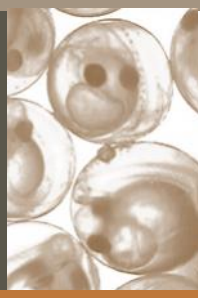
Volume 38, Issue 2 June 19, 2020

In this issue

	Page
⇒ Chapter Contacts	2
⇒ President's Corner	3
⇒ Professional Meetings	8
⇒ News From NCD	11
⇒ Annual Meeting Notes	17-19
⇒ IA AFS Grant Application	20-21

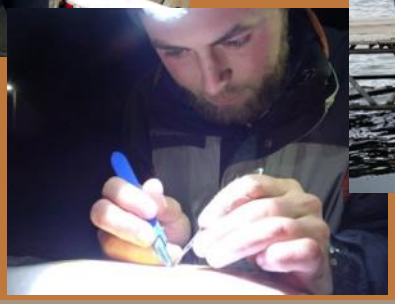
Iowa Chapter of the American Fisheries Society

Lateral Lines



Current topics

	Page
⇒ Reservoir Flathead Catfish	4-7
⇒ Muskellunge Research	9-10
⇒ Days Gone By	8
⇒ Secchi Dip-In	11
⇒ Fishes and Dishes	16



Cyclone Corner

Panther Page

	Page
⇒ ISU Student Subunit Update	12
⇒ ISU Spotlight: Reservoir Muskie and Walleye Escapement Research	13-14
⇒ UNI Spotlight: Goals for Genomics Research to Help Walleye Stocking in Iowa	15

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

OFFICERS

PRESIDENT
Greg Gelwicks
Fish Research—Interior Rivers
Manchester Fish Hatchery
22693 205th Avenue
Manchester, IA 52057
(563) 927-3276
Greg.Gelwicks@dnr.iowa.gov

PRESIDENT-ELECT
Chris Larson
Fisheries Supervisor—Western IA
Cold Springs
57744 Lewis Rd.
Lewis, IA 51544
(712) 769-2587
Chris.Larson@dnr.iowa.gov

SECRETARY/TREASURER
Kyle Bales
Mississippi LTRM
206 Rose Street
Bellevue, IA 52031
(563) 872-5495
Kyle.Bales@dnr.iowa.gov

MEMBERSHIP CHAIR
Scott Grummer
Fish Management—Clear Lake
1203 N Shore Dr
Clear Lake IA 50428
(641)357-3517
Scott.Grummer@dnr.iowa.gov

Our Mission:

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.

COMMITTEE CHAIRS

Audit
Ben Dodd
Ben.Dodd@dnr.iowa.gov

Resolutions
Jeff Kopaska
Jeff.Kopaska@dnr.iowa.gov

Continuing Education
Clay Pierce
cpierce@iastate.edu

Student Affairs
Mike Weber
mjw@iastate.edu

Nominations
Ben Wallace
Ben.Wallace@dnr.iowa.gov

Best Paper
Chad Dolan
Chad.Dolan@dnr.iowa.gov

Newsletter Editor
Darcy Cashatt
Darcy.Cashatt@dnr.iowa.gov

President's Corner

Greg Gelwicks

It's hard to believe that I'm already writing my last President's Corner. A lot has happened over the last few months. Some of these things few of us could have imagined. The Covid-19 pandemic has brought many new challenges to our work, but it has also brought opportunities. As a result of the shut-downs, many families have rediscovered fishing as a safe outdoor activity, and many people are fishing local. Iowa fishing license sales in April were the highest since electronic licensing began, and boat sales of all types have increased as more people get out on the water to enjoy the fruits of our labors. As I've gotten out fishing this spring, I am struck by the outstanding quality and diversity of fishing opportunities that Iowa has to offer. I've experienced great Walleye fishing on the Maquoketa River, caught monster Bluegills in Corydon Reservoir, and battled my first Wipers on Rathbun Reservoir. I can't help but think that several families that had the opportunity to Fish Iowa this spring will continue to make fishing a priority as things reopen.

We just completed our annual Walleye fingerling branding and stocking operation at Rathbun Hatchery. This event provides our team an opportunity to work together with Hatchery, Management, and Research personnel from around the state toward a common goal. Despite several challenges, this effort resulted in the freeze branding of over 74,000 Walleye fingerlings this year (a new record) that were stocked for two different research studies. Every year that we participate in this effort, continue to be amazed at the great bunch of people that we have working on Iowa fisheries at all levels.

We were fortunate to be able to hold our annual Iowa AFS meeting in March, before the impacts of the pandemic. The meeting was well attended by over 100 fisheries professionals and students. In addition to Iowa DNR and Iowa State University (ISU) staff and students, we had meeting participants from Kansas, Nebraska, Wyoming, Missouri, and Illinois. Faculty and staff from University of Northern Iowa, Upper Iowa University, Dordt University, and University of Nebraska-Lincoln also contributed to the 29 talks and 7 posters presented at the meeting. The business meeting was followed by a dinner and social which featured a very entertaining and successful raffle and auction. Thank you to all who provided items for raffle and auction, and purchased raffle tickets and auction items. Proceeds from this fundraiser are split with the ISU Student subunit to fund their many activities and projects.

President-elect Chris Larson has continued to work with Kansas and Nebraska to plan for the Tri-State AFS Meeting that will be held in Nebraska City, NE on Feb 22-25, 2021. I hope that you all plan to participate in this exciting opportunity to see what's going on in fisheries in other states. As my time as President of the Iowa Chapter AFS draws to a close, I will be contacting some of you to run for office. I have found my time as President to be challenging, but also very rewarding. I hope that you will consider serving in the very worthwhile endeavor which is the Iowa Chapter of AFS.

