Volume 38, Issue 1

In this issue

January 16, 2020

III UIIS ISSUE	Deee
	Page
⇒ Chapter Contacts	2
⇒ President's Corner	3
⇒ Register Now!!	4
⇒ Professional Meetings	16

20-21

- **EXCOM Meeting Notes**
- \Rightarrow IA AFS Grant Application 22-23



Iowa Chapter of the American Fisheries Society

Lateral Lines



Current topics

		Page
⇒	Shovelnose Sturgeon	5-7
\Rightarrow	Triploid Brown Trout	8
⇒	Trail Camera Creel Surveys	9-10
⇒	Days Gone By	16-18
⇒	Fishes and Dishes	19





- ⇒ ISU Student Subunit Update

 - **Reservoir Walleye Research**
 - **New Topeka Shiner Studies**
- Page 12-13







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Our Mission:

Visit Iowa AFS on the web:

http://iowa.fisheries.org Visit the North Central Division AFS on the web: http://ncd.fisheries.org Check out Benefits of Parent Society Membership https://fisheries.org

> To improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals.



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President's Corner Greg Gelwicks

As I write my first President's Corner, hunting seasons are drawing to a close and ice fishing is on hold in much of Iowa. This has left many of us wishing for colder weather to trigger the return of safe ice after the recent warm spell. As we start the New Year, I would like to encourage my fellow fisheries professionals to reflect upon how blessed we are to work in jobs that help improve the resources that we care about so deeply. Many of the anglers that we serve can only dream of the having the opportunity to do some of the things that we sometimes take for granted in our work. I am reminded of an angler that we met at a boat ramp on the Iowa River after a day of Flathead Catfish electrofishing. After I gave an explanation of the work that we were doing, he said, "Man, that's a great job. I make shampoo all day." Though it may not always seem like it, the majority of Iowa's anglers greatly appreciate the work that each of you do to improve the fisheries resources

of the state and help create lasting memories for them, their friends, and their families.

The EXCOM has been busy planning the 2020 lowa AFS Meeting that will be held March 3rd and 4th at the Honey Creek Resort in Moravia, IA. Our new President-Elect, Chris Larson, has been working on putting together a great program for this year's meeting. I hope many of you will consider presenting some of the important work that you have been doing to improve fisheries resources and fishing in Iowa.

Looking ahead, plans are in the works for a Tri-State Meeting with Kansas and Nebraska for 2021. Stay tuned for more information on this exciting opportunity to see what some of our colleagues are doing to improve fisheries resources in neighboring states.

In closing, I hope that you will join me in thanking Jon Meerbeek and Scott Grummer for their service leading the Iowa Chapter, and welcoming our new President-elect Chris Larson. I hope that you will also take a moment to thank Kyle Bales and Darcy Cashatt for their continuing service to the Iowa Chapter.



I look forward to seeing everyone at Honey Creek in March for the 2020 Iowa AFS meeting.

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Register now!!!

Iowa Chapter AFS Meeting

2020 Annual Meeting at Honey Creek Resort Moravia, IA March 3rd and 4th

Professional &70 and Student \$50; Lodging ~\$65/double queen Call 641-724-1450 for room reservations (block name: American Fisheries Society)

> Register by Jan 24th (RSVP to gregory.gelwicks@dnr.iowa.gov)

Abstract Submissions for Presentations (limit 250 words) Submission deadline Feb 7th chris.larson@dnr.iowa.gov

Natural resource professionals and students in Iowa will meet to share new research, management experiences, and valuable insight on fisheries issues. Come connect with other experts, meet students, and expand your knowledge of fisheries management and research.

Tentative Schedule

Tuesday Mar. 3rd

12:00 – 1:00 Lunch and Registration 1:00 – 1:15 Welcome and Introductions 1:15 – 2:00 Plenary Speaker (TBD) 2:00 – 4:30 Technical Presentations 4:30 – 5:30 Business Meeting 5:30 – 6:30 Social 6:30 – 7:30 Dinner 7:30 Auction and Raffle

Wednesday Mar. 4th

6:30 – 8:00 Breakfast and Registration 8:00 – 12:00 Technical Presentations

Assessment of Iowa's Shovelnose Sturgeon Sport Fisheries

Ryan Hupfeld and Gene Jones, Fisheries Research, Iowa DNR

Shovelnose Sturgeon provide an important recreational and commercial fishery for the Upper Mississippi River (UMR) and recreational fisheries in connected tributaries (e.g.,



Cedar and Des Moines rivers). However, Shovelnose Sturgeon distribution and abundance have been reduced over the last century due to habitat modifications and overharvest. Despite popularity and historical declines, limited population demographic and sampling efficiency information exists on Shovelnose Sturgeon populations in the Upper Mississippi River and associated tributaries. This project was developed to evaluate which gears are best suited for monitoring Shovelnose Sturgeon populations, as well as to investigate population demographics (e.g., growth and size structure) and life history (e.g., spawning periodicity) in the Cedar River.

Methods

Shovelnose Sturgeon were collected from the Cedar River annually from 2006-2018 using electrofishing boats, trammel nets, and a modified Missouri trawl. Shovelnose Sturgeon were measured, weighed, and tagged using a Monel tag on the pectoral fin and released. To evaluate gears we compared catch per unit of effort (standardized based on deployment time of each gear; SCPUE), size structure, efficiency (number of Shovelnose Sturgeon captured by each gear type divided by the number of boat days the gear was utilized; i.e., three electrofishing boats sampling for two days = 6 boat days), variability (coefficient of variation, CV), and calculated sample size estimates needed to detect a 25% and 50% difference in mean SCPUE by conducting a power analysis. To investigate growth of Shovelnose Sturgeon in the Cedar River, recaptured individuals over the duration of the study were used to calculate annual incremental somatic growth (AIG). AIG values were plotted by length categories (e.g., 375 mm, 400 mm, 425 mm) to evaluate growth trends by length. Recaptures of known male and female individuals were used to evaluate spawning periodicity.

