

**Fall 2020
Issue 63**

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*Scott Gangl, President
Dakota Chapter AFS*



Dakota Chapter American Fisheries Society Newsletter



President's Message

Greetings from balmy North Dakota! We've been blessed with a relatively mild fall with above average temperatures and below average wind. Even though ice anglers aren't really happy about it, you don't hear too many complaining. As I'm writing this, the forecast calls for a good cool down, so we'll be making more ice soon.

The events of 2020 sure have been interesting and challenging at the same time, haven't they? Who knew when we adjourned the annual meeting last winter that our lives were about to change so dramatically? Within about two weeks of returning home from Spearfish, things started shutting down. All at once people found themselves taking on the combined roles of professional-parent-daycare provider-homeschool teacher. But there was a silver lining amid all the stress and uncertainty: homeschool teachers (aka, parents) seemed to be using the outdoors for their "phy-ed" courses. Almost immediately, we noticed more people seemed to be out fishing, and most of them had kids with them. All spring long, everywhere you went, people were fishing with their families. Fishing license sales were up substantially in the spring and visiting with surrounding states it sounds like most experienced something similar. What a refreshing sight to see all the families fishing together – I hope you all know the important role you played in facilitating that. In a year when people were subject to stresses like none other, fisheries and fishing provided them with a way to escape and enjoy some leisure family time. The benefits of this are immeasurable and go far beyond the fillets harvested for their table.

Now we're in December, and the pandemic rages on. I've heard from several of you wondering whether we're going to be able to hold our annual meeting next year. Unfortunately, I don't see things turning around in the near future, and even if they do, I think it will take some time before everyone feels comfortable gathering in large numbers again. Visiting with the EXCOM, we all agree that it's important for the Chapter to remain engaged and provide a venue to present research and do other business. So, we're going to do like many others and switch from a traditional meeting to a virtual format. Admittedly, I wasn't very enthused about the idea at first, but after considering it more, I'm actually excited about some of the flexibility and options a virtual meeting can give us. We're hoping to put together a program of research presentations, plenary speakers, and some business. Rather than having a full meeting over the course of 1-2 days, we're envisioning a series of shorter sessions spread over a few weeks. That way no one has to worry about sitting through 8 straight hours of virtuality, but can look forward to logging in each week for an hour or two of engaging and refreshing presentations (p.s., if you have an engaging or refreshing presentation, please respond to the call for papers in this newsletter!). We're just at the beginning stages of planning and will use our website and membership email lists to keep you all updated as the program comes together, and the dates are set.

I'm honored to have the chance to serve the Chapter as we navigate together through the coming year. Wishing you all a Merry Christmas and Happy New Year, and may you have lots of luck on this ice this winter!

Annual Meeting Information

Dakota Chapter is going virtual in 2021!



More details to come soon via email or on the website...

To be added to the Dakota Chapter mailing distribution list, please contact Matt Ward at Matthew.Ward@state.sd.us.

Visit <https://dakota.fisheries.org/> for up-to-date info about the 2021 virtual Dakota Chapter meeting.

Call for Abstracts

All Aquatic and Fisheries Papers Welcome!

Abstract Submission Guidelines

**Due to the nature of the 2021 meeting, all presentations will be oral presentations. There will be no poster session this year.*

Each abstract should include:

1. Title
2. Author's name, affiliation and contact information (for multiple authors, please indicate who will be presenting)
3. Category (Professional, Graduate Student, Undergraduate Student)
4. Abstract – 250 words or less

Please submit abstracts through the website (dakota.fisheries.org). Forward any questions to Vice President Joe Nett (jnett@nd.gov).

Deadline: January 29, 2021

All presentation will be 15 minutes, with an extra five minutes allowed for questions. Any version of PowerPoint should work.

Happenings in the Dakotas

The year 2020 has introduced a lot of challenges for everyone, and it has made communication among fisheries professionals a challenge. Since we are not holding an in-person meeting in winter 2021, here is a scattering of updates from around the Dakotas:

South Dakota

South Dakota Aquatic Invasive Species Program 2020 Summary – John Lott

Covid-19, the retirement of Will Saylor in March, and AIS Coordinator Mike Greiner resigning his position to move to Idaho in March, made implementation of the AIS program a challenge in 2020. Area Fisheries Supervisors, BJ Schall, and Bob Hanten worked with John Lott to implement an expanded watercraft inspection and decontamination (WID) program for 2020. With regards to outreach efforts, we tried something new, using gas-station TV to share a message from Governor Noem reminding boaters to leave boat plugs out to reduce water movement.

New codified laws for 2020 granted authorities to GFP and statewide law enforcement to establish roadside inspection stations, mandate inspections of watercraft, and decontaminations when needed, and for law enforcement to stop vehicles towing watercraft that bypass inspection stations or are suspected of AIS violations.

Getting roadside inspection stations established required a lot of planning and coordination with the Departments of Public Safety and Transportation to select inspection station locations and secure necessary safety equipment.