Greg

Assessment of Flathead Catfish Population Dynamics in Large Reservoirs in Iowa

Savannah Muhlbauer and Rebecca Krogman, Fisheries Research, Iowa DNR

(Draft of an article submitted tor inclusion in a special issue of NAJFM for Catfish 2020)

Catfish are an important group to recreational fisheries in the Iowa, with 49% of anglers fishing for some type of catfish or bullhead at least once in 2018, and the number of anglers targeting catfish doubling from 2007 to 2018 (Responsive Management, unpublished data). Both large rivers and reservoirs have the potential to produce trophy-sized catfish, and 82% of Flathead Catfish anglers favor management actions that promote trophy fisheries (Arterburn et al. 2002). Unfortunately, little information exists on Flathead Catfish dynamics in Iowa reservoirs. The objectives of our study were to 1) assess population demographics (i.e., size structure, condition, growth, and mortality) for Flathead Catfish in two of Iowa's largest reservoirs, and 2) simulate the effects of possible regulations on the number of large Flathead Catfish, particularly preferred-size fish, compared to the current management strategy of no regulation (unlimited bag, no size restrictions) for Iowa's large reservoirs. Ultimately, we hope to provide essential information about reservoir Flathead Catfish populations to assist fisheries managers in developing effective trophy fishery regulations, if desired.

Methods

Flathead Catfish were collected from Rathbun Lake and Lake Red Rock during July and August 2019 using daytime, low-frequency pulsed DC boat electrofishing. Captured fish were measured (total length, TL, mm), weighed (g), and a pectoral spine was collected for age estimation. In addition to samples collected in 2019, samples collected between 2010-2013 from both reservoirs were used. These samples were already processed, yielding imagery of pectoral spines along with length and weight.

To assess population dynamics in both reservoirs, we compared size structure, relative weight (Wr), and length-weight relationships. Additionally, we used the von Bertalanffy growth equation to model growth for both populations. Annual mortality was also estimated for both populations using unweighted catch curve regressions.

Data from both reservoirs were pooled and the Fishery Analysis and Modeling Simulator (FAMS) (Slipke and Maceina 2014) was used to predict response of Flathead Catfish to various regulations (Slipke and Maceina 2014). Three length-based regulations were examined: a 305-381 mm protected slot limit (PSL), a 381-432 mm PSL, and a 381-mm maximum length limit with a restricted bag limit for fish above 381 mm. The three regulations were chosen specifically because we believed they would have the greatest potential for increasing the number of large fish in the simulated population. Fishing mortality rates ranging from 0.05 to 0.20 were modeled based on previously reported values from the literature (Makinster and Paukert 2008; Travnichek 2011), and natural mortality was held constant at 0.2. Simulation outputs for each regulation were compared to a baseline of no regulation, which is the current

(Continued on next page)

Flathead Catfish Population Dynamics in Large Reservoirs in Iowa (continued)

management strategy for Flathead Catfish in Iowa. The effects of each regulation were assessed in terms of the percentage of the simulated population comprised of quality- and preferred-size fish compared to the no regulation scenario. .

Results

Population Demographics

A total sample size of 541 Flathead Catfish was used during analyses for our study. In Rathbun Lake, 335 fish were captured (162 fish in 2019, 173 fish from archives). In Lake Red Rock, 206 fish were captured (64 fish in 2019, 142 fish from archives). A summary of the size structure and population demographic estimates for each population are provided in Figure 1 and Table 1, respectively.

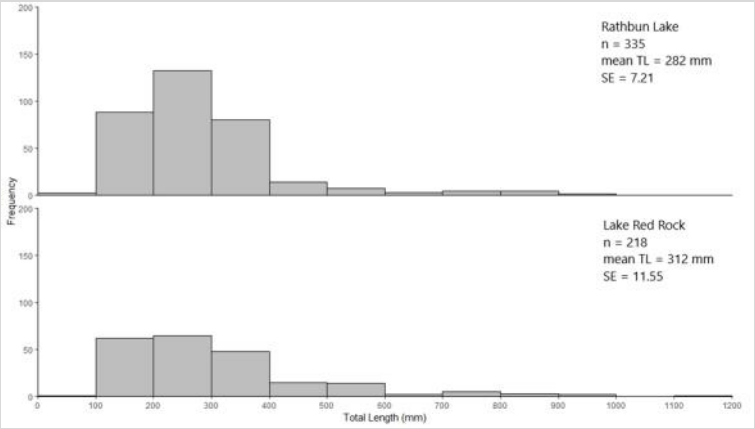


Figure 1. Length-frequency distribution of Flathead Catfish in Rathbun Lake and Lake Red Rock, Iowa.

Age estimation was completed for 499 Flathead Catfish. The median age of Flathead Catfish in Rathbun Lake was 3 years, while the median age in Lake Red Rock was 2 years. Flathead Catfish age ranged from 0 to 13 years in Lake Red Rock, with an average age of 2.0 years (n = 202, SE = 0.13). In Rathbun Lake, Flathead Catfish age ranged from 0 to 17 years, with an average age of 3.5 years (n = 309, SE = 0.15). Parameter estimates for the overall growth model were = 951.2, K = 0.06, and = -2.60 (Figure 2), and length-at-age was plotted for Flathead Catfish across both reservoirs (Figure 3).

Table **1.** Population parameter estimates for Lake Red Rock, Rathbun Lake, and data pooled from both reservoirs. Parameter estimates for the pooled data set were determined for use in regulation simulations .

