Fall 2017

Issue 58

Dakota Chapter American Fisheries Society Newsletter

Contents

Steve Chipps, President
Dakota Chapter AFS

President's Message

A person who never made a mistake never tried anything new.
---- Albert Einstein

Greetings, everyone! First, let me take the opportunity to say thank you for allowing me to serve as your Chapter President. As an AFS member for over 25 years, I've long-recognized the advantages that AFS membership offers professionals and students. And as we look to a new year, I want to continue Dakota Chapter's mission to best serve our student organizations and fisheries professionals in the Dakotas. Second, I have always admired quotes from Albert Einstein. And the one above seems germane to many aspects of our profession. Indeed, by all accounts, I must be succeeding at trying new things every day. The point of this message, of course, is that we learn from our mistakes. I'll go out on a limb here and posit that as a group, fisheries biologists fall into a category of professionals that I refer to as 'Tinkerers'. That is, we are always willing to try new things – whether its addressing new research questions, implementing new management regulations, or trying new aquaculture techniques.

As Tinkerers, we understand that failure is part of the process. But we prioritize science, loath uncertainty, and use what we know to tinker and learn more. Of course there are "non-Tinkerer" professions too, whose members ignore science, praise uncertainty, and use what they don't know to make something that doesn't work, work. But back to my message. Learning from mistakes is one of those things that tends to accumulate in the memories of senior fisheries biologists -- and this is unfortunate for our younger colleagues. It's difficult to search and learn about such things, even with Google Scholar. Over the years, I can't recall having read a single paper where the abstract states "…*we did this, but nothing happened. So we recommend not doing this again*." I suspect that by always tinkering with problems, our knowledge of past mistakes becomes integrated in what we currently know. And I am reminded of yet another Einstein quote, "It's not that I'm so smart, it's just that I stay with problems longer".

So it seems our profession has a lot in common with Albert Einstein, which is good. As our 2018 annual meeting approaches, I'm certain we all look forward to learning new things. But I would also encourage everyone to reflect on failures they've experienced as fisheries scientists – and include these in discussions with our younger members (i.e. students). Maybe it will be a good ice-breaker for our student subunit members -- "*so, what did you do as a fisheries professional that didn't work*"? I'm sure we all have a few to share, large and small….

On behalf of the Dakota Chapter Executive Committee, I wish everyone a safe and enjoyable holiday season, and we look forward to seeing you in Brookings in February.

Annual Meeting Information

Days Inn
Brookings, SD

February 26-28, 2018

Days Inn, Brookings, SD

Monday, February 26 – workshop 2-5 pm (see below), registration and welcoming social

Tuesday, February 27 – registration, papers and business meeting – awards banquet in the evening

Wednesday, February 28 – papers, adjourn by noon.

Make your reservations today!

Call the Days Inn at 650-692-9471 to make a reservation. Be sure to mention you are with Dakota Chapter AFS to ensure maximum benefits for the Chapter.

Annual Meeting Registration

https://dakota.fisheries.org/2018-annual-meeting-registration/

Call for Papers!

All Aquatic and Fisheries Papers are Welcome!

Abstract Submission Guidelines

Please include the following in your abstract:

1. Title
2. Author's name, affiliation, and contact info (for multiple authors, indicate who will be the presenter)
3. Category (Professional, Graduate Student, Undergraduate Student)
4. Paper (oral) or Poster Presentation
5. Abstract - 250 words or less.

Note: We are instituting a new requirement this year that all abstracts need to be submitted via the Dakota Chapter AFS website.

https://dakota.fisheries.org/online-abstract-submission/

Deadline: January 12, 2018

Presentation and Poster Requirements

Oral presentations: 15 minutes followed by 5 minutes of Q & A. Any version of PowerPoint should work.

Posters: Must fit 3' high x 4' wide poster board. Easels and poster boards will be provided.

Scholarships and Awards

The Dakota Chapter proudly supports the following awards to individuals or groups in recognition of their efforts

AQUATIC RESOURCE CONSERVATION AWARD – May be presented annually to an individual or group that has made an outstanding effort in ensuring the future welfare of the Dakotas' waters and/or fisheries.

Robert L. Hanten Distinguished Professional Service Award – May be presented annually to no more than two individuals who have made an outstanding contribution within the fishery profession.

BEST STUDENT PAPER AWARD – May be presented annually to recognize the best student paper delivered at the annual meeting.

BEST STUDENT POSTER AWARD – May be presented annually to recognize the best student poster delivered at the annual meeting.

BEST PAPER AWARD – May be presented annually to recognize the best paper delivered at the annual meeting by a working professional.

DAKOTA CHAPTER SAUGER SCHOLARSHIP – This student scholarship provides room, conference fees, and will reimburse for other expenses (travel, food) for any amount up to $100.00. Eligibility: Any undergraduate student studying fisheries or a related field in South Dakota.

Northern Pike Scholarship – This scholarship will provide room, conference fees, and will reimburse for other expenses (travel, food) for any amount up to $100.00 (receipts must be retained for reimbursement). The Dakota Chapter VCSU subunit will select the winners for the Northern Pike Scholarship. Eligibility: Any undergraduate student studying fisheries or a related field in North Dakota.

DR. JAMES C. SCHMULBACH MEMORIAL SCHOLARSHIP – This student scholarship is a monetary award presented to a junior or senior undergraduate student who is studying fisheries science, or related field, at an accredited college or university in North or South Dakota.

DR. ROBERT A. KLUMB MEMORIAL SCHOLARSHIP – Eligibility: Any student who is studying fisheries science or related field of study is eligible to apply.