Conservation Officers spent the majority of their AIS enforcement time working at watercraft inspection and decontamination stations. Coordination of inspection stations and law enforcement efforts resulted in Conservation Officers issuing 262 citations and 135 warnings for AIS violations being issued in 2020. Officer presence at inspection stations increased public understanding of new requirements for boaters and that participation in inspections was mandatory.

Realizing there is no way to interact with every boater, on every trip, when they are using South Dakota's water resources, the objectives of operating inspection stations in 2020 were to maximize boater contacts to inform boaters of AIS regulations and best practices to slow the spread of AIS. Use of roadside inspection stations substantially increased the state's ability to accomplish these objectives. Over 9,300 watercraft

inspections were conducted between June 1st and then end of the boating season, as compared to 2,000 and 1,300 voluntary inspections being conducted in the summers of 2019 and 2018, respectively.

Plans for the watercraft inspection and decontamination program in 2021 include utilizing both roadside and access-based inspection stations for eastern South Dakota and the Missouri River corridor and access-based WID stations at each of the six BOR and USFS reservoirs in Western SD.

Canyon Lake Restoration – Jake Davis

One of the primary focuses of the Rapid City Aquatics staff during 2020 was the dredging of Canyon Lake, an urban fishery in Rapid City. Over time, the lake had suffered from sedimentation which lead to decreased mean depth and increased vegetation growth. This negatively impacted recreation on the lake, including angling. As a result, a cooperative dredging project was initiated, with the work to be completed by Game, Fish and Parks staff. After beginning in October of 2019, the project was completed in early December of 2020. Over the course of the work, several thousand yards of material were removed and hauled offsite. While the primary benefit of the project was to improve Canyon Lake, an additional benefit is that the dredge is now the property of GFP and can be utilized in other fisheries in western South Dakota.



New Habitat Stamp – Jason Jungwirth

South Dakota Department of Game, Fish and Parks received a new funding source in 2020 that specifically targets improvements to habitat and access. The 2020 legislative session passed a bill creating a Habitat Stamp that went into effect July 1, 2020. The annual fee of \$10 for residents and \$25 for non-resident hunters and anglers creates a pool of money that will be split between terrestrial and aquatic habitats. Aquatic habitat stamp will fund maintenance, repair and replacement of the many aging dam structures around the state. They will also be used for small scale projects like dredging, access, stream restoration, habitat structure placement, shoreline restoration, aeration and outlet structure repair/replacement. Large scale projects utilizing these funds will include whole lake restorations, river/stream restorations, watershed improvements, sediment removal and control, chemical renovations, riparian buffer zone creation and habitat diversifications.

Zebra Mussels: A Literature Review – Brandon Vanderbush

Zebra mussels *Dreissena polymorpha* have in recent years become established in South Dakota and have the potential to become a major problem across the region. These mussels have been widely studied, but acquiring and sieving through the massive amount of information can be a difficult task. Brandon Vanderbush, a Resource Biologist for South Dakota Game, Fish and Parks in Chamberlain conducted a review of zebra mussel literature and is working on sharing the information in a SD state report and open source publication. This literature review was done to help inform others across South Dakota about zebra mussel biology, distribution, impacts, and potential control methods. The summarized information will help with future management decisions that involve zebra mussels. Additionally, this review will provide a reference to agency members who need readily available information about zebra mussels when interacting with various members of the public. If anyone would like a copy of this report they can email brandon.vanderbush@state.sd.us.

SDGFP Environmental Review and Conservation Planning Tool – Chelsey Pasbrig

South Dakota's wildlife depends upon the quality and quantity of native habitats including lands, waters, and other environmental components necessary for species survival and conservation. South Dakota Game, Fish and Parks is often asked to help evaluate the impact of projects or land use changes to game or nongame species, rare species and native habitats. Our environmental review of projects helps fulfill our state-wide mission to manage wildlife and the

habitats upon which they depend, for their ecological values and enjoyment by the citizens of South Dakota and visiting publics. We also want to prevent or minimize unnecessary damage to species and their habitats by offering possible mitigation measures or alternative project actions.

A customized online Environmental Review and Conservation Planning Tool developed by NatureServe, an international network for natural heritage programs, is currently being tested by South Dakota's Department of Game, Fish and Park staff. When completed, the tool will host and share data on rare and unique species and habitats to improve awareness of these resources, environmental review and conservation planning. The Department anticipates rolling out a publicly accessible Environmental Review and Conservation Planning Tool January 2021. The Environmental Review and Conservation Planning Tool can be previewed here: <https://ert.gfp.sd.gov/>

Blue Dog Hatchery Research – All hatchery staff
Reduced Walleye *Sander vitreus* fingerling production in earthen-substrate ponds has been associated with filamentous green algae during pond harvest at Blue Dog Hatchery. We compared water chemistry patterns and the presence of filamentous green algae between earthen-substrate ponds that were fertilized with alfalfa meal (AFM only) or a combination of alfalfa meal plus 28-0-0 (AFM+28-0-0) during 2020. No fish were present in any of the ponds. Dissolved oxygen and pH exhibited similar patterns between fertilizer treatments, but ammonia- and nitrate-nitrogen were higher in the AFM+28-0-0 treatment. Filamentous green algae were not observed during pond harvest in the AFM+28-0-0 treatment but were present in every pond of the AFM only treatment. Alfalfa meal supplemented with 28-0-0 fertilizer will reduce the likelihood of filamentous green algae during pond harvest, but concern over ammonia toxicity to young Walleye will require further evaluation.