Gear Evaluation Results

Trammel netting was the most consistent gear with the lowest variation in catch, thus the fewest samples to gain estimates in relative abundance are required compared to electrofishing and trawling (Table 1). Trammel netting also captured the widest size range of fish and most proportionate male:female ratio

(Figure 1 and Table 1). Electrofishing and trawling provided higher efficiency (e.g., catch/day) than did trammel netting,

Table **1.** Summary of catch statistics for electrofishing (EF), trawling (TW), and trammel netting (TN) in the Cedar River

		Gear	
	EF	TW	TN
N	106	56	111
Total Catch	3020	824	2407
SCPUE (SE)	32.5 (2.6)	16.2 (1.8)	22.2 (1.4)
CV	81.9	81.9	68.5
Boat Days	17.5	4.5	15
Catch/day	172.6	183.1	160.0
Mean Length (SE)	588.5 (1.1)	596.8 (2.3)	621.3 (1.4)
Range (mm)	235-834	336-803	230-850
% Males/Unkown	75.8	72.8	56.5
% Females	24.2	27.2	43.5

thus when sampling objectives require a large number of fish (e.g., to mark as many fish as possible to input into markrecapture models), a multitude of gears may be appropriate. Smaller fish were largely absent from sampling in the Cedar River. Because these tributaries contain suspected spawning congregations, and larval *Scaphirhynchus spp*. are known to drift for hundreds of river kilometers, these smaller fish may not be present in primary sampling location. Otter trawling collections of small individuals in UMR-Pool 13 further

Assessment of Iowa's ShoveInose Sturgeon Sport Fisheries (continued)



Figure 1. Length frequency distributions with mean length (SE) of Shovelnose Sturgeon collected via electrofishing and trammel netting in the Cedar River from 2015-2018 and otter trawling from

support this hypothesis. Sample size required to estimate mean SCPUE within \pm 50% difference ranged from ~19 (power = 0.6) to ~46 (power = 0.9) samples for electrofishing and otter trawls, compared to a range of ~13 (power = 0.6) to ~32 (power = 0.9) samples for trammel nets (Figure 2). Sample size required to estimate mean SCPUE within \pm 25% difference ranged from ~77 (power = 0.6) to ~184 (power = 0.9) samples for electrofishing and otter trawls, compared to a range of ~53 (power = 0.6) to ~128 (power = 0.9) samples for trammel nets.

Population Demographics

To date, a total of 1,130 recaptures have been recorded during the duration of the study. The mean AIG was estimated to be 2.89 mm/year (SE = 0.22; Figure 3). The average margin of measurement error derived from fish measured in the same year as tagging is 0.76 mm. (SE = 0.24). Based on our results, as fish reached sexual maturity, growth slowed substantially. The reproductive periodicity interval was shorter for males than for females. A total of 120 males



Figure 2. Sample sizes required to detect a 25% (top panel) and 50% (bottom panel) difference in SCPUE at various levels of statistical power (1- β). The alpha level was 0.10 for all sample-size estimates. The required number of electrofishing runs, trammel net drifts, and otter trawls are indicated. Electrofishing and trawling have similar required number of samples, thus are difficult to differentiate in figure.

and 114 gravid female Shovelnose Sturgeon were recaptured. Unlike males, few females made spawning migrations in successive years. Peak recoveries for females occurred at 2, 4, and 6 years at large indicating a two year spawning periodicity (Figure 4). However, high recoveries at years 3 and

Assessment of Iowa's Shovelnose Sturgeon Sport Fisheries (continued)



Figure 3. Annual increment of growth for Shovelnose Sturgeon from the Cedar River derived from mark-recapture data from initial length at capture to subsequent growth that occurred thereafter.

5 indicated periodicity was likely variable. For males, most recoveries occurred in the second and third years after tagging. However, high returns one year after tagging indicate spawning in successive years, thus likely have a one or two year spawning periodicity.

Conclusions

It is suggested that trammel netting be used as a standard gear when objectives are to monitor annual relative abundance and sex ratio. Continued monitoring is recommended to advance our knowledge of Shovelnose Sturgeon due to the observed slow growth rates and thus likely older maximum age than previously thought. Because of slow growth rates and the inability to age fish accurately, development and validation of a mark- recapture growth model to determine if this is a viable method to calculate population dynamic rate functions is suggested. Additional methodology (e.g., carbon dating) is needed to validate and refine predicted age estimates that will be garnered from the mark-recapture growth model. Further investigation is also suggested into seasonal differences in gears and how environmental variables (e.g., discharge, water levels, and turbidity) and differing habitats (e.g., depth, velocity, and substrate) affect sampling efforts. Due to the lack of small fish collected in tributaries, an investigation into tributary and UMR dynamics and use of Shovelnose Sturgeon throughout multiple life stages (e.g., larval, immature, and mature adults) is suggested (e.g., telemetry, microchemistry, and/or sampling and tagging fish

in new locations).





Figure 4. Frequency distribution of years between tagging and recovery of gravid female (left panel) and male (right panel) Shovelnose Sturgeon tagged and recaptured on the Cedar River, Iowa from 2006-2018.