Students and Professionals! Please visit our Awards and Scholarships page at the link below – and consider applying for a scholarship or nominating a colleague for a Chapter award.

http://dakota.fisheries.org/awards-and-scholarships/

Training, Workshops & Webpage

Website stuff:

- Annual meeting registration will be available on the Dakota Chapter website again this year. Registrants can go to the website and find the live registration link. After you register on the Dakota Chapter website, you will be sent a Pay-Pal invoice to the e-mail that was supplied. This may take 1-2 days to receive. You will have an option to split payments for meeting registration and membership dues. We also have the capability to register multiple individuals on one invoice if your office would like to submit a payment for a group of individuals. Please contact Hilary Meyer (Hilary.Meyer@state.sd.us or 605-223-7703) if you would like to register a group of individuals. As always, we will still accept cash or check payments at the door. We encourage everyone to use online registration to streamline the on-site name badge pick-up and check-in process.

  https://dakota.fisheries.org/2018-annual-meeting-registration/

- The Dakota Chapter of AFS will only be accepting abstract submissions online for the 2018 meeting.

  https://dakota.fisheries.org/online-abstract-submission/

Workshops:

What Level of Public Participation is Right? It depends!

Dakota Chapter Annual Meeting, Monday, February 26, 2018

2-5pm

Changes in attitudes, preferences, and expectations help to create a constantly changing arena for public participation practitioners to navigate. Determining the level of participation and processes needed for agency decisions to have legitimacy within the public's mind is a necessary component in agencies' ability to implement decisions. This workshop will provide participants with an introduction to the decision steps and processes needed to determine the appropriate level of public participation. Participants will also discuss the various tools and techniques used in public participation processes (e.g., creel surveys, public meetings, facilitated groups, public opinion surveys), and learn to identify the appropriate tools for creating effective dialogue and meeting the objectives for the participation process. Registration fee = $20/participant.

Cynthia Longmire

cynthia.longmire@state.sd.us

Student Subunit Updates

South Dakota State University (Travis Rehm, President):

Student members in the South Dakota State University sub-chapter of the American Fisheries Society have been busy with the start of another school year. A wide array of members made the long trip down to Tampa, FL to partake in the 147th Annual Meeting of the American Fisheries Society. More recently many a handful of members made the trip out to West Yellowstone to attend Wild Trout Symposium XII. Both graduate and undergraduate students participated by giving oral presentations, poster presentations. These meetings were a tremendous success for all those who attended.

When the new school semester began, returning members have pushed to recruit and retain new members. This has been done through a series of activities in the field and on our campus. Members set up at the Agriculture and Biological Sciences Ice Cream Social to recruit new members and get the AFS name out to those who had questions or were curious about Fisheries Science. Following the social we hosted our annual back to school cookout once again put ourselves out for new students and old member reconnecting after summer the break. Our first official meeting of the year included veteran members speaking about how being an active member of the subunit has helped their pursuit of a career as a fishery professional. We continued to highlight the importance of obtaining technician/intern jobs during the summer and highlighted some cool work members got to be a part of this pervious summer.

Once we boosted our membership with new members we have conducted field sampling days to peak our member's interest. We took members to a local creek and did some backpack electrofishing and seining. Students performed outstanding and caught over a dozen species! Plans are in the works to continue getting experience with new gears and sampling techniques this fall.

The Subunit has a lot of plans for the coming year and will be soon headed out to Lake Oahe in central South Dakota where we will help out South Dakota Department of Game, Fish, and Parks spawn Chinook salmon. We look forward to a year filled with events and activities and will push to get as many members to attend this year's AFS Dakota Chapter meeting here in Brookings, SD. We are currently working on some very cool T-shirts that will be available at the meeting, hope to see you there!

Valley City State University (MORGAN BERQUIST, PRESIDENT):

Things are cooling down here in Valley City as the fall weather rolls in, but club activity is heating up as the semester continues! Our first meeting to kick off the year was held on August 24th, where we gained nine new members and reviewed the activities for the 2017-2018 year. This bumps our total number of paid members up to 28. We have had some great turnouts at our first few events. Our first event was a collaboration with the VCSU Student Chapter of The Wildlife Society to break the ice for the new freshman. We had a cookout at Chautauqua Park in Valley City that consisted of burgers, hotdogs, horseshoes and volleyball. Many members of each club participated in the festivities.

The following weekend, our subunit held our annual fishing contest along with a fish fry afterwards. This year was the best turn out we have had yet for the fishing contest. Everyone had a great time and filled their bellies with fresh fish and homemade french fries. On October 7th, the subunit participated in the annual Cub Scout day at the Valley City National Fish Hatchery. Approximately 100 cub scouts were present and subunit members helped with the kid's fishing event.

Our club was lucky enough to work with the fisheries folks of North Dakota Game and Fish Department spawning chinook salmon last year. It was a great and new experience for club members, and Dave Fryda was nice enough to invite us back again this year on October 13th. Only a few members were able to attend due to busy school schedules. But, the students who did attend got to learn the whole process along the way, and it was a great experience for them. We would like to thank the Garrison Fish Hatchery folks for allowing us to observe and help out again this year!

Our advisor, Casey Williams, put on a fly fishing workshop for our members on October 9th, held in our cafeteria due to the weather. Around seven members were present and learned the fundamentals of fly fishing. Members who already knew how to fly fish learned some new tricks, and the others who were new learned a whole new technique. I know I will be buying a fly rod in the near future!

In November, Amy Gebhardt will be visiting to speak to the club about her journey from VCSU to graduate school to her position as a Fisheries Resource Biologist for South Dakota Game, Fish and Parks. We are excited to have Amy back at VCSU as she was a founding member of the VCSU subunit.