Blue Dog Hatchery has historically reared small fingerling percids in ponds filled with unfiltered lake water. However, as zebra mussels move closer to Blue Dog Lake, mitigation strategies will be needed to protect hatchery infrastructure and to keep from unintentionally spreading zebra mussels to non-infested waters through stocking. During 2020, we compared zooplankton populations in lined ponds that were filled with either unfiltered lake or well water in the absence of percids. Preliminary results indicate that both zooplankton density and their body size were significantly lower in well water ponds over the approximate 40-day interval. Zooplankton were nearly undetectable (1 zooplankton/L) in well water ponds for the first 21 days of the trial. These preliminary results suggest that rearing percids in ponds filled with well water at Blue Dog Hatchery would not be favorable for fry survival or fingerling production.

We are currently evaluating the effect of vertically-suspended aluminum rods on Rainbow trout rearing performance in raceways. We are also comparing survival to the eyed stage for Fall Chinook Salmon eggs incubated in either heath trays or McDonald jars using biologically filtered well water.



Blue Suckers in the lower James River – Tanner Carlson

The Blue Sucker is a large river fish native to the great rivers of the Midwest and is listed as a species of concern in all of its range, including South Dakota and North Dakota. Blue Suckers migrate large distances, and they have been observed utilizing tributaries to the Missouri River in southeastern South Dakota. The goal of this project is to study how Blue Suckers use the James River throughout the year. To study this use, 45 Blue Suckers were implanted with acoustic transmitters in fall 2020 and 5 additional fish will be tagged in spring 2021. Ten stationary receivers were placed between the mouth of the James River and Milltown, SD to record fish movement through 2022.

Also, as part of this study, Blue Suckers were sampled to estimate population dynamics including age structure, condition, growth, recruitment, and mortality. Between September and October 2020, 273 blue suckers were caught, including 146 juveniles ranging in length from 160 to 390 mm. Juveniles are typically difficult to sample and have not been previously sampled in this number in the James River. These highly abundant juveniles may suggest that the James River is being used for spawning. Research will continue through 2022.



Zebra Mussels Invade Northeastern SD – Mark Ermer

Zebra mussels invaded several NE South Dakota lakes for the first time this summer. The first finding was on Pickerel Lake north of Webster in early July. Next, was Lake Cochrane located near the SD/MN border in early August and at the end of August a lakeshore resident on Lake Kampeska in Watertown reported finding mussels on their shoreline. All reports originated from lakeshore residents and all initial investigations by GFP staff turned up additional adult mussels in different parts of each lake. By late this fall the mussel density greatly expanded at Pickerel and Kampeska and finding many small zebra mussels growing on boat docks and lifts that were removed at the end of the boating season was very common. In all three lakes the adult mussels found were of a size that would indicate they had been in the lake for at least one year when discovered. Based on these first invasions it appears that zebra mussels are going to grow and reproduce very quickly in lakes in this region. All these newly invaded lakes have heavily developed shorelines and are largely surrounded by lakeshore

homes and cabins. We have ramped up our efforts to look for new invasions at other heavily used area lakes but at this point have not found any evidence of others.

Alison Coulter Joins SDSU

Alison Coulter is joining the Department of Natural Resource Management at South Dakota State University as an Assistant Professor of Fisheries Science in January 2021. Alison received her Ph.D. from Purdue University (Dr. Reuben Goforth), her M.S. from Central Michigan University (Dr. Tracy Galarowicz), and her B.S. from Michigan State University. After her Ph.D., she was a postdoctoral fellow at Southern Illinois University in the Center for Fisheries, Aquaculture, and Aquatic Sciences working with Drs. Jim Garvey and Greg Whiteledge. Alison has also spent time as a naturalist at state parks in Michigan and Minnesota.



Alison's research program focuses on using data on fish ecology and behavior (e.g., movement) to help inform fisheries management. Her M.S. research examined the impacts of karst geology on fish habitat in southeast Minnesota. Her postdoc and Ph.D. research examined the movement and ecology of invasive Asian carps to improve our understanding and management of their invasion. Recent papers have estimated movement rates of Asian carps to identify source populations for management, examined the risk that hybrid Asian carps pose for dispersal into new habitats, and experimentally examined their competition with native fish and mussels. Undergraduate and graduate student projects have examined various aspects of fish and invasion ecology including the trophic impacts of invasive species, habitat use of native and invasive fishes, and factors that may positively influence invasion success.

Alison looks forward to developing new questions to help address the aquatic management needs of the Dakotas and welcomes new collaborations (Alison.Coulter@sdstate.edu).