Parameter	Lake Red Rock	Rathbun Lake	Pooled Data
Mean TL (± SE)	316 mm (± 12.1)	282 mm (± 7.21)	295 mm (± 6.45)
Mean W_r (± SE)	98.9 (± 0.9)	95.6 (± 0.8)	96.8 (± 0.6)
Length-Weight Relationships			
Y-intercept (a)	-5.19	-5.21	-5.21
Slope (b)	3.08	3.08	3.05
Median Age	2 years	3 years	-
Von Bertalanffy model parameters			
K	0.06	0.02	0.06
t_0	-1.06	-2.89	-2.60
L_∞	1,962	1,962	951.2
Instantaneous Mortality (Z)	0.65	0.27	0.38
Total Mortality (A)	0.48	0.24	0.31

Data from both populations were pooled to obtain an overall estimate of mortality to be used in regulation simulations. Instantaneous mortality was 0.38 (95% CI = ± 0.1), and total mortality was estimated at 0.31. Based on these results, annual survival was estimated at 69% for Flathead Catfish in Iowa reservoirs.

(Continued on next page)

Flathead Catfish Population Dynamics in Large Reservoirs in Iowa (continued)

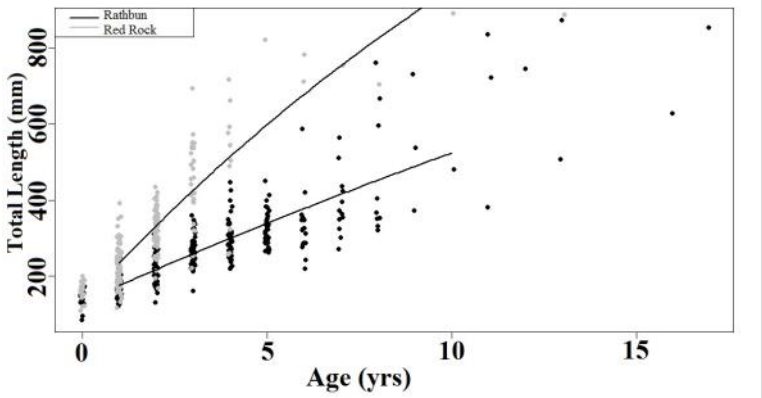


Figure 2. Von Bertalanffy growth curves for Flathead Catfish in Iowa reservoirs. Data from both Lake Red Rock and Rathbun Lake were pooled for this analysis.

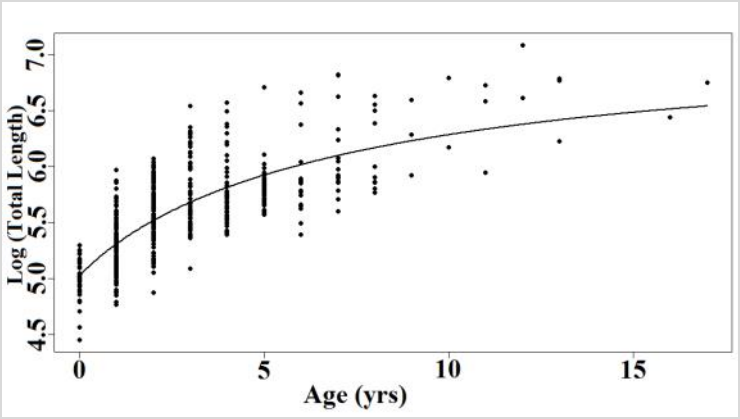


Figure 3. Total length (mm) at age (years) plot for Flathead Catfish in Iowa reservoirs.

Regulation Simulations

Effectiveness of length regulations in increasing the percentage of quality-and preferred-size Flathead Catfish compared to a no regulation scenario differed based on exploitation. At low exploitation (0.05), both types of PSL produced more quality-size fish than the baseline, no regulation scenario (Figure 4). However, neither PSL appreciably increased the percentage of preferred-size fish. A maximum length limit of 381 mm produced a similar increase to that of both slot limits in the percentage of quality-size fish at lower exploitation, but a slightly higher percentage quality-size fish at higher exploitation; in addition, a maximum length limit produced more preferred-size fish than both slot limit regulations and no regulation.