We will continue doing our ice fishing raffle fundraiser, as we have had great success in the past two years. Our tentative dates for ticket sales run from December 1st – February 21st. A camping and fishing trip to the Missouri River is being planned for the spring semester. We will end the year with our banquet which will include food, raffles, and games to close a great and eventful year! We will also be selling apparel this year for club members to help represent us as an organization. It's a great way to get our name out there!

If you have any opportunities for student volunteers, please let us know. We are always looking for additional ways to gain experience and look forward to helping if we can.

North Dakota Happenings

Habitat impacts resulting from the 2011 Flood persist in the Garrison Reach of the Missouri River (PAUL BAILEY, SC DISTRICT FISHERIES SUPERVISOR)

Aerial photographs of the Garrison Reach of the Missouri River (the portion of river between Garrison Dam and Lake Oahe) were obtained both pre-flood (2010) and post-flood (2013 and 2015) when similar flows were measured at the USGS Bismarck Gaging Station (433 m^3/s in 2010, 416 m^3/s in 2013, and 411 m^3/s in 2015). Wetted width and the number of channel braids were measured perpendicular to thalweg flow at each U.S. Army Corps of Engineers river mile between Garrison Dam (RM1389) and the Little Heart Boat Ramp (RM1302). Wetted width and channel braiding were assessed within three zones: dam-proximal (RM1389-1358), dam-attenuating (RM1357-1327), and river-dominated (RM1326-1302). The 2011 Flood resulted in significant loss of wetted width and channel braiding in all three zones. Additionally, no significant increases in mean wetted width or channel braiding have been observed from 2013 to 2015, indicating that recovery towards a pre-flood state has not occurred.

Table 1: Mean wetted width (m) and channel braiding for three zones within the Garrison Reach of the Missouri River. Mean values within the same column with differing letters (a or b) indicate statistically significant differences ($p \leq 0.10$).

	Dam-Proximal		Dam-Attenuating		River-Dominated	
Year	Mean Width	Mean Braids	Mean Width	Mean Braids	Mean Width	Mean Braids
2010	387 a	2.00 a	441 a	3.10 a	393 a	2.92 a
2013	353 ab	1.38 b	376 b	2.03 b	332 b	2.04 b
2015	331 b	1.59 b	374 b	1.97 b	328 b	1.92 b

Lake Oahe Northern Pike Tagging

The North Dakota Game and Fish Department jaw-tagged 75 northern pike ≥ 1 meter in length on the North Dakota portion of Lake Oahe in April of 2017 in an effort to gain a better understanding of how anglers may be utilizing these trophy fish. As of October 1, 2017, Anglers have reported catching 12 of these fish, three of which were harvested. Most anglers reported catching these pike within 15 miles of their tagging location; however several fish traveled 56-57 miles downstream to the Mobridge area. We plan to tag additional trophy northern pike in the spring of 2018.

Paul Bailey with a 29.7 pound Lake Oahe northern pike with jaw tag

Depth of Bluegill Nest Colonies in Raleigh Reservoir, ND (Jeff Hendrickson, SW District Supervisor)

Raleigh Reservoir is a 60 acre lake near the town of Raleigh in SW North Dakota. The reservoir has a mean depth of 13.3 ft and a maximum depth of 33.6 ft at full pool. Raleigh Reservoir was drawn down 22 feet for water control structure repairs in 2015. Bluegill nest colonies were very visible on subsequent visits to the reservoir. Waypoints were saved near the center of visible nest colonies. These waypoints were then plotted on the NDGFD contour lake map. Each colony's depth was determined by extrapolating its position between 5-foot contour lines on the lake map.

The average depth of Bluegill nest colonies was 16.7 ft, ranging from 6 ft to 22 ft. All colonies were either in the channel or on the relatively flat areas on inside bend side of the old creek channel. No colonies were observed above the 5-foot contour or on the steep outside bend side of the old creek channel. Almost all of the available literature says that Bluegill nest colonies are found in shallow (1-4 feet) protected areas of lakes. This is not true for Bluegill in Raleigh Reservoir.

NDGF-Northeast District Fisheries Update (Todd Caspers, Northeast District Fisheries Biologist)

The Walleye population in Devils Lake is doing well. There are many age-classes of Walleye in the lake and some of the fish can become quite old, as a 21 year old was sampled in 2013, and we sampled 3, 20 year old Walleyes last year.

We conducted our standard adult sampling on Devils Lake in July. The overall CPUE of Walleye fell a bit to 20 Walleye/net-night in our 125' variegated gill nets. (24 last year) This year's catch is just a bit below the long-term average of 20.5 Walleye/net-night. The Northern Pike and White Bass catches were both above the long-term average, while the Yellow Perch catch was below average. Due to lower Walleye reproduction the past few years, we stocked Walleye in Devils Lake again this year. About 1,440,000 fingerlings were stocked, which equates to about 9.1 fingerlings per acre. It appears that the Walleye had good reproduction this year, as our fall reproduction survey produced 42 age-0 Walleye/net-night, which is much above the average of about 23 age-0/net-night. It also appears that the Yellow Perch and White Bass had decent reproduction. Northern Pike reproduction is not monitored.

We also completed a creel survey on Devils Lake this year. The survey covered the periods of May 15, to August 31, 2016, and also December 15, 2016 through March 31, 2017. During the summer period, there were 622,600 angler hours, and anglers harvested about 335,700 Walleye, 48,500 Northern Pike, 9,200 White Bass, 5,000 Yellow Perch, and 1,700 Black Crappie. During the winter period, there were nearly 343,700 angler hours, and anglers harvested about 24,300 walleye, 11,500 pike, 350 white bass, 112,385 yellow perch, and 6,500 black crappie. Overall, about 463,500 walleye were likely harvested during both survey periods, which equates to about 3.1 walleye harvested per acre. Nonresidents continue to make up a significant proportion of anglers at Devils Lake, as nonresidents made up about 42 percent of open-water anglers and 49 percent of ice-anglers.