USFWS Great Plains FWCO Activities Limited by COVID – Dan James

The Great Plains Fish and Wildlife Conservation Office (FWCO) in Pierre, SD experienced some COVID-related challenges over the past year. Much of our planned field work and trips were postponed and/or cancelled due to safety and travel restrictions imposed by the pandemic. Despite the challenges, Jennifer Johnson and Jason Kral (Yankton) were able to follow strict safety protocols to complete the Pallid Sturgeon Population Assessment Program mark-recapture sampling and conduct both intensive and routine acoustic telemetry tracking. Landon Pierce (Pierre) has been busy compiling data and writing reports for our numerous other projects. Our team has largely been teleworking since March - learning the ins and outs of video conferencing and remote work - we plan to continue teleworking until further notice. One staffing change occurred this year: Dan James was promoted to lead the Great Plains FWCO - he assumed his new position in early November.

Record Fish Production and Research Output at McNenny Hatchery – Mike Barnes

McNenny State Fish Hatchery produced a record of 107,000 pounds of fish in 2020. This is over triple the 34,500 pounds produced in 2010. Similarly, McNenny staff authored or co-authored a record 22 scientific and engineering journal articles in 2020, versus 3 in 2010. Permanent hatchery staff decreased from 5 to 4 over the same time period. These unprecedented accomplishments were possible only by increasing the number of interns and elevating their contributions to hatchery research and innovation. In addition, collaborations among hatchery and non-hatchery staff were essential. McNenny Hatchery operates using a virtuous loop of controlled experimentation positively impacting fish production. As production increases, novel research leads to additional efficiencies and further production increases. Over the past 10 years, hatchery staff have had 115 scientific journal articles published and several inventions described in engineering journals.

Hatcheries Have Significant Economic Impact in South Dakota – Mike Barnes

For every budgetary dollar spent in 2019 at Cleghorn Springs State Fish Hatchery in Rapid City, \$171.93 of local (within South Dakota) economic impact was generated, according to a recently published study in

the journal *Modern Economy*. The trout and salmon reared at the hatchery were directly valued at \$5,105,825, which was nearly ten times the \$520,019 cost of production. Estimated angler expenditures resulting from Cleghorn trout and salmon stocking were approximately \$84,299,725, when economic multipliers were included. Similar results were reported in a journal article documenting the economic impact of trout and salmon production at McNenny State Fish Hatchery in Spearfish in 2018. Both of these hatcheries use Federal Sport Fish Restoration funding for 75% of their operating costs.

(sources: Martling et al. 2020. Economic Impact of Cleghorn Springs State Fish Hatchery, Rapid City, SD, USA. *Modern Economy* 11:1351-1358; Barnes and Palmer. 2019. Economic Impact of McNenny State Fish Hatchery, Spearfish, SD, USA. *Modern Economy* 10:1581-1588)

Chinook Salmon Spawn – Bob Hanten

South Dakota completed their annual Chinook Salmon spawning operation collecting 900,000 eggs at Whitlock Spawning Station. A total of 477 salmon returned to Whitlock Spawning Station, approximately half the 820 fish average return. Two important factors that lessened the impacts of low returns. The number of eggs per female was higher due to the increased size of returning fish. In addition, a favorable 1:1 male to female ratio resulted in more available females to spawn in low return year; some years it can be as high as 3:1 males to female. North Dakota Game and Fish greatly assisted making up the shortfall by providing South Dakota with 400,000 salmon eggs. South Dakota has approximately 1.3 million eggs in hatcheries across the state and this should allow SD to stock approximately 400,000 juvenile salmon in Lake Oahe in 2021.

Many anglers fished for salmon on Lake Oahe this past year. No creel survey was conducted, but anglers experienced excellent salmon fishing and took advantage of the hot bite. The opportunity to catch salmon on the prairie is another aspect that makes Lake Oahe such a special fishery.

Gavins Point Hatchery Updates – Nick Starzl

Walleye production was a huge success with over 953,000 fingerlings being stocked into Lewis and Clark Lake. Due to COVID-19 only 1.1 million walleye fry were obtained but overall survival rates were over 85%. This marks the second year in a row with overall pond survival for walleye production at over 85%.

With COVID-19 limiting field operations in the Mid-West, we took every opportunity to help out our State Partners. With a request of only 50,000 Yellow Perch

we produced 1,181,700 fry and 237,703 fingerlings for stocking in South Dakota and tribal waters. Without the trap and transfer program, these extra fish helped fill a gap caused by our current pandemic.

Adult blue catfish were collected with the help of Jason Kral FWS and Mark Pegg at UNL from the Missouri River near Lincoln. Blue catfish is a species that has been proposed for reintroduction above Gavins Point Dam in Lewis and Clark Lake. The fish will hopefully spawn next year to produce our first offspring.