Lake Taneycomo Triploid Brown Trout: A Cooperation and Partnership Success Story

Clint Hale, Missouri Department of Conservation and Mike Siepker, Iowa Department of Natural Resources

Lake Taneycomo is Missouri's largest and most popular trout fishing destination and widely considered a world class fishery. The term "world class" has more validity now more than ever. The latest state record Brown Trout (BNT) is the 4th largest of the species to be caught in the history of the world (40lbs 6oz). This occurrence was not by chance. A team effort brought forth this possibility through planning, cooperation, key partnerships and a common vision of enhancing angling experiences.

The Missouri Department of Conservation's trout management plan (A Plan for Missouri Trout Fishing) includes the goal "Provide special trout fishing opportunities designed to increase recruitment of new anglers." In addition, under "Future Challenges and Opportunities", the plan also suggests that triploid trout may hold potential for improved management or diversified fisheries. Taking this into account, a group of individuals from Hatcheries, Fisheries Management, Fisheries Administration, and Resource Science held a meeting and unanimously supported moving forward with an investigation of triploid BNT as a possible special trout fishing opportunity. It was believed that triploid BNT could improve growth rates and increase trophy potential in some of MDC's trout management areas. A one page proposal was written and approved by administration allowing the program to begin in 2009.

Brown trout eggs were heat shocked at Shepherd of the Hills Hatch-

and willingness to assist was crucial. Through prodigious communication and coordination, SOH was able to procure these eggs for three subsequent years and gain a valuable partner. The resulting fish were stocked in 2013, 2014 and 2015.

A few years later, reports of big BNT being caught on Taneycomo were higher than normal. Social media and the internet chat forums were filled with pictures of these large fish. Interestingly, most of the BNT in the pictures seemed to be missing their adipose fin. This would signify a triploid since the adipose fins were clipped prior to being stocked. A potential record BNT was just on the horizon.

In February 2019, an angler from Neosho, MO smashed the previous BNT state record by 6 lbs. The 34 pound, 10 ounce fish was missing its adipose fin, but was never confirmed to be a triploid due to the fish being released (blood samples are needed). It only took seven months for that record to be broken again by local angler Bill Babler when the new state record BNT weighing 40 pounds, 6 ounces was caught on September 4th. In one year's time, the state BNT record weight has increased 12lbs. Blood samples were sent to a lab in Idaho to certify triploidy.

Lake Taneycomo is now solidified on the world stage as a premier BNT fishery. The triploid project would not have been possible without the foresight and knowledge of a few individuals meeting together with a common goal. The teamwork and cooperation is a

ery (SOH) in 2009 to produce triploidy. This method proved to be detrimental, with minimal fish reaching the targeted stocking size. Another method, pressure shocking, was investigated and seemed like a more viable option. A nation - wide search was conducted for triploid egg sources. Paint Bank Hatchery in Virginia was discovered and contacted due to their production of triploid Brown Trout eggs for supplemental stocking in various streams. Their cooperation



prime example of what success in any agency should look like. Everyone involved can say they played a part in the new state record BNT in Missouri. A potential world record BNT is ready and waiting to be caught in Taneycomo.



Using Trail Cameras in Creel Surveys on Community Fishing Lakes

John Lorenzen, Small Impoundments Research , Iowa DNR

Creel Surveys are an important tool used by fisheries professionals to gather information about anglers. Data collected from creel surveys provide managers with important information on angler demographics, fish harvest (species and size), trip length, and expenditures. Understanding how much fishing pressure occurs on different waterbodies can drive management, stocking decisions, funding, and other resource allocations. Traditional creel surveys consist of both angler counts and angler interviews, to assess use and individualized information about the angler and what they are catching. These methods are labor intensive and expensive if multiple lakes are surveyed simultaneously. Creel data may also include bias, as it is known some anglers may alter their behavior when being observed by state employees. Although creel surveys are common throughout the United States, relatively few have been conducted in part by using trail cameras. Some studies have evaluated angling and recreational boating trip length by placing trail cameras on boat ramps (Stahr and Knudsen 2018). Studies have also evaluated angling pressure, demographics (age, sex, etc.), as well as type of equipment used (fly fishing vs. spinning reels) by placing trail cameras on trails leading to trout fishing streams (Hining and Rash 2016). Of creel survey studies done using trail cameras, none have attempted to gather complete angler census data on small impoundments, but instead, typically focus on pinch points, such as boat ramps or artificial reef locations to evaluate use.

Des Moines and its surrounding communities house over one hundred public fishing lakes varying in size, location, and demographics. Multiple creel clerks would be required to accurately summarize this diverse group of anglers. Incorporating trail cameras into these creel surveys may provide us with unbiased information at a fraction of the cost of traditional methods. Starting in 2020, we will evaluate angler use of community fishing lakes in suburbs of Des Moines using trail cameras to gather complete angler census data.

The test phase for this new project began in August, 2019 with the placement of two trail cameras at ponds in Ankeny and one trail camera at DMACC's west campus. From this test phase we discovered that using trail cameras to collect creel information poses more difficulties than using them to capture wildlife. To begin, the cameras had to be concealed to prevent tampering and to ensure most anglers are not aware they are on camera. To accomplish this we built custom wood duck boxes to house our cameras and external batteries. Additional concealment was gained by placing the wood duck boxes off-shore, eliminating the chance of someone seeing the camera lenses unless they were in a boat. Camera

field of view (FOV) determines the amount of shoreline visible in camera shots. FOV in most trail cameras is under 50 degrees, limiting the amount of shoreline a picture can capture. Fortunately, many small impoundments are triangular shaped, allowing one camera placed in the upper end of a lake to capture the entire shoreline. Other options used to capture more shoreline were moving the camera back from shore, or placing more than one camera on each waterbody.