One of our other large lakes, Stump Lake is doing well too. We conducted our Standard Adult Sampling there in late June. The walleye population appears to be doing well, as our catch rate was 20 walleye/net-night, which is above the long-term average of about 16 walleye/net-night. The numbers of 10" to 20" walleye were down somewhat from last year, but they are still near their long-term averages. The yellow perch, northern pike, and white bass were all either above or near their long-term averages. Stump Lake has salinity levels that are too high for good walleye reproduction, so it is stocked every year. We stocked about 670,000 fingerlings this year, which equates to about 42 fingerlings per acre. Stocked walleye survival was good this year, as we caught about 16.4 yoy walleye/net-night this fall, which is a bit above the average of 13 per net-night. The perch and white bass both seemed to have good reproduction as well.

Seasonal employee, Nate Janochoski, releasing a Northern Pike of about 37.5"

Garrison Dam National Fish Hatchery Complex Update (Rob Holm, Garrison Dam National Fish Hatchery Complex Project Leader)

Walleye fisheries in North Dakota, Wyoming and Idaho received a big boost this year with record walleye production from all three U. S. Fish and Wildlife Service Hatcheries in North Dakota. Over 17.5 million walleye fry were distributed out of the Garrison Dam National Fish Hatchery as well as a record 10.3 million fingerlings and 153,000 advanced fingerlings. The Valley City and Baldhill Dam National Fish Hatcheries contributed an additional 3 million fingerlings to the total. The good old days of walleye fishing in North Dakota are here and with some help from the hatcheries and Mother Nature, should continue for a while. Check out the North Dakota Game and Fish Website for information on stockings occurring at your favorite fishing spot. BTY – did you know that the Wyoming walleye fisheries were supported by stockings from Garrison Dam NFH with over a million fingerlings stocked annually and that Idaho receives walleye fry to boost their walleye fishery?

Chinook salmon returns in Lake Sakakawea appear pretty solid for the second year in a row, thanks to continued healthy lake levels, strong smelt population, and a solid stocking program. This spring 430,000 smolts were released in the lake following a dismal release of 144,000 in the Spring of 2016. Last fall exceptional salmon spawning run put us in a position to help our neighboring states of Montana and South Dakota sending 110,000 salmon fingerlings to the Fort Peck State Fish Hatchery and 478,000 eggs to Blue Dog State Fish Hatchery. This year's salmon run looks promising again with hundreds of fish ascending the creek into the hatchery and several hundreds more being electrofished by North Dakota Game and Fish biologists from Lake Sakakawea.

In late September Garrison Dam NFH released over 9,700 six inch shovelnose sturgeon into the Big Horn River, Wyoming, above Yellowtail Reservoir in support of restoration efforts. The stocking is the first of two releases scheduled for this fall in the hatchery's continuing collaborative efforts with Wyoming Game and Fish to restore the shovelnose sturgeon population above the dam. All fish were scute marked prior to release enabling biologists to evaluate stocking success and potential natural recruitment from previous years' stockings. The shovelnose sturgeon in this reach of the river were extirpated by the 1980's with the construction of the Yellowtail Dam. Sporadic stocking of fry and juvenile shovelnose sturgeon have occurred since 1996 to restore the species.

Lake sturgeon restoration efforts on the Red River of the North receive a boost with hatchery stockings. Lake sturgeon in the Red River of the North were decimated over the years due to the construction of a series of dams and overexploitation. By the mid-1900's lake sturgeon had been extirpated from the basin. The Red River Steering Committee is working to restore the native lake sturgeon fishery by removal of the low head dams on the system in conjunction with hatchery stockings. The two Service facilities involved in the stocking efforts are Baldhill Dam NFH in North Dakota and Genoa NFH in Wisconsin. The Minnesota DNR stocked 1,300 seven inch coded wire tagged lake sturgeon in early October from Baldhill Dam into the Buffalo River and Ottertail Rivers, MN.

Pallid Sturgeon recovery efforts continue at Garrison Dam NFH with an additional 4 females and 8 males spawned this year. We are genetically selecting the mating design to boost the effective population in each of the three Upper Basin Recovery Areas. Hatchery stockings were initiated in 1997 with survival success and stocking rates highly variable over the years. Today we have a healthy population of hatchery stocked pallid sturgeon in the Missouri River System above Lewis and Clark Reservoir north into Montana with a respectable effective population ensuring that when changes in the system allow for natural recruitment, the hatchery produced pallid sturgeon population will be ready to respond.

The Garrison Dam NFH is getting a facelift this winter. The visitor center is expanding to accommodate larger tour groups and adding additional space for presentations and classroom activities. We are also expanding our isolation room to enable biologists to securely bring in species from the wild for research or propagation without compromising the health of the fish at the hatchery or in the river. All water discharged from the isolation room leads to a leach field to prevent contamination of the river with disease or escapement of fish.

South Dakota Staff Changes

This past year has brought many new faces and responsibilities to the aquatics section of South Dakota Game, Fish and Parks (SDGFP). The end of September marked the final page of SDGFP involvement in the Pallid Sturgeon Monitoring Program administered by the US Army Corp of Engineers. The contract associated with this project will no longer be with SDGFP.

Positions associated with this project have been moved and will now aid in expansion of efforts on aquatic invasive species (AIS) and habitat improvement initiatives. This includes the hiring of a new AIS fisheries biologist position in Sioux Falls to help move AIS efforts forward. BJ Schall was hired to fill this role. BJ has educational connections to SDSU for undergrad work and University of Nebraska at Kearny for his masters work.