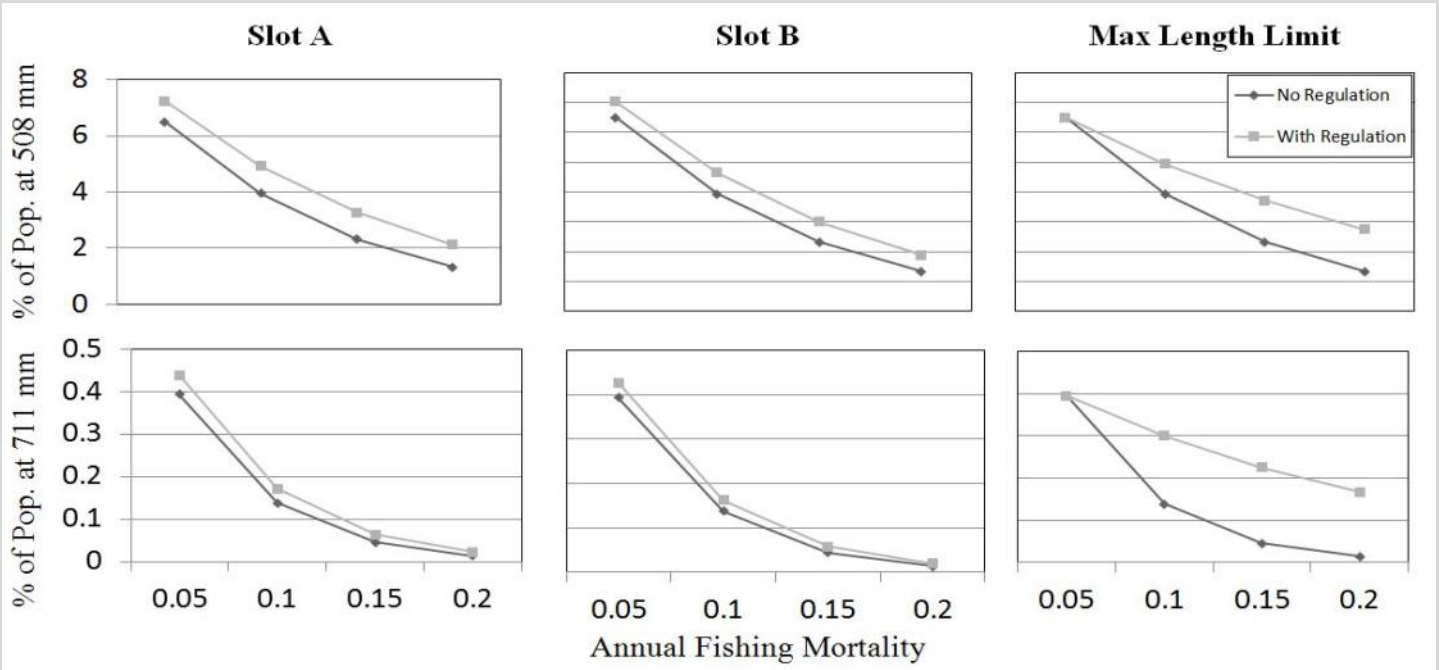


Figure 4. Results of regulation simulations for two protected slot limits (Slot A: 305-381 mm; Slot B: 381-432 mm) and a maximum length limit (381 mm) on the percentage of quality-size fish (508 mm, top row) and preferred-size fish (711 mm, bottom row) in a simulated population. All regulations were compared to the baseline of no regulation (the current Iowa management strategy for Flathead Catfish Iowa).

Flathead Catfish Population Dynamics in Large Reservoirs in Iowa (continued)

Conclusions

Our study contributes to a relatively small body of research on catfish in Iowa and is the only recent study (i.e., over the last 10 years) of Flathead Catfish population dynamics in the state. With the popularity of catfish increasing (Responsive Management, unpublished data), structured assessments of catfish populations may become necessary if management plans are to be developed. The results of our study provide important information about Flathead Catfish in two of Iowa's largest reservoirs, but also highlight the significant knowledge gaps present. Implementation of more frequent sampling and monitoring is necessary for an increased understanding of reservoir catfish populations in Iowa and development of appropriate trophy fishery regulations.

Specifically, determining the population sizes in both Rathbun Lake and Lake Red Rock and an assessment of the effects of abundance on growth and mortality should be completed. Additionally, exploitation of Flathead Catfish in Iowa reservoirs should be determined and used to inform further simulation of potential regulations. Implementation of a regular monitoring program for Flathead Catfish in Iowa reservoirs may help provide crucial information for continued study of these populations.

Literature Cited

Arterburn, J. E., D. J. Kirby and C. R. Berry, Jr. 2002. A survey of angler attitudes and biologist opinions regarding trophy catfish and their management. Fisheries 27(5): 10-21.

Makinster, A. S. and C. P. Paukert. 2008. Effects and utility of minimum length limits and mortality caps for flathead catfish in discrete reaches of a large prairie river. North American Journal of Fisheries Management 28:97-108.

Responsive Management. Unpublished data. Iowa anglers' participation in and attitudes toward fishing and the Iowa DNR. Responsive Management National Office, Harrisonburg, Virginia.

Slipke, J. W. and M. J. Maceina. 2014. Fishery analysis and modeling simulator (FAMS). Version 1.64. American Fisheries Society, Bethesda, Maryland.

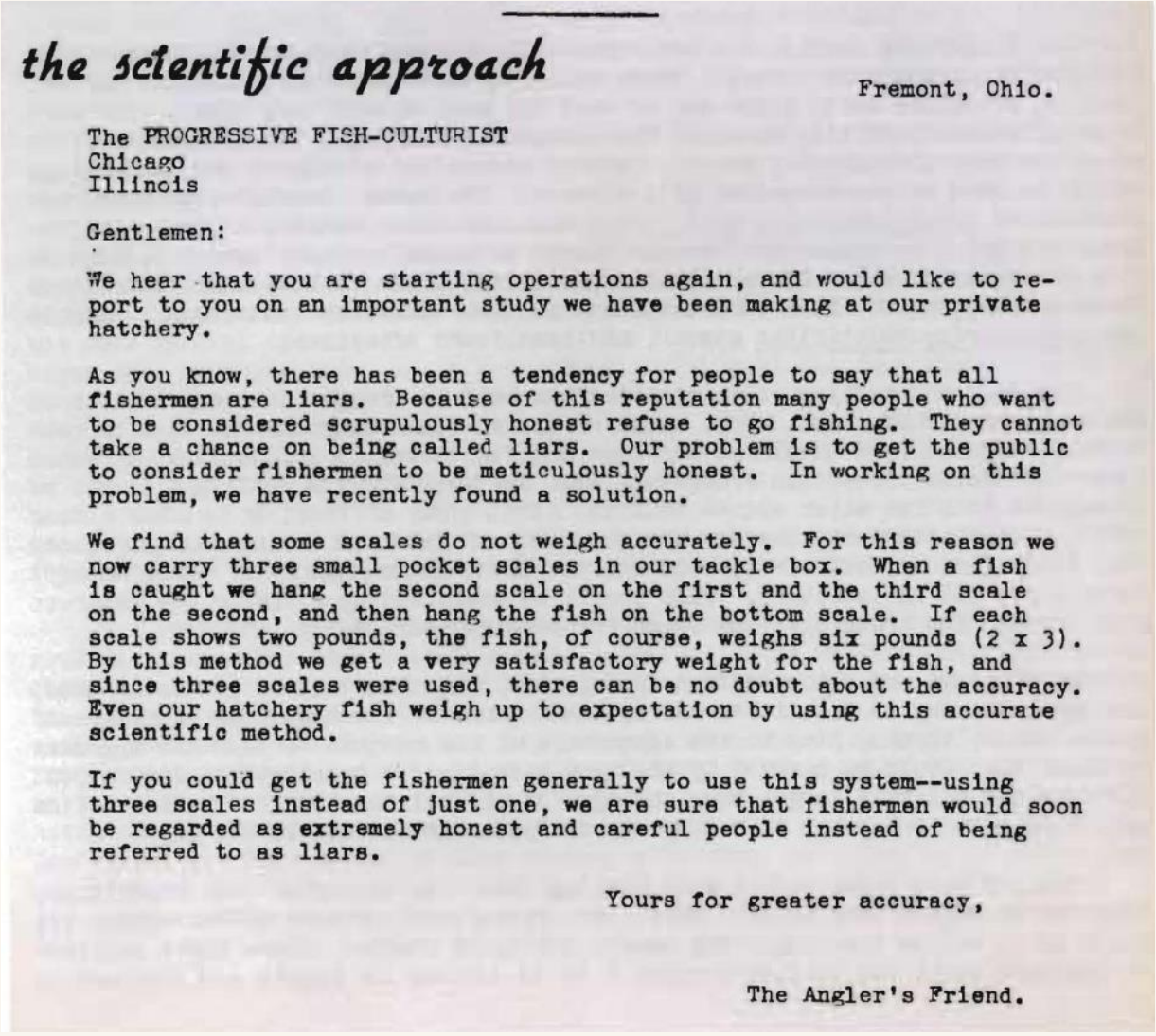
Travnichek, V. H. 2011. Angler size selectivity and exploitation of flathead catfish from the Missouri River. Pages 119 -126 *in* P. H. Michaletz and V. H. Travnichek, editors. Conservation, ecology, and management of catfish: the second international symposium. American Fisheries Society, Symposium 77, Bethesda, Maryland.