Moving cameras further onto land away from shore allowed pictures to include a larger amount of shoreline but at the same time increased the distance to the angler, thus reducing image quality and ultimately



Using Trail Cameras in Creel Surveys on Community Fishing Lakes (continued)

the quality of the data. The trail cameras we used capture a high resolution 20 mega pixel image. Even with that resolution, images at distances of 50 yards and greater were difficult to analyze. Placing cameras further on land also increased the chance shore anglers will view the camera as they walk in front of it, increasing the possibility of tampering.



Placing more than one camera on each waterbody allowed complete coverage of the shore but increased time in the laboratory viewing photos to correctly count duplicate photos taken from different angles due to camera angle overlap.

During the test phase, we placed one trail camera at each of three locations (DMACC West Campus, Hillside West, and Cherry Glen West) and programmed them to take one photo every 10 minutes during daylight hours resulting in approximately 2,160 photos per camera per month. This time interval allowed us to estimate trip length without having an insurmountable number of images to analyze. We then checked cameras and replaced batteries and SD cards when time allowed.

During the test phase we not only began data collection, but we began to look at the data we were collecting. We found that time needed to analyze photos fluctuated greatly, which was mainly driven by the number of users at any given time. Each photo required an average of 5 seconds to review or approximately 3 hours per month per camera. We found that angling pressure decreased as we moved from summer to fall with the highest use of the three ponds being DMACC's west campus. The camera at DMACC's west

campus, a 3.6 acre lake, captured 256 recreational users during the first three weeks the camera was set up (8/19/2019 – 9/8/2019). Of those, a total of 211 were anglers who spent 242 hours and 50 minutes fishing, equating to approximately 11.5 angling hours per day on that lake alone.

Though there is more to think about when placing trail cameras to evaluate angling use than originally thought, one thing is certain, community fishing lakes get used and trail cameras are proving they can gather the information necessary to measure that use.

Literature Cited

Hining, K. J., and J. M. Rash. 2016. Use of trail cameras to assess angler use of two remote trout streams in North Carolina. Journal of the Southeastern Association of Fish and Wildlife Agencies 3:89-96.

Stahr, K. J., and R. L. Knudsen. 2018. Evaluating the efficacy of using time-lapse cameras to assess angling use: An example from a high-use metropolitan reservoir in Arizona. North American Journal of Fisheries Management 38:327-333.







Cyclone Corner

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Student Sub-Unit Updates

Sam Grinstead, President

(Like us on Facebook, search @ISUAFS)

Fall semester 2019 for the AFS subunit was a very eventful and successful one, as we made a lot of new members and prepared ourselves for careers in fisheries science.

We kicked off the year by introducing our officers to the new members, and by sharing our experiences at our summer jobs. We ended with an Icebreaker with questions to get to know each other. Throughout the rest of the year, Spencer Bauer from the popular youtube channel "River Certified" came to visit and help us prepare for our upcoming kayak fishing trip. Next, we had Dr. Greg Courtney introduce us to the world of aquatic insects, and had the DNR resume writing workshop with Jason Euchner and Kim Bogenschutz. We had a fish ID workshop with Dr. Kevin Roe (right), and graduate student research presentations with Brett Kelly, Brandon Maahs, and Nathan Tillotson. Between all of this, we helped with the Ada Hayden trout

stocking, Story County fishing line wastebasket clean up, national sustainability



day and "Clubfest" on campus (left), and soliciting businesses.

We closed out 2019 and the semester by gathering the membership for a classic game of fish trivia, in which the prize was the rest of the uneaten pizza.

We look forward to a productive 2020, and to keep learning and preparing to be competitive job applicants with diverse skillsets and knowledge.



January 16, 2020

Cyclone Corner

Introduction and Factors Regulating Reservoir Walleye Populations

Bobby Cope, ISU PhD Student

Hello Iowa AFS! My name is Bobby Cope and I am a new PhD student recently starting in Dr. Michael Weber's lab at Iowa State University. I am coming to Iowa from North Carolina where I completed my Master's degree at North Carolina State University under Dr. Tom Kwak studying the population status, habitat, and genetics of the Carolina Madtom (*Noturus furiosus*). Here at Iowa State I am beginning a research project studying factors regulating the Walleye (*Sander vitreus*) population on Rathbun Lake.

Walleye are an important and popular sportfish across North America and



are commonly introduced into reservoirs for recreational fisheries. In such reservoirs, hatchery stocked fish can be an important augmentation technique to maintain harvestable populations. However, success of stocked fisheries are highly variable and can drastically change from year-to-year. Factors such as poor overwinter survival of offspring, recreational harvest, and downstream escapement from reservoirs can quickly alter populations and the quality of fisheries. Rathbun Lake in southcentral Iowa is an important recreational fishery and the main source of Walleye broodstock for much of the state. However, the Rathbun Lake Walleye population has been declining the past decade for unknown reasons. For my dissertation research I plan to determine the survival, exploitation, escapement of reservoir Walleye and the factors driving these estimates; determine the survival, movement, and escapement of hatchery-raised advanced fingerling Walleye; determine factors influencing movement and behavior patterns of Walleye on Rathbun Lake; and determine factors influencing fine-scale movement and behavior of Rathbun Lake Walleye in close proximity to the Rathbun Dam intake tower. Through this research we will provide managers the necessary information to make more informed stocking and management decisions that will better support harvestable recreational populations, as well as minimizing possible over-exploitation and downstream escapement in Rathbun Lake.