Fish Hatchery Solar Projects – Mike Barnes

Electricity is flowing from solar panels at Cleghorn Springs State Fish Hatchery in Rapid City! This 50 kW, net-zero project has an anticipated 10-year payback on an initial investment of \$140,000. Over the remaining 25-year life expectancy, the system is projected to generate \$30,000 per year and completely offset hatchery electrical costs. This project follows the installation of a smaller 15 kW rooftop solar system in 2019 at McNenny State Fish Hatchery in Spearfish. The \$35,000 project at McNenny also has a 10-year payback and is projected to produce a return of \$6,000/year until at least 2044. Total cost savings over the lifespan of these two projects is anticipated to be \$540,000 and reflects the financial stewardship commitment of GFP.

Cleghorn Adopts Recirculation Technology – Mike Barnes

Hatchery staff jumped even further into the future of fish culture technology with the adoption of recirculation technology in September. Because of an urgent need to grow fish that need warmer water, hatchery manager Brian Fletcher creatively figured out a way to set up a recirculating aquaculture system in the heated shop. The initial system consists of five, eight-foot diameter circular tanks, each with dual-drain

radial flow separators. An AST Bubble bead filter is used for initial biofiltration, followed by a custom built secondary biomedial/CO2 stripping tower. Water temperature is manipulated using a heater/chiller unit that maintains a preset temperature based on the flow through each individual pump. IBC totes store 935 gallons of dechlorinated municipal water for system makeup water. Brian Fletcher and Cleghorn Hatchery resource biologist Cody Treft did all of the system design, fabrication, and installation. Cleghorn staff eagerly accepted intellectual challenges of adopting this new technology, clearly seeing the advantages of being able to grow a variety of fish species relatively inexpensively with greatly reduced water needs in a completely biosecure environment. The long-term vision is for Cleghorn Springs State Fish Hatchery to further expand fish production beyond trout and salmon, to better serve the fisheries management needs for western South Dakota.



North Dakota

Game and Fish Updates – Greg Power

Tis the season to become reflective and look back at the past year. Given newfound world insecurity that 2020 presented, perhaps what stands out when looking back is the fact that when it came our ultimate mission, actively managing North Dakota fisheries, it was business as usual. Teleworking, mask wearing, etc. have become a fact of life for many yet all these restrictions essentially had no effects on our field activities. The irony of all ironies is that while much of our country has been in shutdown mode for the past nine months, our field crews accomplished probably even more than a normal season.

The following is a partial list of what all the field crews accomplished, starting last spring and continuing to just recently as our waters iced up ...

Save Our Lakes (Habitat)

Continued targeting select waters for riparian and lake shore buffers. Community pond development. Provide new water sources – solar-powered wells – to keep cattle off the shorelines. Limited dredging (sediment and organic material removal). Waste management system.

Aquatic Nuisance Species (ANS)

New funding allowed for additional staffing which allowed for record number of waters monitored for ANS (2020 monitoring found zebra mussel presence in Lake LaMoure and the James River downstream), record number of watercraft inspections, and increased enforcement presence.

Production

Again, we filled hatchery batteries with all the needed eggs (i.e. northern pike, walleye and chinook salmon). New records were set for most lakes stocked with walleye and total pounds. Also, a record number of walleye fingerling were shipped from GDNFH with over 10.7 million walleye fingerlings. 2020 was one of the largest stocking efforts in the history of the agency.

Continued with investing in lining the production ponds. Trap and transport – brood fish and catchable adult fish were collected and stocked in various waters across the state including: Yellow perch – 63 lakes stocked, Crappie – 33 lakes stocked, Bluegill – 30 lakes stocked, Channel catfish – 12 lakes stocked, Northern pike – 7 lakes stocked, Largemouth bass – 3 lakes stocked, Smallmouth bass – 2 lakes stocked, and White bass – 2 lakes stocked.

Management/Research

Sampling surveys are the most labor-intensive activity of the Division. A record number of waters were sampled. We continued our cooperative agreement with VCSU to conduct stream sampling on select streams in North Dakota. We continued three walleye tagging projects – Alkaline, Josephine and Sakakawea – with 8500 walleye tagged in the past two years. Continued paddlefish tagging project in the Garrison Reach of the Missouri River. Continued trophy pike tagging project on Lakes Sakakawea and Oahe. Staff experimenting with car counters and trail cameras at remote fishing lakes.

Development

Developed new boating access sites at four waters. Repair and installation of fishing piers at two waters, and construction and installation of new courtesy docks at 13 boat ramps. Installation of several new precast vault toilets; construction/upgrade of access road or parking area projects at numerous boating access sites, installation of dozens of lake directional,

regulatory and info. signs at boating access sites, and several hundred various maintenance projects

Again, being reflective, despite Covid-related anxiety and misery shared by all, when it came to carrying out our duties, it was incredible that 2020 was just a normal year! As we near the Holidays, here's to everyone's good health, both physical and mental! And of course, now with the hardwater season here, get out and spend some time wetting a line!