From Days Gone By

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

With Jeff Kopaska getting everybody in IA DNR Fisheries a tablet PC to enter fish survey data into and a new version of the Iowa DNR statewide database coming out I thought it was a good time to bring out this article from the Progressive Fish-Culturist Journal from January 1947 on "The Scientific Approach" of weighing fish for more honest and complete accuracy.

You might notice the author of the letter "The Angler's Friend" states that the journal was just starting up operations again; they had closed down operations during World War II due to a lack of staff and contributors, as many of them had gone off to fight the war.



the scientific approach

Fremont, Ohio.

The PROGRESSIVE FISH-CULTURIST
Chicago
Illinois

Gentlemen:

We hear that you are starting operations again, and would like to report to you on an important study we have been making at our private hatchery.

As you know, there has been a tendency for people to say that all fishermen are liars. Because of this reputation many people who want to be considered scrupulously honest refuse to go fishing. They cannot take a chance on being called liars. Our problem is to get the public to consider fishermen to be meticulously honest. In working on this problem, we have recently found a solution.

We find that some scales do not weigh accurately. For this reason we now carry three small pocket scales in our tackle box. When a fish is caught we hang the second scale on the first and the third scale on the second, and then hang the fish on the bottom scale. If each scale shows two pounds, the fish, of course, weighs six pounds (2 x 3). By this method we get a very satisfactory weight for the fish, and since three scales were used, there can be no doubt about the accuracy. Even our hatchery fish weigh up to expectation by using this accurate scientific method.

If you could get the fishermen generally to use this system--using three scales instead of just one, we are sure that fishermen would soon be regarded as extremely honest and careful people instead of being referred to as liars.

Yours for greater accuracy,

The Angler's Friend.

Upcoming Professional Meetings

- American Fisheries Society 150th Annual Meeting — August 30 - September 3, 2020, VIRTUAL. Attend via video conference. Paper submission deadline is June 30.
- 81st Annual Midwest Fish and Wildlife Conference. January 31—February 3, 2021. Saint Paul RiverCentre, St. Paul, Minnesota. Symposia Submission deadline, July 24.
- American Fisheries Society 151st Annual Meeting—August 8-12, 2021, Baltimore, Maryland.

Muskellunge Research in Iowa's Natural Lakes—Part 1

Jonathan Meerbeek, Fisheries Research, Iowa DNR

It is hard to believe that nearly 10 years have passed since the first documentation of a PIT tagged Iowa Muskellunge being captured by South Dakota Game, Fish and Parks personnel at Gavin's Point Dam, 353 river miles from the Iowa Great Lakes (IGL). Although this was not the first known occurrence of adult Muskellunge moving out of the system, it opened managers eyes in regards to the potential significance of Muskellunge movement in and out of interconnected lake systems and the management challenges that may arise. Much has changed since that initial finding, both physically and environmentally in the Iowa Great Lakes (IGLs).