Factors Regulating Reservoir Walleye Populations (continued)

Research activities began in the fall of 2018, during which time we did preliminary range testing for our acoustic telemetry array. After determining optimal placement locations, forty-two acoustic receivers were placed throughout Rathbun Lake and the tailrace in March 2019 to monitor tagged Walleye. Walleye were tagged via surgery in early April 2019 at the Rathbun Hatchery. In total sixty adult Walleye were implanted with acoustic transmitters, \$200 external reward tags, and stainless steel jaw tags for identification. Fish were released into Rathbun Lake mid-April and are now continuously transmitting their locations throughout the lake in our acoustic receiver array.



Preliminary observations from the project have been positive.



Data downloaded from acoustic receivers near the Rathbun Dam intake tower and downstream in the Chariton River in September 2019 showed that over thirty of the sixty tagged Walleye had moved from their initial release locations and had been detected near the dam intake tower, while two had escaped through the Rathbun Dam. We have also begun to analyze the in-lake movement of the adult Walleye from the other thirty receivers placed in Rathbun Lake and will be able to explain movement patterns of the Walleye throughout the year. Additionally, we have also received eight reward tag returns from anglers. These tag returns are crucial for estimating angler harvest and we will hopefully receive a few more in the upcoming months. In October 2019, we

completed acoustic transmitter surgeries on forty advanced fingerlings from the Rathbun Hatchery and will be monitoring juvenile survival throughout the next year. We will continue monitoring the Walleye in the coming years to determine temporal trends among seasons and years. I look forward to getting to know and interacting with the Iowa AFS members in the future and can't wait to share our findings at the upcoming meeting as I continue my studies at Iowa State!



13

Cyclone Corner

Creating an Index of Oxbow Restoration Quality for Topeka Shiners

Dylan Osterhaus, MS student, Iowa State University

In Iowa, restoration of oxbows has increased over the last two decades in an attempt to restore critical habitat for the federally endangered Topeka Shiner (*Notropis topeka*) and more recently to reduce nitrate runoff from agricultural fields. While these restorations are likely beneficial to Topeka Shiners, the only current method to assess the quality of an oxbow restoration for Topeka Shiner is to determine whether the species is present within the restored oxbow. Given the rarity of Topeka Shiner, relying on their detection in a restored oxbow as an indicator of a successful restoration is likely inefficient and inaccurate. To



in a restored oxbow in north-central Iowa.

solve this problem, my research will create a tool that conservation practitioners can use to assess the quality of an oxbow restoration for Topeka Shiner, without having to rely on the detection of the species as an indicator of success.



Using fish community data from three recent projects conducted by our research group, representing 103 oxbow surveys, I will create an Oxbow Quality Index (OQI) that will allow conservation practitioners to more efficiently assess oxbow restoration quality for Topeka Shiner. To do this, I will use well documented statistical methods that other researchers have used to created similar indices of biotic integrity. To test the OQI, we are creating test datasets comprised of (1) a randomly selected set of data from previous studies that will not be used to create the OQI, and (2) new data from twelve recently restored oxbows within the range of Topeka Shiner in north-central Iowa. Our first field season ran from June - August 2019 and we tallied 328 individual Topeka Shiners from 7 of the 12 recently restored oxbows sampled. Upon completion of the 2020 field season, we will analyze the correlation between OQI scores and Topeka Shiner CPUE from these sites which were not used in creation of the OQI. A significant positive correlation between OQI scores and Topeka Shiner CPUE will indicate that our OQI works as designed and is a useful tool for assessing oxbow restoration quality for Topeka Shiner.



Cyclone

Corner

Analyzing Potential Effects of Tile Drainage on Restored Oxbows as Habitat for Endangered Topeka Shiners and Other Biota Samuel Leberg, MS student, Iowa State University

Historically, oxbows have been restored in Iowa as habitat for the federally endangered Topeka Shiner (*Notropis to-peka*). Recent studies of oxbows in the Midwest have focused on their effectiveness as nitrate retention and processing basins, reducing export to downstream waterways. The Science Advisory Team of the Iowa Nutrient Research

Center has recently approved multipurpose oxbows, designed to intercept tile drainage while providing habitat for the Topeka Shiner and other species of greatest conservation need (SGCN), and as a nutrient reduction practice. Among other potential effects, an increased level of nitrate has the potential to shift oxbows to algaedominated, which could limit habitat for macroinvertebrates and thus limit food resources for fish. Our research will quantify the potential effects of tile drainage on Topeka Shiners and other SGCN, as well as other fish, macroinvertebrates, and aquatic macrophytes within restored oxbows.



We conducted our first field season from June-August 2019 and surveyed 6 tile-fed and 6 non-tiled oxbows in the Boone and North Raccoon river basins. Topeka Shiners were found in 7 total oxbows with 161 Topeka Shiners being found in 4 tile-fed oxbows, and 167 found in 3 non-tiled oxbows. Total fish abundance from all surveys was 45865 and 32658 individuals for tile-fed and non-tiled sites, respectively. We found 15 families of large-bodied (>0.5cm) macroinvertebrates in tile-fed oxbows and 19 families in non-tiled oxbows. Mean large-bodied macroinvertebrate abundance per sample was found to be 29.5 and 68.67 individuals in tile-fed and non-tiled oxbows respectively. Upon the completion of our 2020 field season, the processing of small-bodied macroinvertebrates, and the assessment



of plant/coarse particulate organic matter biomass, we will analyze the potential differences between tile-fed and non-tiled oxbows. Our study will provide an assessment of multipurpose oxbows in providing habitat for diverse taxa, and will serve to inform future management decisions.