Alkaline Lake Walleye Tagging Study – Paul Bailey

Alkaline Lake is a 2,546 ha natural lake in south central North Dakota that was transformed from a collection of cattail sloughs into North Dakota's fourth largest natural lake following the winter of 1996-97. Walleye were first introduced in 2003, a recreational walleye fishery was established in 2007, and Alkaline Lake has supported one of our state's premier walleye fisheries ever since. Aerial effort estimates from May-2019 through March-2020 indicate that anglers expended approximately 104,000 hours of angling effort at Alkaline Lake over that timeframe (76% boat, 6% shore, 18% ice).



The North Dakota Game and Fish Department tagged 1,995 walleye ≥ 300 mm with individually numbered monel jaw tags in the spring of 2019 in an effort to estimate population size and exploitation. A mark-recapture population estimate revealed that Alkaline Lake contained approximately 47,000 walleye ≥ 300 mm. Annual exploitation was 22.4% indicating that our current harvest regulations (5 walleye daily limit, 10 walleye possession limit, no length restrictions) are appropriate for the long-term sustainability of this walleye fishery. Walleye anglers at Alkaline Lake are very harvest oriented as they harvested 93.1% of the tagged walleye that they reported catching.

Garrison Dam National Fish Hatchery – Rob Holm

While COVID took its toll on our public use program, fish production progressed at Garrison Dam NFH unimpeded for the most part. Northern pike production was the best we have had in decade. A dozen 1.5 acre ponds were stocked with pike fry and 20-25 days later harvested with an average 61% survival and a total of 1,660,325 fingerlings produced. That survival was over double that of past years and the highest on record for the past 30 years. The average size was 933 per pound and a total of 1,847 pounds were harvested. The success this year was attributed to filling the ponds a week or more earlier than usual to take advantage of a midge hatch and making use of chironomids that would follow.

Walleye stocking targets were all exceeded with 10.75 million fingerlings produced weighing a total of 8,435 pounds. We also produced 278,240 three inch plus walleye for select lakes where predation of fingerlings has impacted recruitment.

Shovelnose sturgeon reintroduction in the Bighorn River of Wyoming was complete with this year's final stocking of 4,965 six plus inch juveniles. After a decade or so of fish stockings the restoration program has been called a success with documented recruitment in the river.



Valley City National Fish Hatchery Partners on Mussel Recovery – Rob Holm

A classic example of the success of partnerships occurred this October with plans to remove the Kathryn Dam on the Sheyenne River near Kathryn, ND. Significant mussel beds were known to exist downstream of the site and concern expressed that construction activities could jeopardize their survival. A workgroup was formed to address the problem consisting of the U. S. Army Corps, the North Dakota Game and Fish Department's conservation and fishery

biologists, the Valley State University faculty and students, the USFWS Fish Passage Program and the Valley City/Garrison Dam National Fish Hatcheries. Volunteers were needed to collect the mussels and the NDGF fisheries crew to assist with distribution of mussels upstream of the construction site. A subset of the 10,400 mussels relocated were PIT tagged. In subsequent years monitoring by the Valley City State University will provide insight into the success of the project and information relative to the condition of individual mussels as they are moved back to the site. Approximately 15,000-16,000 were estimated to be in the area based on a 2019 survey but burrowing and high-water flows made it difficult to find them all. Tragically, a survey in 2009 estimated there were approximate 100,000 mussels in this bed but have experienced significant declines in recent years. A pumping station on Devils Lake, a closed basin lake known for high salinity and sulfates, has been dumping water into the river for several years now and is the suspected cause for the decline in the mussel population on the Sheyenne River.



Assessment of angler use on remote fisheries in southwest North Dakota – Jeff Merchant

We worked on a project this past summer that attempted to gauge the amount of use at some of our smaller, more remote fisheries. We set up TRAFx Vehicle Counters at three different lakes in the Southwest district (Castle Rock Dam, Lutz Dam, and Williams Creek Dam). Castle Rock and Lutz are stocked annually with catchable size rainbow trout. All three lakes have single points of access which meant vehicles had to pass by our counters to enter and exit the lake. Given this, two counts were counted as one trip in our analysis. We checked on the counters every 3-4 weeks to download the data and confirm they were

still working. Our results at Castle Rock and Williams were somewhat expected at 83 and 108 trips respectively over the 124 day period. However, Lutz was much higher than we expected at 484 trips over the 124 day period. The TRAFx Counters worked well, but since they only count vehicles, we can't confirm that all of these trips were anglers. However, for the purpose of this project, we simply wanted to get a general idea of use, and this seems to confirm that people are using these smaller fisheries.