During the 2011 Missouri River flood, bigheaded carps (*Hypophthalmichthys spp*.) were able to pass several dams and enter the IGLs, prompting a period of uncertainty regarding the fragility of the lake ecosystem and surrounding local tourism economy. In response to these uncertainties, an electric fish barrier was installed and was operational by 2013. Initially, it was hoped that the electric fish barrier would stop bigheaded carps from entering the IGLs, as well as deterring any downstream Muskellunge movement. Following a period of consistently high water levels since 2016, research crews in July 2017 began electrofishing below the electric fish barrier to evaluate whether or not the electric fish barrier was effective in deterring downstream Muskellunge movement (Figure 1). Twenty-four Muskellunge were captured in 2017, of which, 14 were known to go over the electric fish barrier post-construction based off PIT tag data. Continued high water since 2017 has not been kind to the Muskellunge population in the IGLs. In 2018, 56 adult Muskellunge were captured below the dam. In 2019, 114 were captured. Collectively, 90% of all Muskellunge captured below the electric fish barrier were known to go over the dam since the barrier was activated in 2013. Meanwhile, population estimates in the chain of lakes have decreased substantially and are near all-time lows, despite continued electrofishing recovery efforts below the dam and increased stocking rates and frequencies. In October 2019, Northwest Iowa management staff (with partial funding provided by the Iowa Great Lakes Fishing Club) completed the installation of a low-pulse electrode placed upstream of the electric fish barrier (Figure 2). It was hoped that this additional electrical pulse of 0.5 v/in (maximum range of 0.51-1.89 v/in) would deter adult Muskellunge from entering the electrical field that starts abruptly (approximately 8.0 v/in) at the first upstream electrode of the Lower Gar barrier. Besides physical barriers, few, if any studies have been

Figure 1. Electrofishing below the Lower Gar outlet, summer 2017.

Figure 2. Installation (top) and aerial representation (bottom) of a low-pulse electrode above the Lower Gar outlet, summer 2019.

(Continued on next page)

Muskellunge Research in Iowa's Natural Lakes—Part 1 (continued)

conducted on methods to deter fish downstream movement, thus the effectiveness of this approach was largely unknown. Future captures of Muskellunge below the electric fish barrier and their respective capture histories obtained from PIT tags will likely shed some light on whether or not this type of electrical field stops, or at least, slows Muskellunge downstream movement. So far in 2020, 65 adult Muskellunge have been captured below the dam. Of these, one Muskellunge is known to go over the dam since the new electrode was installed in October. Six of the 65 fish had previously been captured below the dam between 2017-2019, and one fish enjoyed his third trip back to the IGLs (Figure 3). The natural lakes research team plans to conduct net pen trials to evaluate the effectiveness of the low-pulse barrier under various flow regimes and outputs in summer 2020 and 2021 (Figure 4). Based off these findings, techniques to reduce Muskellunge loss or adjustments to stocking or harvest restrictions may be necessary to counteract these population losses. What we have learned thus far is that adult Muskellunge can go over the existing barrier in less than 4 inches of water flowing over the structure. In addition, the majority of our captures of known age Muskellunge are fish between 3 and 6 years old (89%) and may be at a higher risk of emigration as opposed to older fish. Continued sampling below the barrier and recaptures of PIT tagged fish will be instrumental in understanding Muskellunge movement and techniques to restore populations during prolonged periods of high water levels in natural lakes.

Figure 3. Adult Muskellunge captured below the electric fish barrier and relocated to Emerson Bay, West Okoboji.

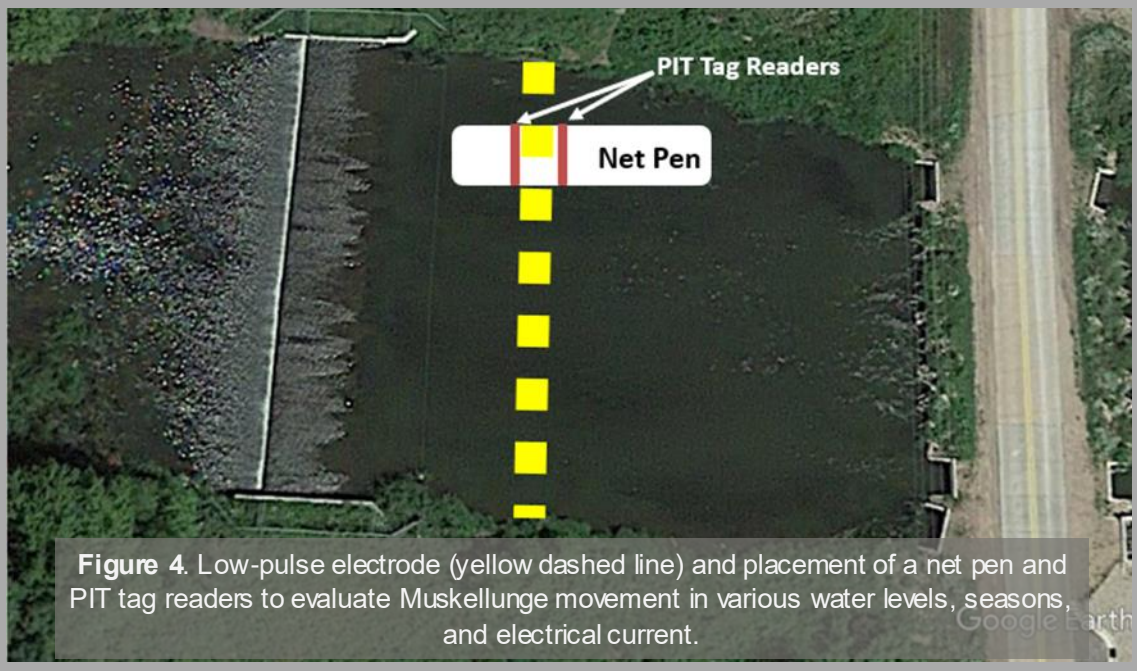


Figure 4. Low-pulse electrode (yellow dashed line) and placement of a net pen and PIT tag readers to evaluate Muskellunge movement in various water levels, seasons, and electrical current.

News From the North Central Division of AFS

Jeff Kopaska, Fisheries Biometrician, IA DNR

Things have been very interesting on the AFS front lately. As president of NCD, I serve on the planning committee for the AFS Annual Meeting that was to be held in Columbus, OH (NCD host site). Over the course of the last few months, things have changed radically. As you may be aware, the AFS Annual meeting has decided to go virtual. All talks will be pre-recorded and broadcast online. Various tracks and symposia will be presented as units, on a daily basis. Depending on the number of submissions, the virtual conference will run from September 14 through the end of the month. Abstract submission deadline has been pushed back to June 30.