Habitat staff will now also include a new fisheries biologist position in Sioux Falls. This position will aid Rhet Russell, fisheries biologist out of NE SD, in fish habitat and access improvement in Eastern SD. Kip Rounds has been hired to fill this position. Kip comes to us from Minnesota where he has been a Fisheries Specialist.

A vacant resource biologist position in Chamberlain was filled earlier this year with Amy Gebhard. Amy comes to South Dakota via Valley City State in North Dakota where she did her undergraduate work and Tennessee Tech where she did her masters work.

In house movement of staff has also occurred frequently this year. Jeremy Kientz was working as a fisheries biologist out of McNenny Hatchery. He was hired to fill the fisheries biologist position in the Rapid City office vacated by Ryan Andvik, who departed GFP to fulfill his dream job of being a “trophy dad” in Minnesota. Jill Voorhees, previously the assistant hatchery manager at Cleghorn Hatchery in Rapid City, was hired at McNenny to fill the fisheries biologist position vacated by Jeremy Kientz. Patrick Nero, resource biologist at McNenny Hatchery, left GFP to manage a hatchery at Humboldt State University in California, which is a GREAT opportunity for Patrick! Congrats to him on that move. Nathan Huysman has been selected to fill Patrick’s shoes in the resource biologist role at McNenny. Nathan comes to us from the Texas A&M AgriLife Algae Research Lab in Corpus Christi, TX where he worked in shrimp and fish research in conjunction with college students and professors. Mark Fincel, former Area Fisheries Supervisor for the Upper Missouri River management area, desired to be more involved with the on-the-ground management and research activities that take place within the Ft. Pierre fisheries office. He moved into a fisheries biologist position. This also relieved him of the need to look as “professional” and has allowed him to grow one of the most interesting (some may say hideous) beards of all time. This opened the Area Fisheries Supervisor position which was filled by Mike Smith, former Aquatic Invasive Species coordinator. Mike’s departure from his AIS role opened up the coordinator position that was filled by Mike Greiner, former resource biologist in the Ft. Pierre office. Mike Greiner is now busy learning the ropes from Mike Jo Smith on how to save the world one mussel at a time.

There are still a few positions looming in the hopper. The vacant assistant hatchery manager at Cleghorn Hatchery has been changed to a fisheries biologist and staff are working on getting that position filled. Staff are also working on formulating a new Senior Fisheries Biologist position that would function as the team leader for habitat improvement efforts around the state. Stay tuned for finalization of that key position!

We are extremely happy to have some new, talented staff members on board. We are also thankful to and excited for staff members that have been willing to take on new challenges within the aquatic section.

At the Great Plains Fish and Wildlife Conservation Office in Pierre, the following changes have occurred:

Dane Shuman (Project Leader) retired and has permanently moved to his beach house in Belize. He is doing great and loving life.

Dan James is serving as Acting Project Leader during the interim until the position is permanently filled. Dylan Turner was hired in July as a Biological Science Technician.

South Dakota Happenings

Barnes Presented the AFS Fish Culture Section Award of Excellence

The Fish Culture Section of the American Fisheries Society presented Dakota Chapter member Mike Barnes its Award of Excellence at the Annual Meeting this August in Tampa Florida. His nomination is below. Please congratulate Mike when you see him. He is very deserving of this award but, is very humble and does not like to draw attention to himself. Mike would note that there are many individuals and groups that have contributed to the achievements outlined below.

Contribution and Innovation Factor:

We are nominating Dr. Mike Barnes for the Fish Culture Section Award of Excellence because of his track record of exemplary work at McNenny State Fish Hatchery. During his 28 year career with South Dakota Game, Fish and Parks, he has mentored four Hutton Junior Fish Biologist students, over 12 undergraduate and high school students, countless summer interns, volunteers and boy scouts as well as 6 permanent employees at the McNenny State Fish Hatchery in Spearfish, SD. Many of the students that Mike has mentored go on to present research at the Dakota Chapter AFS or South Dakota Academy of Science annual meetings. In addition to helping them prepare for professional presentations, he also helps them publish the findings of their research in peer-reviewed journals. At the 2016 annual Dakota Chapter meeting, 2 high school students mentored by Mike received the best student presentation award and subsequently published their paper in the North American Journal of Aquaculture (Nuemiller et al. 2017). Mike is an adjunct faculty member at South Dakota State University and Black Hills State University. Since Mike was promoted to manager in 2010, he has greatly improved production, quality, and efficiency at the

hatchery. Mike is a constant innovator. He is frequently looking for ways to improve performance (growth, return to angler, etc.) of products coming out of McNenny State Fish Hatchery and has published numerous journal articles focused on the improvement of fish culture techniques and rearing performance of various Salmonid species. Mike has worked with his staff to examine the use of covered raceways , overhead tank covers, in-tank structural complexity, rearing velocity and rearing density to increase feed conversion efficiency and growth rates of Rainbow Trout, Brown Trout, and landlocked fall Chinook Salmon produced at McNenny State Fish Hatchery. Mike is focused on producing the best possible product for the anglers of South Dakota. Nothing is done at McNenny State Fish Hatchery unless it will increase the performance and efficiency of his staff or the quality of the hatchery products they produce. Some highlights of Mike's recent work Follows:

- Fermented Soybean Meal and Distiller's Dried Grain as Feed Components
    - Mike has published numerous articles in peer-reviewed journals which document the performance of Rainbow Trout fed distillers dried grain (DDG; Barnes et al. 2012a, 2012b) and fermented soybean meal (Barnes et al. 2012; 2013; 2014; 2015) as additives or replacements to traditional fish meal diets. This work is particularly meaningful in light of the increased global demand for fishmeal and the increasing costs of fishmeal based feeds. This research, particularly with soybean meal replacement, made significant strides toward understanding the effectiveness of a sustainable alternative protein source for use in fish feeds and has widespread application for aquaculture facilities worldwide.
- Rearing Performance of Salmonids in Experimentally Manipulated Environments
    - Mike has recently been involved in a number of projects evaluating the impacts of tank covers (Barnes & Durben 2003; Barnes et al. 2005; Becket et al. 2015, Krebs et al. 2016; Walker et al. 2016) on the rearing performance of Salmonid species. Rainbow Trout and Brown Trout growth and feed conversions were improved by the use of these covers and as an added benefit reduced noise levels in the hatchery workplace as well (Barnes et al. 2015). Recent work at McNenny has also investigated the impacts of environmental enrichment (Kientz and Barnes, In Prep) and structural complexity (Kientz and Barnes 2016) on the rearing performance of Rainbow Trout in circular tanks. These studies have presented results showing vast improvements in feed conversion (1.57 in controls vs. 0.95 in environmentally enriched) and increases of nearly 35 kg of added weight gain in enriched tanks when compared to controls.

Professional Service Impact Factor

Mike is an active member of the American Fisheries Society at the state and national level. Mike has held a number of elected positions, including the president of the Dakota Chapter (2009-2010) and the president of the Fish Culture Section of AFS (2005-2007). Mike is currently an associate editor for both the North American Journal of Aquaculture and the Proceedings of the South Dakota Academy of Science. Mike is approaching the impressive number of nearly 100 (~ 95 currently) peer-reviewed publications (first author on 51 of them), and another 15 technical reports and popular articles. As of the writing of this recommendation, ResearchGate.com reports that 689 people have cited his publications.

Economic Impact Factor

The primary economic impact of Mike's work has been in the reduction of man hours needed for hatchery production and stocking. Since 2010 Mike has reduced stocking trips and associated costs and made changes to routine fish culture activities such as fish feeding, tank cleaning, and fish handling which have reduced annual man hour expenditures by over 2000 hours, the equivalent of one full-time employee. By reducing multiple daily hand feedings to a single morning feeding with no significant difference in growth, Mike effectively reduced the annual time spent feeding fish by nearly 750 hours.

By increasing the loading of stocking trucks beyond previously assumed limits, Mike and his staff have decreased the number of trips required to stock area waters by almost 50%. The economic benefit of these trips reduces fuel costs, man hour expenditures, and vehicle maintenance fees. It is hard to place a dollar figure on the economic savings Mike has generated through these changes as the increased efficiency was put back into increased productivity by his staff. Increased efficiencies in routine culture activities at McNenny Hatchery have allowed Mike and his staff to focus on quality research, producing 44 peer-reviewed publications since 2010, while continuing to raise over 70,000 pounds of fish per year for stocking into public waters throughout South Dakota. This research has also resulted in major changes and improvements to fish growth and condition. Through their research Mike and his staff have found that the use of overhead covers on circular rearing tanks greatly increases the growth and feed conversion of Brown Trout and Rainbow Trout raised at the hatchery (Walker et al. 2016; Krebs et al. 2016). These covers are very inexpensive, but produce a great benefit to growth rates and feed conversion efficiency, allowing the hatchery to raise trout to a larger size with lower food costs. Additional work at McNenny State Fish Hatchery recently found that environmental enrichment using inexpensive aluminum rods in the same covered tanks has an even greater effect on growth and feed conversion efficiency (Kientz et al. 2016).

Environmental Impact Factor: N/A

South Dakota GFP Goes Below the Surface

Fisheries biologists have mastered the art of sampling the invisible. Years of experience, education and knowledge have got us to the point that we can place a handful of nets into a large body of water and effectively describe populations where some individuals may never break the surface. But, what do we do when we can't utilize our standard active and passive gears? Biologists working on the Missouri River in South Dakota have long sought a method to effectively index gamefish populations in the fast moving water below Oahe, Big Bend and Fort Randall Dams. The variable flow rates in these areas make deployment of most gears extremely difficult and largely ineffective, however they continue to be some of the most productive and highly used areas by anglers.

Hilary Meyer at the Lewis and Clark Marina Zebra mussel survey

In an effort to find a way to sample these areas and to open up new avenues for research, five SDGFP biologists were certified as Open Water divers in October of 2016. The first diving research need was to explore the possibility of indexing the gamefish populations below the mainstem dams. In 2017, bi-monthly sampling was performed by teams of divers from May through September where all fish that were encountered were identified and enumerated. Surprisingly, limited visibility appeared to be a factor only below Big Bend dam, and only in the later portion of the study. This project will continue in 2018 and in 2019 and will likely be expanded to monthly dives in an effort to bolster the sample size. Ideally, upon completion of the project biologists will have another tool in their toolbox to better understand the fish populations in these high use areas.

Mike Smith performing a buddy check of my gear at Lake Mitchell

The dive team has also been heavily involved in monitoring the zebra mussel infestation at Lewis and Clark Lake. Divers have taken hours of underwater video and recovered mussel-encrusted objects that will be instrumental in education and outreach efforts. The addition of diving capabilities has also aided in the deployment and recovery of passive acoustic receivers that are being utilized in research projects on Lake Sharpe studying multiple species such as walleye, shovelnose sturgeon, paddlefish and rainbow trout.

Smith climbing back onboard after a tailrace dive

In October of 2017, the dive team members completed training in deep diving, night diving, recovery diving and search and rescue diving and were certified as Advanced Open Water Divers. This advanced training will likely result in additional research opportunities in other waterbodies in the state as well as the ability to potentially assist conservation officers and local first responders in emergency situations. Future projects for the dive team may also include assisting Gavins Point NFH with the installation of filters in the facility's water intake system as well as recovery of agency equipment or gear that inadvertently made its way to the bottom of the lake.