USFWS Missouri River FWCO Updates – Steve Krentz

The summer of 2020 will definitely be one that'll be remembered for generations. It changed the course of how staff would ultimately call going to work and how field activities would be conducted. Despite these challenges, the staff of the U.S. Fish & Wildlife Service's Missouri River FWCO office found various paths to keep everyone safe while they conducted some of the scheduled work. Fish population assessments on the major National Wildlife Refuges in North Dakota were completed. Sampling efforts on Sprague, Ilo and Upper Souris (Lake Darling) showed promising indications of a health fish populations for the next year and Tewaukon is slowly recovering from a failed water control structure in 2019. Pallid sturgeon surveys were difficult but a portion of the scheduled sampling was accomplished. Recapture rates of juvenile pallid sturgeon stocked previously, remain fairly consistent and genetic analysis is pending on numerous young of year and juvenile sturgeon captures. Work on the Air Force Bases continues to provide opportunities for staff to work cooperatively with the Dept of Defense on a variety of natural resource issues. This year, a joint sampling effort was made on the Turtle River between the U.S. Fish & Wildlife Service and the North Dakota Dept. of Environmental Quality to evaluate fish populations and other aquatic metrics. In addition, a mussel survey was also conducted on the section of the Turtle River within the Grand Forks AFB. Fish barrier assessments were conducted on the Elm and Pembina Rivers in the Red River watershed. Due to the pandemic, we minimized contact with landowners and only evaluated potential barriers at publicly accessible sites. This summer provided a dry run for developing the logistics for future sampling using eDNA for monitoring Asian carp. While the limitations prevented the actual sampling, some good groundwork was developed between the staff at Univ. of South Dakota, South Dakota Game, Fish and Parks, North Dakota Game and Fish, and the U.S. Fish & Wildlife Service and should give us a head start for the next sampling period to resume data collection.

Awards and Scholarships

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

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 field of fisheries. These contributions must have noteworthy significance within the two-state region and go beyond the requirements of a job description. Preferably all nominees should have been both Chapter and Society members for at least eight years during their respective careers.

Aquatic Resource Conservation Award- may be presented annually to one individual or group that has made an outstanding effort in ensuring the future welfare of the Dakota's waters and/or fisheries. These efforts include but are not limited to: information, education, providing monetary or voluntary assistance, and legislative initiatives.

David W. Willis Outstanding Young Professional Award- may be presented annually to up to two individuals who have made outstanding contributions to the fisheries profession during the start of their fisheries careers. Nominees must not have completed five years of full-time fisheries employment. Contributions must be substantial and go beyond that required by their position. Nominees will have become established as contributors to the improvement of aquatic resources in North or South Dakota. Nominations for the award shall come from Chapter members in good standing and shall be submitted to the award and Nominations committee for consideration.

Best Paper and Poster Awards- are presented annually at the conclusion of the Chapter's Annual Meeting. Papers and posters are rated based on the following criteria: presentation, originality, visual aids, and contribution. In 1993 the chapter membership established separate categories for both student and professionals. A cash award for student recipients of up to \$350 was allotted for facilitating attendance at the following years NCD business meeting. The actual cash amount awarded is at the discretion of the Executive Committee.

SDSU Student Subunit Sauger Scholarship- was established in 2005 to assist students attending the Annual Dakota Chapter meeting. The scholarship was amended in 2016 to support only students from universities in South Dakota. The SDSU Student Subunit collects Sauger Scholarship applications from students and forwards them to the Dakota Chapter ANC, which selects award recipients. The number of scholarships to be awarded each year and the dollar amount of scholarships is annually decided by the SDSU Subunit Executive Committee. Sauger Scholarships are paid for by the SDSU Subunit from proceeds generated from the raffle conducted at the annual Dakota Chapter meeting

VCSU Student Subunit Northern Pike Scholarship- was established in 2016 to assist North Dakota students in attending the Annual Dakota Chapter meeting. The VCSU Student Subunit collects Northern Pike Scholarship applications from students and forwards them to the Dakota Chapter ANC, which selects award recipients. Winners are forwarded from the Subunit president to the ANC chair. The number of scholarships to be awarded each year and the dollar amount of scholarships is annually decided by the VCSU Subunit Executive Committee. Northern Pike Scholarships are paid for by the VCSU Subunit from proceeds generated from the raffle conducted at the annual Dakota Chapter meeting.

Dr. James C. Schmulbach Memorial Scholarship- was established in 2006 to recognize the important contributions that "Doc Schmulbach" made to fisheries science. The scholarship recognizes an outstanding undergraduate student (junior or senior) who is studying fisheries science, or related

field at an accredited college or university in North or South Dakota. The scholarship is awarded annually during the Dakota Chapter Awards banquet.

Dr. Robert A. Klumb Memorial Scholarship- was established in 2014 in memory of “Rob” Klumb, former Project Leader for the US Fish and Wildlife Service in Pierre, SD. The scholarship recognizes outstanding student(s) in fisheries science, and provides travel support up to \$250 to attend the annual Chapter meeting. Criteria for selecting scholarship recipients were developed by Special Committee. The Dr. Robert A. Klumb Memorial Scholarship committee, appointed by ANC, oversees solicitation, review, and selection of award recipient(s) each year. The scholarship is awarded annually at the Dakota Chapter Awards banquet.