This is the first of many potential changes coming down the line. The Midwest Fish & Wildlife Conference, which also serves as the annual meeting of the NCD, is still scheduled for January 31-February 3, 2021 in St. Paul, MN. They have opened up symposia submissions.

AFS is at work on numerous other projects which will ultimately provide great service to our members. Rebecca is currently working on a gray literature project (think, our annual reports, research completion reports, etc.) where these types of documents will be available online. I am on a team working on a project proposal to look at increased angler participation in 2020 (COVID-influenced), and see what we can do in 2021 to maintain these anglers.

I also represent the NCD on the AFS Resource Policy Committee, and we recently reviewed and updated position statement regarding the important role of aquaculture in sustainable global food systems. AFS has also recently issued a public statement on racial biases and injustices.

I hope you are all hanging in there and doing well this spring, and will move forward to a great summer!

Jeff

North American Lake Management Society Annual Secchi Dip-in

The Secchi Dip-In is a demonstration of the potential of volunteer monitors to gather environmentally important information on our lakes, rivers, and estuaries. Volunteers have been submitting information during the annual Dip-In since 1994. Please join them in this international effort to track changes in water quality! The Secchi Dip-In is part of Lakes Appreciation Month, where we celebrate our lakes throughout the month of July each year.

How to get involved!

ORGANIZE – Work through your local lake or watershed association or use SciStarter to plan a social event. Create and distribute advertisements locally.

PREPARE to take measurements by watching the NALMS student-produced "How to Take a Secchi Depth" video.

SHARE your activities on social media! Make sure to use our hashtags – #SDI2020, #LakesAppreciation

SUBMIT your data to the Secchi Dip-In Database. There are a few ways you can do this that are outlined on the NALMS website!

Cyclone Corner

ISU Student Sub-Unit Updates

Marcus Prull , President

(Like us on Facebook, search @ISUAFS)

Our school year came to a most unfortunate end this past semester and all remaining meetings had to be cancelled. However, optimism remains that we can safely participate in our usual meetings/ activities this coming up school year. This will be clear once I receive guidance from the University as to how clubs will be regulated due to the COVID-19 pandemic. In the meantime, we were able to conduct online elections for our officer positions for the upcoming year. The results are as follows:

-President: Marcus Prull

-Vice President: Brett Anderson

-Treasurer: Justin Gard

-Secretary: Brayden Crew

Some of our members were still able to maintain a summer fishery position and gain valuable experience to be used in our future careers. Hopefully we can further grow our fisheries knowledge this upcoming school year!

Respectfully submitted,

Marcus Prull

Cyclone Corner

Walleye and Muskellunge Reservoir Escapement Update

Robert Weber, ISU Masters Student

In the midst of the COVID-19 pandemic, collaborative research between Iowa State University and the Iowa DNR continues to move forward! The five-year barrier evaluation project at Big Creek Lake is coming to an end in June 2020! Here are some updates regarding recent sampling and tagging efforts, as well as escapement information.


Robert Weber

During spring 2020, sampling was conducted at Big Creek and Brushy Creek; however, only one electrofishing boat was used each night due to social distancing measures and no gill netting was conducted during spring 2020. During the two-night sampling period at Big Creek, we completed 3.6 hours of electrofishing, while 6.3 hours of electrofishing occurred during the three nights at Brushy Creek. At Big Creek Lake, 338 Walleye and 5 Muskellunge were collected, while 183 Walleye and 3 Muskellunge were collected at Brushy Creek. Sampled fishes were measured, weighed, checked for fin clips, and scanned for a PIT tag. However, due to reduced sampling effort and crew size, untagged fishes were not implanted with a PIT tag and aging structures were not removed. As of spring 2020, we have tagged a total of 6,738 Walleye and 1,550 Muskellunge at Big Creek as well as 5,780 Walleye and 1,430 Muskellunge at Brushy Creek. A significant portion of those fish were collected in the field and tagged (2,764


The physical barrier and PIT tag antenna array at Big Creek Lake spillway during a high flow event.

(Continued on next page)

Walleye and Muskellunge Reservoir Escapement Update (*continued*)

Walleye and 52 Muskellunge at Big Creek; 1,755 Walleye and 177 Muskellunge at Brushy Creek) while the remaining fish were tagged as juveniles at Rathbun Fish Hatchery prior to stocking.

As of April 15, 2020, 284 PIT tagged Walleye and 185 PIT tagged Muskellunge have escaped from Brushy Creek Lake whereas only 69 PIT tagged Walleye (all <17") and 9 PIT tagged juvenile Muskellunge (<13") escaped from Big Creek Lake. We observed a greater number of Walleye escaping from Big Creek in 2018 than in previous years, with most escapement occurring during a high flow event in June 2018 that partially compromised the physical barrier. Since 2018, we have detected many Muskellunge that were tagged as age-1 fish at Rathbun Fish Hatchery in 2016 and 2017 escaping from Brushy Creek, approximately 3 years after they were stocked. Of the 254 age-1 Muskellunge stocked annually at Brushy Creek, 82 (32%) from the 2016 stocking have been detected on the antenna array, while 21 (8%) from the 2017 stocking have escaped. Additionally, five Muskellunge from the 2016 stocking have been detected leaving the reservoir a second time after being re-captured during spillway sampling events and returned to the lake! For both species and at both lakes, the majority of escapement has occurred during the night and early morning hours.