South Dakota Game, Fish and Parks Begins Shovelnose Sturgeon Tagging Project

Aside from the free-flowing stretch of the Missouri River below Gavins Point Dam, little is known about Shovelnose Sturgeon in South Dakota. Although Shovelnose Sturgeon can be found throughout the impounded portions of the Missouri River (albeit at low abundance), little information exists regarding the ecology or population dynamics of this species. South Dakota Game, Fish and Parks (SDGFP) fisheries biologist, Chelsey Pasbrig initiated a research project to examine the dynamic rate functions (growth, recruitment and mortality), movement patterns, and habitat use of Shovelnose Sturgeon in Lake Sharpe, a small Missouri River impoundment in Central South Dakota.

Fisheries Biologist Chelsey Pasbrig and GIS Specialist Heather Berg work up Shovelnose Sturgeon on Lake Sharpe

During March 2017, SDGFP fisheries biologists from the Missouri River Fisheries Center in Fort Pierre, SD began capturing and tagging Shovelnose Sturgeon on Lake Sharpe. All Shovelnose Sturgeon captured were measured to fork length (FL; mm), weighed (g) and marked with floy tags. We collected pectoral fin rays from all sturgeon, which will be used for age estimation in the

future. To date, we have captured and tagged 393 Shovelnose Sturgeon in Lake Sharpe. We will be collecting information on recaptured Shovelnose Sturgeon over the next three years. We will use this information to estimate mortality, conduct a population estimate, and monitor growth of Shovelnose Sturgeon in Lake Sharpe.

In addition to collecting information on the population dynamics of Shovelnose Sturgeon, SDGFP also plans to use a combination of passive and active telemetry to track seasonal movement patterns and habitat use. In May of 2017 and 2018, SDGFP will implant a total of 50 Shovelnose Sturgeon (25 per year) with Vemco V13 acoustic telemetry tags. Twelve to sixteen VEMCO VR2W passive receivers will be deployed in Lake Sharpe throughout the duration of this study to monitor key habitat locations such as backwater areas, main lake locations, Oahe Dam tailrace and tributaries. Active tracking will take place every two to three weeks from May through October. The V13 transmitters will be programed to have a battery life of two years.

AIS Coordinator Mike Greiner closing an incision on a Shovelnose Sturgeon

We hope that this study will answer important questions regarding basic Shovelnose Sturgeon population demographics in Lake Sharpe. It is likely Shovelnose Sturgeon recruit (in the Missouri River reservoir system in South Dakota, as evidenced by the minimum dam age of 50 years and the Shovelnose Sturgeon lifespan of between 15 and 20 years. However, the dynamic rate functions of this species have never been documented in the impounded section of the Missouri River. This project will provide valuable information about the growth, recruitment and mortality of Shovelnose Sturgeon in Lake Sharpe, which will help direct future research projects and ultimately inform future management and restoration strategies.

A Vemco V13 acoustic telemetry tag being inserted into the body cavity of a Shovelnose Sturgeon

Fish Culture Section Hall-of-Fame Brick Walk

By Vince Mudrack

The concept for the brick walk located at the D.C. Booth Historic National Fish Hatchery and Archives (Spearfish, SD) came from an idea generated at the AFS Annual Meeting in San Antonio, Texas in 1991. Vince Mudrack had purchased a brick for his wife Susan which was subsequently placed into the San Antonio sidewalk. Shortly thereafter three members of the Fish Culture Section had a discussion that resulted in the genesis of the Fish Culture Section Hall-of-Fame Brick Walk.

Arden Trandahl, Vince Mudrak, and John Leonard, initiated the brick-walk concept, as observed in San Antonio. But Arden was looking for something different, and the brick walk in Spearfish would have a fisheries purpose. It would both recognize fisheries friends and donors, while capturing monetary revenues needed to advance the Fish Culture Hall-of-Fame. The Fish Culture Section hoped that derived revenues would eventually accrue. And moreover, the Fish Culture Section perceived that resultant monies would be managed through the Booth Society Inc. The primary purpose of these monies would be to secure, in perpetuity, the Fish Culture Hall-of-Fame.

Fish Culture Section Presidents, the Booth Society, and D.C. Booth Historic National Fish Hatchery have worked diligently to preserve our fisheries heritage. Through their efforts, researchers, scientists, hatchery managers and other fisheries professionals have been recognized via the Hall-of-Fame, and this recognition helps to ensure fisheries legacy. The staff at D.C. Booth also advanced the brick-walk, and today it serves to guide visitors through a historical rendition of fisheries operations, and the Fish Culture Hall-of-Fame.

Brick walk founder Vince Mudrack and D.C. Booth Director Carlos Martinez

Natural resource employees and friends of the fisheries station are invited to purchase a brick. Your purchase is tax deductible and proceeds go to the Generations Fund— at the South Dakota Community Foundation—to support the Fish Culture Section Hall of Fame.

For $100 you may permanently make your mark on a brick inscribed with your personal message. To purchase a brick, please contact the Booth Society at 605.642.7730 x221 or by emailing director@dcboothfishhatchery.org

Regional Meetings

2018 MIDWEST FISH & WILDLIFE CONFERENCE

Strengthening Natural Resources through Collaboration

78th Midwest Fish and Wildlife Conference
Milwaukee, Wisconsin | January 28-31, 2018

Save the Date! The 78th Midwest Fish & Wildlife Conference will be held January 28-31, 2018 in Milwaukee, Wisconsin at the Hilton Milwaukee City Center. For more information about the meeting, visit

http://www.midwestfw.org/

2018 MISSOURI RIVER NATURAL RESOURCES CONFERENCE
"More Than Just A River Runs Through It"

NEBRASKA CITY, NEBRASKA

MARCH 20-22, 2018

Save the Date! The 2018 Missouri River Natural Resources Conference will be held March 20-22, 2018 at the Lied Conference Center in Nebraska City, Nebraska. For more information, visit
http://mrnrc2018.com/