From Days Gone By

Vance Polton, Lake Darling Fisheries Management Tech II, IA DNR



Home-made "Spudder"

Since it's ice fishing season, I thought it would be a good time to show this picture of an early power ice auger from 1963. It's from an article entitled "Ice Fishing-Mississippi Style" by Denny Rehder with photos by Jim Sherman in the January 1963 edition of the *Iowa Conservationist*. While this contraption did have an auger bit the caption for the photo reads: "This home-made "spudder" takes the muscle out of making many holes for fishing." Actually, ice fishing in Iowa is a relatively new past-time. It was illegal to ice fish in Iowa from 1898 until 1950. And before that, in 1896 it was made illegal to use an ice fishing shack to ice fish. This is what the Fish and Game Warden, at the time, George Delevan, thought of the two practices back then:

"When the lowa legislature changed the law allowing winter fishing, they gave the fishing interests the most serious blow that could possibly have been legally inflicted. The farmers of the state little thought when they asked for the privilege of catching a few fish in the winter, that criminal poachers by the thousands would take advantage of the opportunity to transact a general business of market fishing".... "Every female fish taken in the winter months is full of spawn, and of course the product is lost." And of ice fishing houses Warden Delavan wrote: "The fish house is an abomination that should be declared a public nuisance and by law ordered destroyed by any peace officer." Ice houses, Delevan states, were used by "unprincipled men in which to slaughter fish in every conceivable method." <u>How times</u> <u>have changed</u>.

See you out on the ice! You "unprincipled anglers" with your "abominable" ice shacks.



The **Knowledge Seekers Award** is available for **STUDENTS** through the North Central Division of AFS to assist with the costs of attending a professional meeting during January through April. The deadline for application is April 16th, 2020

Go to... https://ncd.fisheries.org/continuing-education/ for details and the application.

Upcoming Professional Meetings

- Midwest Fish & Wildlife Conference; January 26-29, 2020; Springfield, IL
- Mid-Continent Warmwater Fish Culture Conference February 3-5, 2020; MO
- Aquaculture America Triennial and World Aquaculture Society Conferences Feb 9-12, Honolulu, Hawaii
- Catfish 2020 February 18-20, 2020; Little Rock, AR
- Iowa Chapter American Fisheries Society March 3-4, 2020, Honey Creek Resort, Moravia, IA 52571
- UMRCC March 17 19, 2020
- Rivers and Streams Technical Committee March 31st-April 1st, 2020; Milan, IL
- American Fisheries Society 150th Annual Meeting August 30 September 3, 2020, Columbus, Ohio

From Days Gone By...Something to think about

Mark Richardson, Chariton Fisheries Research, IA DNR

The following is an excerpt from a letter written by Dr. Carl L. Hubbs on conducting fisheries research/survey work in Iowa (dated April 26, 1932). Dr. Hubbs speaks for himself, my commentary follows.

"Second Installment: Suggestions for surveys and for fish management for the year 1932.

This second installment of the Report on the survey and development of Iowa's sport fisheries is prepared in Des Moines as the result of conferences with certain members of the Iowa Board of Conservation, the Iowa Fish and Game Department, the Iowa Fish and Game Commission, the Iowa Board of Health, and the Iowa Conservation Plan organization. These conferences were held on April 25 and 26, 1932, following a study of reports covering investigations, surveys and recommendations of Harry E. Hart, State Fish Pathologist, Dr. G.W. Prescott, and others.

The first installment of this report was a very general and brief set of suggestions, made prior to the obtaining of any specific acquaintance with the fish conservation problems which are peculiarly Iowa's. The present installment embodies our ideas of the survey and management work which could under existing conditions be effectively undertaken in 1932. Except insofar as precedents may be established by following through the suggestions here made, it involves no definite statement of policies. Neither does it cover any suggestions concerning the organization of the state fish work, or concerning surveying or managing for future years. Further suggestions may later be offered regarding these points.

It strikes us as being vital to the effective development of lowa's fish supply that a well trained technical man be engaged on a full time basis. The problems facing lowa are so difficult, and are increasing so alarmingly in their seriousness, that technical help will continue to be needed, and will be increasing importance; more than that, of necessity. We refer to the problems of silting, of pollution, of algae nuisance and control, of diseases in nature and hatcheries and of overfishing.

We therefore suggest that a technically trained man be employed at the Commission's earliest convenience. This man: should know the fish problems of the prairie regions from long experience;

- Should know fish thoroughly both as an angler and as a scientist.
- Should have primary interest in the conservation and upbuilding (sic) of the fish supply rather in purely scientific work; yet
- Should be capable of applying most approved and modern scientific methods in the solution of the problems confronting the State, and
- Capable of cooperating with other investigators at the State College, State University, and other institutions, and of coordinating their work with his own and of applying these combined results in practice; and Should be mature enough and of proper charac-

ter to succeed in public relations.

If the same man can serve in a similar capacity on the technical side of game research and game management, so much the better. If fitted for educational work as well, both among children and adults, he would be an ideal person for the position. It is quite possible that a man of these many qualifications could be secured...

Carl L. Hubbs, Director"



From Days Gone By...Something to think about (continued)

So who were the "players" in this survey work in 1932? The following Iowa organizations are listed in the letter: The Iowa Board of Conservation, The Iowa Conservation Plan organization, The Iowa Fish and Game Commission, The Iowa Fish and Game Department, and the Iowa Board of Health.

