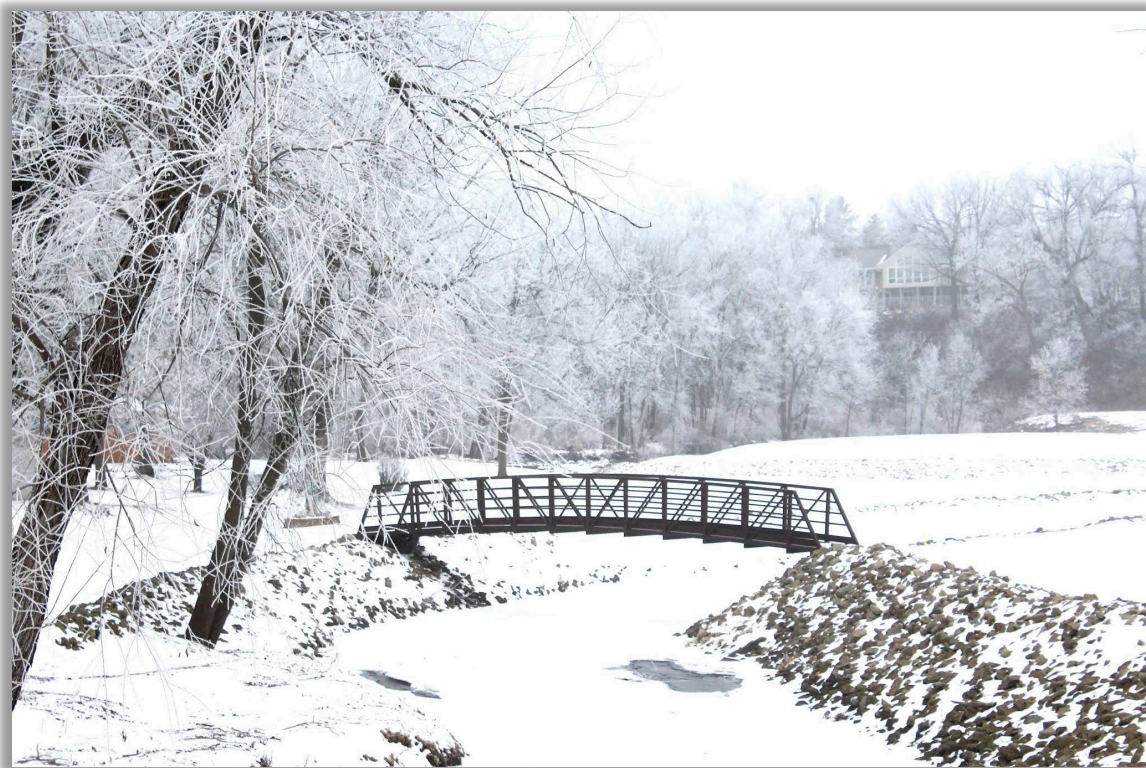
by *Craig Kelling*, *President, MNAFS*

<b>Minnesota Chapter Standing Committees</b>	
Arrangements	Mandy Erickson, MN DNR Fisheries
Awards	Jessie Koehle, City of Eagan Water Resources
Communications	Hanna Kruckman, U.S. Fish and Wildlife Service
Issues	Edie Evarts, MN DNR Fisheries
Long Range Planning	Jacquelyn Bacigalupi, MN DNR Fisheries
Membership	Joel Hoffman, U.S. Environmental Protection Agency
Nominations	Edie Evarts, MN DNR Fisheries
Resolutions	Brian Nerbonne, MN DNR Fisheries
Students	Alaina Taylor, Bemidji State University
<b>Minnesota Chapter Perennial Special Committees</b>	
Continuing Education	Heidi Rantala, MN DNR Fisheries
Fund-Raising	Jon Hansen, MN DNR Central Office
History	Brian Borkholder, Fond du Lac Resource Management
Past-Presidents	<b>VACANT</b>
Procedure Manual	<b>VACANT</b>
Scholarships	Jay Hatch, University of Minnesota – Twin Cities Mark Hove, University of Minnesota – Twin Cities
Science Fair	Ben Larson, MN DNR Fisheries
Student Development	Jay Hatch, University of Minnesota – Twin Cities Andy Hafs, Bemidji State University



Parent Society 150 <sup>th</sup>	Morgann Gordon, U.S. Environmental Protection Agency
<b>Minnesota Chapter Special Appointments</b>	
DNR Fishing Round Table Representative	Mark Hove, University of Minnesota
FWLA Delegates	Loren Miller, MN DNR, University of Minnesota – Twin Cities  Jon Hansen, MN DNR Fisheries
MN Chapter TWS Representative	<b>VACANT</b>
<b>North Central Division Technical Committees</b>	
Centrarchid	Alisha Hallam, MN DNR Fisheries
Esocid	Mike Habrat, MN DNR Fisheries Nate Hodgins, MN DNR Fisheries
Ictalurid	Tony Sindt, MN DNR Fisheries
Rivers & Streams	Ann Kuitunen, MN DNR Fisheries
Salmonid	<b>VACANT</b>
Walleye	Dale Logsdon, MN DNR Fisheries
<b>Student Sub-Unit Advisors</b>	
Bemidji State University:	Andy Hafs, Bemidji State University
University of Minnesota Twin Cities:	Gretchen Hansen, University of Minnesota – Twin Cities
University of Minnesota Duluth:	Thomas Hrabik, University of Minnesota – Duluth
<b>Student Sub-Unit Presidents</b>	
Bemidji State University:	Alaina Taylor, Bemidji State University
University of Minnesota Twin Cities:	Nolan Kerr, University of Minnesota – Twin Cities
University of Minnesota Duluth:	Noland Michels, University of Minnesota – Duluth
<b>Minnesota Chapter Executive Committee</b>	
President:	Craig Kelling, U.S. Fish and Wildlife Service

President - Elect:	Keith Reeves, MN DNR Fisheries
Past President:	Edie Evarts, MN DNR Fisheries
Secretary/Treasurer:	Calub Shavlik, MN DNR Fisheries
Federal Representative:	Hanna Kruckman, U.S. Fish and Wildlife Service
DNR Representative:	Nick Peterson, MN DNR Fisheries
Academic Representative	Neal Mundahl, Winona State University
Open Representative:	Jessie Koehle, City of Eagan Water Resources



*Christmas Eve snow Owatonna, MN. Photo taken by Christine Kelling*

See you out there!

The information and opinions presented in this newsletter are those of the respective authors and do not necessarily represent the views of the U.S. Fish and Wildlife Service or any other federal, state, or local agency.

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