2018 MISSOURI NATURAL RESOURCES CONFERENCE

The 2018 Missouri River Natural Resources Conference will be held January 31 to February 2, 2018 at the Tan-Tar-A Resort in Osage Beach, Missouri. For more information, visit
http://www.mnrc.org/

ATLANTIC CITY 2018

AMERICAN FISHERIES SOCIETY

COMMUNICATING THE SCIENCE OF FISHERIES CONSERVATION TO DIVERSE AUDIENCES

AUGUST 19-23, 2018

The Mid-Atlantic Chapter invites you to attend the 148th Annual Meeting of the American Fisheries Society - Communicating the Science of Fisheries Conservation to Diverse Audiences. The meeting will take place in Atlantic City, New Jersey from August 19-23, 2018. There is plenty to see and do in this exciting city. From beaches and boardwalks, to fishing and amusement parks, Atlantic City has something for everyone. The link below highlights some of the fun activities that AC has to offer and includes a message from AFS Past President (and New Jersey native) Joe Margraf.

https://afsannualmeeting.fisheries.org/

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Standing Committees

Planning
Steve Chipps (Chair, SD)
Joshua Wert (ND)
Casey Williams (ND)
Greg Simpson (SD)

Continuting Education
Dan James (co-chair, SD)
Greg Power (co-chair, ND)
John Lott (SD)
Dave Lucchesi (SD)

Schmulbach Scholarship
Open (chair, SD)
Wayne Nelson-Stastny (SD)
Zach Shattuck (MT)

Environmental Concerns
Geno Adams (co-chair, SD)
Michael Johnson (co-chair, ND)

Student Affairs
Position Open (chair, ND)

Information and Web Support
Mike Brown (SD)
Hilary Meyer (SD)

Membership
Matt Ward (chair, SD)
Casey Williams (ND)
Geno Adams (SD)

Awards and Nominations
Casey Williams (chair, ND)
Greg Simpson (SD)

Resolutions
Chelsey Pasbrig (SD)
Gene Galinat (SD)

NCD Walleye Tech Committee
Mark Fincel (SD)
Todd Caspers (ND)

NCD Centrarchid Tech Committee
Nick Kludt (SD)

NCD Escocid Tech Committee
Brian Blackwell (SD)

NCD Ictalurid Tech Committee
Dave Lucchesi (SD)

NCD Rivers and Streams Tech Committee
Nick Kludt (SD)
Aaron Larson (ND)

Excom Meeting Minutes

2017 Dakota Chapter Business Meeting Agenda
26 September 2017

Call to Order - Casey Williams. Those present: Casey Williams, Dave Fryda, Mike Johnson, Steve Chipps, Travis Rehm, Morgan Berquist, and Mike Smith.

Approval of the 2016 Business Meeting minutes – Approval motioned by Steve Chipps, seconded by Dave Fryda, minutes approved.

Officer's Reports

President Report – Casey Williams provided an update of his recent duties for the chapter. These include award orders, Dakota Chapter updates to the NCD Midstream Newsletter, and annual report to the parent society. Until recently, the Dakota Chapter has had no representatives to the Rivers and Streams Technical Committee. Nick Kludt (SDSU) and Aaron Larson (NDDoH) have taken these seats respectively.

Vice-President Report – Davy Fryda. Nothing new to report.

Secretary/Treasurer Report – Mike Johnson provided account balance updates. Checking $6,368.16. Klumb $7,471.19. Schmulbach $12,122.10. Edward Jones $6,401.62. Mike will change Klumb account to paperless to remove the now monthly $5.00 paper statement fee.

President-Elect Report – Steve Chipps provided an update regarding the upcoming 2018 annual meeting. The meeting will take place at the Days Inn Brookings, SD on February 26th-28th. State rate of either $61.95 or $72 is applied to a block of 50 rooms. Steve will be in contact with the Days Inn soon to perhaps increase the number of rooms in the block up to 75 rooms.

SDSU Student Subunit Report – Travis Rehm provided an update to the SDSU student subunit's recent activities. Roughly 45 people attended the first meeting. An outing last week provided 25 students opportunities to backpack electrofish and seine. Next week, a cookout will take place for new recruitment. Continue sampling outings and lining up speakers. Fundraising at football and basketball games will continue. The idea of getting undergrad students to volunteer in exchange for meeting fees was brought forth. Casey Williams will again apply for the MDU grant which will assistance to students attending the annual meeting.

VCSU Student Subunit Report – Morgan Berquist provided an update to the VCSU student subunit's recent activities. The subunits first meeting was attended by 20 paid members and 9 new. The first event this year was a cookout with the wildlife club. A recent fishing tournament/fish fry took place with great turnout. Coming up, the subunit plans to assist the wildlife club with Junior Naturalists – an outing to educate cub scouts on outdoor topics to take place at the VCNFH. Additional upcoming events include a fly fishing workshop, ice fishing raffles, spring camping/fishing trip to the Missouri River, annual meeting, and looking to help NDGF with spawning efforts. Dave Fryda offered a chance to help with the salmon spawn at GDNFH coming up soon.

Committee Reports - None

Old Business - None

New Business – Casey Williams. The procedural manual needs to be updated. Last revisions dated 2011. Casey will provide an initial draft of the updates to Steve Chipps for collaboration. Official officer change – Steve Chipps president, Mike Smith vice president, Josh Wert president elect. Discussion on continuation of the Trivia Game that took place at last year's annual meeting. All agreed that this was a good exercise to help students and professionals get to know each other and that this event should continue at future annual meetings.

Business from the floor - None

Adjourn