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/>

Nominations can be mailed or sent electronically to:

Jeremy Kientz – Awards and Nominations Committee chair
S.D. Department of Game, Fish & Parks
4130 Adventure Trail
Rapid City, SD 57702
605.394.1967
Jeremy.Kientz@state.sd.us

Student Subunit News

South Dakota State University (Chuck Mordhorst, PRESIDENT):

The SDSU student subunit has been trying to stay active during the pandemic. We have not been conducting our regular recruiting and student engagement activities but have been meeting in a limited fashion in accordance with university COVID 19 guidelines. The subunit welcomed a new faculty advisor this fall when Dr. Alison Coulter filled the roll of Dr. Mike Brown who has retired. We are pleased to be joined by Dr. Coulter and thank Dr. Brown for his years as advisor. In accordance with new COVID guidelines our meetings will be moving to zoom in January where we will continue to host guest speakers on a variety of topics beginning with Dr. Brian Blackwell on Jan 11th. If any chapter members would like to join in guest lectures feel free to email me for the zoom link at Charles.Mordhorst@sdstate.edu.



Valley City State University (UPDATE FROM CASEY WILLIAMS):

The Valley City State University subunit was not active this year. With the online classes last spring and all of the COVID-19 restrictions this fall, the decision was made to postpone elections until this spring. Hopefully, we will get back to normal early next fall.



Upcoming Meetings



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

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.

Registration is now open! Early registration ends January 15th, so make sure to check out the registration page [here](#). In the meantime, for information about schedules, symposium topics, or workshops, visit <http://www.midwestfw.org/>.

INVESTING IN PEOPLE, HABITAT, AND SCIENCE

The American Fisheries Society, President 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.”



Submit your symposium proposals for the AFS 2021 Annual Meeting in Baltimore! Deadline: January 11, 2021

Those who wish to present in Contributed Papers or Poster sessions at the 2021 AFS Annual Meeting are required to submit abstracts by **March 8, 2021**. This includes Student Presentations.

Abstracts for symposium oral presentations and posters must be submitted by **March 8, 2021**.

<https://afsannualmeeting.fisheries.org/call-for-papers/>

Chapter Officers 2020-2021

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Standing Committees

Planning

Scott Gangl (chair, ND)
BJ Schall (SD)
Jeremy Kientz (SD)
Josh Wert (ND)

Continuing Education

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

Environmental Concerns

Jake Davis (co-chair, SD)
Michael Johnson (co-chair, ND)

Student Affairs

Chuck Mordhorst (SDSU)
Vacant (VCSU)

Information and Web Support

Dylan Turner (SD)

Membership

Matt Ward (chair, SD)
Casey Williams (ND)
Vacant

Awards and Nominations

Jeremy Kientz (chair, SD)
Joshua Wert (ND)
Steve Chipps (SD)

Resolutions

Chelsey Pasbrig (SD)
Gene Galinat (SD)

Technical Committee Representatives

NCD Walleye Tech Committee

Mark Fincel (SD)
Todd Caspers (ND)

NCD Centrarchid Tech Committee

BJ Schall (SD)

NCD Escocid Tech Committee

Brian Blackwell (SD)

NCD Ictalurid Tech Committee

Cameon Goble (SD)

NCD Rivers and Streams Tech Committee

Josh Wert (ND)

Standing Committee Updates

Continuing Education Committee

During December, the Continuing Education Committee worked together to develop a Continuing Education survey. The survey's intent is to identify Continuing Education topics that are of interest to the Dakota Chapter AFS membership. The last survey was completed in 2016. The committee plans to open up the survey to members in January for a two-week period. A report of the survey's results is expected to be completed by the end of February at the latest.

Resolutions Committee

Dakota Chapter AFS Members,

As part of the Resolutions standing committee we are asked to report on resolutions throughout the Dakotas. This is the time to provide some background for potential resolutions involving fisheries issues by the Dakota Chapter. If you do have a particular topic, please feel free to submit a resolution for consideration by the Dakota Chapter. Examples of resolutions accepted by our parent society can be found here: <https://fisheries.org/policy-media/resolutions/>

Please email any potential recommendations for resolutions to Chelsey.pasbrig@state.sd.us by February 1.

Excom Committee Meeting



Dakota Chapter
American Fisheries Society

EXCOM Meeting Minutes
10/27/2020

I. Call to Order – Jeremy Kientz at 1504.

Present include Josh Wert, Scott Gangl, Cade Lyon, Jeremy Kientz, Casey Williams, Jo Nett, Aaron Slominski, BJ Schall, and Amy Gebhard.

II. Old Business

- \$1000 will be donated to the walleye technical committee
 - Date of donation has not been determined yet

III. Upcoming Meeting Discussion

- Tentative date set for 3rd week in February
- A reservation has been made at the Quality Inn in Bismarck ND
- December 1st as a tentative decision date on if meeting will go on or not
- Discussion about moving meeting date

IV. Update Website

- Communicant with Dylan Turner about updating the AFS website
 - Committee chairs
 - Newsletters

V. Change of officers

- Scott Gangl President
- Jo Nett Vice President
- Aaron Slominski Secretary/Treasurer

VI. Treasury report

- Checking - \$2,315.25
- Klumb- \$7,871.50
- Edward Jones- \$6,596.35
- Schmulback- \$12,078.62

VII. Adjournment at 1546.