Scientific management of Iowa fisheries as a state function probably dates back to 1874 with the appointment of three "Fish Commissioners." After 1876 there was never more than one appointed commissioner serving at a time. This continued until April of 1919 with the appointment of W.E. Albert, the last fish Commissioner appointed. There was no record of Albert having left that office (Iowa Official Register, 1931-1932). While no more fish commissioners were appointed, W.E. Albert became the State Game Warden at some point and continued at that post into the 1930's. As State Game Warden, Albert was in charge of up to 40 "Deputy Game Wardens" a year, fish hatcheries, game farms, and other efforts aimed at increasing fisheries and wildlife stocks in the state. Another of his duties was to make a bi-annual report to the Governor on his activities and expenditures. He may in fact have been the leader of the State Fish and Game Department of the 1900-1930's era. The 44th general assembly of the Iowa Legislature (1931-1932) did away with the Iowa Fish and Game Department, forming the State Fish and Game Commission, lead by J.N. "Ding" Darling of Des Moines. Jointly with the Iowa Conservation Board, they were instructed to prepare a statewide 25-year program for state parks, fish hatcheries, and recreational areas, which they were to recommend (present) to the legislature two years later. Did this lead to the Iowa Conservation Plan organization? While probably not the genesis of the fisheries survey, it provided \$25,000 in funding and a mandate to do the work.

The mention of the Iowa Board of Health as an interested/involved party to these surveys may to a degree be explained by the then common practice of dumping raw municipal sewage into waters of the State. Pollution at the time largely referred to sewage (a known source of disease and health hazards), with industrial waste and agricultural runoff not mentioned specifically by Dr. Hubbs. The universal use of chemicals in Agriculture had yet to occur at that time.

The effort of surveying and classifying the fisheries resources of lowa by Dr. Hubbs and others was launched in 1931, with engineer Jacob L. Crane Jr. of Chicago, IL acting in a leadership role of some sort. This was during the "Great Depression" in which there was much real suffering in this country from both financial and natural disasters. Most of the area east of the Rockies to the Mississippi River, especially the southern prairie area, suffered from drought for almost the entire decade of the 1930's. This is reflected in the notes and comments of field surveys in the latter years of these reports. It is not surprising that the people of the time were concerned about what was happening to their fisheries, but that they decided to do something about it in spite of their limited resources.

Engineer Jacob Crane Jr. seemed to be directing the efforts of Dr. Hubbs and others in organizing and carrying out these surveys. Mr. Crane was later known as the "Grandfather of City Planning" and advised on both urban development and the engineering aspects of flood and water control. It seems possible that he was hired as the general contractor to pull all the parts of this survey together, and it is interesting that Dr. Hubbs corresponds with Mr. Crane at the Wrigley Building in Chicago.

The mention of Harry E. Hart, State Fish Pathologist is interesting, but I have yet to come across further information about the role of Mr. Hart or his office in my admittedly too brief research. Dr. G. W. Prescott, however, was at the time a well-known botanist, born in Iowa who was an authority on algae. This is an assurance that Dr. Hubbs' reference to "algae nuisance and control" is not just a general statement about aquatic vegetation problems.

The meetings in April 1932 must have come hard on the heels of the end of the legislative session, although in those times the Legislature may have concluded their business sooner than seems to be the current practice. It is interesting to note that Dr. Hubbs composed a 10-page letter with recommendations about the meeting the day of the meeting. As we all know, the end of April provides a very short time to organize and launch any fish sampling/survey for that field season, but it was done for the entire state of Iowa.

It is now the year 2020, four or five career generations later and I find myself asking, do we know these problems? Do we recognize the recommended "well trained technical man" in the people around us at work?

Sources include a copy of the letters of Carl L. Hubbs to Jacob Crane Jr. and the *Iowa Official Register 1929-1930 and 1931-1932*, also known as The Red Book.



January 16, 2020

Fishes & Dishes

Sharing the fun stuff!!

Italian Fish Stew

Use a white-fleshed fish with a little structural integrity, this is a great recipe for white bass fillets

1) Sauté a single sliced onion in a few tablespoons of olive oil, toss in a pinch of red chili flakes and a couple cloves of garlic

2) Add a pound or two of good Italian canned tomatoes (preferably San Marzano) and pour in a half-cup or so of dry white wine, like pinot grigio

3) Add some chopped fresh parsley, thyme or oregano, and let it simmer a few minutes before adding 2 pounds of fish cut into 2" chunks

4) Stir a little, but don't break the fish

5) Once the fish flakes under pressure from a fork, it's done. Should take 4-5 minutes, depending on the thickness of the fish

If you are serving over noodles, prepare those separately and place in a bowl. Ladle stew over top.

Alternatively, toast a thick slice of country style bread. Remove from the toaster, peel and halve a garlic clove, and then rub the bread gently with the clove's cut end, swiping the garlic back and forth. Drizzle the bread with some good quality olive oil, and season with a pinch of salt. Put the stew right on top.

Serves 4. Time-tested recipe modified from The 2010 Men's Journal.

Submitted by Jeff Kopaska

Cassie Kopaska Clear Lake, IA 2019

> Cohen Bruce 2019 Lake of the Ozarks, MO







ExCom Officer Change meeting

October 11th, 2019

Hamilton County Conservation Office, Briggs Woods Trail, Webster City, IA

Attendees: Chris Larson, Sam Grinstead, Greg Gelwicks, Scott Grummer, and Kyle Bales

Introduction of all members present

2020 Meeting Location/Date

- Past President Scott Grummer discussed meeting options.
 - ⇒ This year's meeting currently planned in conjunction with Fisheries Statewide Meeting at Honey Creek Resort. Statewide meeting would be March 2-3 and Iowa AFS meeting would follow on March 3rd and 4th.
 - \Rightarrow Discussed whether we want to go forward with these plans or pursue other options.
 - ⇒ It was discussed whether it is better for attendance to hold IA AFS in conjunction with statewide or as a separate meeting?

A few past presidents thought that the people that want to be at the IA AFS meeting will be there. Kyle brought up that we should get other agencies there. Izaak Walton League and Trout Unlimited are two examples. Meskwaki Tribe, County Conservation Boards, pretty much any agency that might want to be involved.

 \Rightarrow Decided to move forward with current plan for 2020 meeting but work on other options for 2021 meeting.

2021 meeting discussion

- Scott Grummer said that in 2021 we might be able to have a large Tristate meeting.
 - ⇒ Jeff Kopaska as NCD President asked for state meeting plans. Kansas and Nebraska are about to have a joint meeting and Scott inquired about having a tristate meeting. They sounded very open to it. Proposed meeting location is only about 8 miles from Iowa border.
 - ⇒ Chris and Greg are going to stay in contact with Kanas and Nebraska about the meeting. Chris thought maybe Council Bluffs might be a good alternative location.

Updated Sam (current subunit president) about how our annual meeting works.

- Subunit is in charge of the raffle and T-shirt.
- Sam said that they have started soliciting donors for the raffle now.
- Scott gave Sam a card for a gentleman that would fill a fly box with hand tied flies for our raffle.

Treasurer's Report/Discussion

- Status of accounts as of 1/6/2020
 - ⇒ Total \$14,196.01
 - \Rightarrow Our Money \$8,475.72
 - \Rightarrow Cool Water / Warm Water \$3,229.22
- Mike Mason Memorial Account
 - ⇒ We just used some of the Mike Mason fund for the audio and video equipment. Equipment will be used to make sampling videos during spawning.

ExCom Officer Change meeting ...(continued)

⇒ Discussed remaining balance in account. Greg will check on whether there are plans in the works to spend this money or whether ideas should be solicited for use of the remaining balance.

Fisheries Project Grants

- Mussel propagation repair
 - \Rightarrow Andy Fowler is going to send bills to Kyle until \$1,000 is used up. Currently has \$658 remaining
- Rebecca put in for a proposal that was voted down. Came back with another proposal of \$300 which was approved. Waiting to hear from award winner before sending out the gift cards

Catfish 2020

- Tyler Stubbs is going to use our 1 free registration.
- Kyle will contact Lamer about what Tyler needs to do to use our registration. Scott was going to let Tyler know that he would be able to use it.

Additional discussion

- Check with MidwestOne as an alternative bank. Locations are across the state except for western Iowa.
- If Kyle finds a bank go ahead and switch.
- Wellsfargo currently charges fees on everything (if we deposit cash, checks, or international checks).
- Discussed the AFS investment group.
- If we can invest that would be awesome 12% to 18% return in the past years. The minimum used to be \$10,000 but they will allow smaller amounts.
- Kyle said he was just looking out for IA AFS financial stability for the future.

Student subunit update

- Sam gave student subunit update. Three meetings held to date.
 - \Rightarrow Discussed the t-shirts

Kyle made sure that Sam got the correct image for the t-shirt

Change of Officer Forms/AFS Website

- We discussed the phishing emails that we receive.
- Kyle said he will email Lauren Maza about officer change form.
- Kyle got the updated information from new officers to update the website.
- Discussed how the Membership/Nominations chair is the Past President's (Scott Grummer) duty.
- Scott made a binder for Greg so that he can hit the ground running as President.

Adjourn



Application form

Fisheries Project Grant

Iowa Chapter – American Fisheries Society

Project Name:		
Project Description:		<u>.</u>
Attach map or supplementary	y information	
Project Location:		
Water Body:		
Address:		
	County:	
Start Date:	End Date:	
Project Personnel:		
Fisheries Benefits:		
Iowa Chapter Representative	:	
Amount needed: \$	Total project cost: \$	
Money will be used for:		
Up to \$1,000.00 per project.		

Approved by Excom Committee Date:_____

Fisheries Project Grant Application Form Instructions

The Iowa Chapter of the American Fisheries Society is offering to help finance worthwhile fisheries related projects. The completed application form needs to be transferred to the Iowa Chapter President by an Iowa Chapter Member.

Project Name – Give the project name.

<u>Project Description</u> – Give a brief review of the intended project. Include the work to be done, the methods and material that will be used in the project.

Attach a map and any supplementary information that you think will help the Excom Committee evaluate the project.

Project Location – Where will the work be done.

Start and End dates for the project. Month and calendar year will do.

Project Personnel – Include organizations and or individuals who will be directly involved in the work.

<u>Fisheries Benefits</u> – A very important part of the project should be direct benefits to Iowa's fishery. How does the project help and who is the beneficiary?

Iowa Chapter Representative – All projects need to have and Iowa Chapter member as a sponsor.

Amount needed – Tell us how much you need and the total project cost. There is a \$1,000.00 limit for each project.

<u>Money will be used for</u> – Be as specific as you can. Will the money be used to hire people, buy, equipment, be seed money for a grant, etc.

The Excom Committee of the Iowa Chapter will review the application and approve or reject the request.