Picture from the plunge pool below Brushy Creek Lake during a spillway electrofishing event.

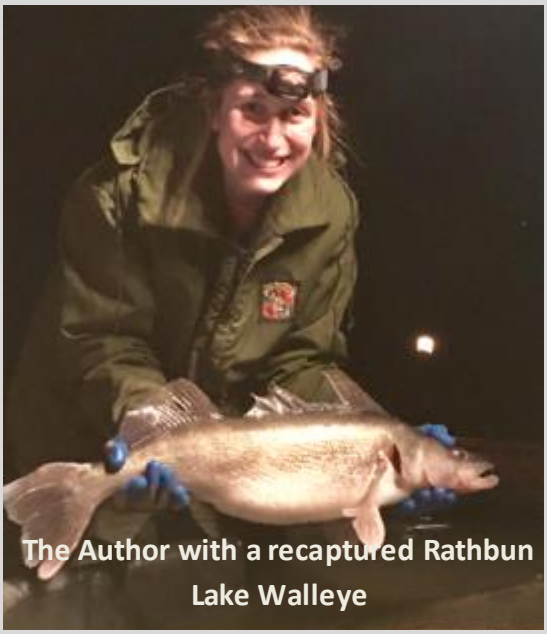
Our results suggest that the physical barrier on Big Creek is effective for stopping escapement of both juvenile and adult Walleye and Muskellunge. Conversely, escapement of these fishes from Brushy Creek is high and likely is having an effect on the abundance and size structure of fish in this system. Therefore, the installation of physical barriers on spillway reservoirs is likely warranted and would likely benefit reservoir Walleye and Muskellunge populations at Brushy Creek, as well as other systems in Iowa and throughout the country. Consequently, a physical barrier similar to that at Big Creek is scheduled to be installed at Brushy Creek during summer 2020. However, differences in spillway construction between Big Creek and Brushy Creek could also be affecting escapement rates between these systems. Thus, we hope to continue our sampling efforts to document escapement rates at Brushy Creek following the barrier installation. We thank the numerous staff with Iowa DNR for all of the help they have provided throughout this project!

University of Northern Iowa

Panther Page

Goals for: 24 and More: Using Genomics to Help Improve Walleye Stocking in Iowa

Rachel McDonnell
Graduate Student, Department of Biology
University of Northern Iowa



The Author with a recaptured Rathbun Lake Walleye

As far back as 1950, fisheries' biologists stocked the interior rivers of Iowa with Walleye fry in an attempt to augment poor natural reproduction. Thirty years later more success was found in stocking 2-inch fingerlings when compared with stocking fry. According to angler surveys in the 1990s, rivers were the most utilized Iowa fishery and stocking fingerlings proved to stabilize the Walleye population. As biologists progressed in stocking, they soon realized that not only was the size of fish important, but also knowing which genetic strain would make the greatest contribution to the population was important. There are two strains of Walleye used in Iowa. The river-strain is derived from the northern portion of the Mississippi River and the lake-strain is from Spirit Lake, IA. We believe that each strain has unique physical and behavioral characteristics that influence the fitness and success of fish stocked. The goal of this study is to develop genetic markers for differentiating each strain. Genome-wide single nucleotide polymorphisms are used to genotype individuals from both lake- and river-strains. These genotypes will be compared to identify unique genetic regions then strain-specific markers will be developed from them. The gene markers will provide a minimally invasive and cost-effective method to identify Walleye strains with the hope of improving stocking success in Iowa lakes and rivers.

Fishes & Dishes

Sharing the fun stuff!!

Morone On The Grill

When filleting the white, yellow or hybrid-striped bass that you have caught, remove all the red meat on the outside of the fillet by either slicing it off, or cutting a bit high when removing the skin.

1) Cover your grill with foil . Spray with oil.

2) Lay the fillets on top, sprinkle liberally with lemon pepper, cook until the fish flakes easily with a fork. Should take about 10 minutes or less.

Almost as good as Walleye! Enjoy.

Submitted by Chris Clouse

Editor's Note: I tried this with Channel Catfish and Drum with excellent results!

Smoked Venison Jerky

This recipe does not use any nitrates. Modified from the Fast Metabolism Diet book.

Ingredients: (tsp = teaspoon measure)
1 to 1.5 lbs venison roast
1/4 cup Bragg Liquid Aminos (Soy Sauce) or Tamari sauce
Juice of 1 lemon (or lime)
1/2 tsp onion salt
1/4 tsp garlic powder
1/4 tsp black pepper
1/8 tsp sea salt
1/8 tsp crushed red pepper flakes
Slice partly thawed meat into 1/8 to 1/4" strips. Slicing partly frozen meat into even pieces is a lot easier than slicing completely thawed meat. In a large, resealing bag combine the remaining ingredients. Add the meat to the bag and shake/massage to coat the meat. Marinate in the refrigerator for about 8 hours (or more, overnight). Shake occasionally to insure even flavor distribution. Drain and discard the marinade. Arrange meat strips on a foil-lined baking sheet in your smoker. Smoke 6-7 hours at 150^{0}F until meat is dry. To add a bit of moisture back to the dried meat, store the cooled jerky in a resealing bag with a slice of bread. If you don't have a smoker, and will be drying your jerky in a dehydrator or oven, add 1 to 2 tsp of liquid smoke to the mix.

Submitted by Darcy Cashatt

Iowa Chapter of the American Fisheries Society Annual Business Meeting

4:30 pm, March 3rd, 2020

Honey Creek Resort, Moravia, Iowa

CALL TO ORDER

The meeting was called to order by President Gregory Gelwicks. Gelwicks introduced EXCOM: Past President: Scott Grummer, President Elect: Chris Larson, Secretary/Treasurer: Kyle Bales. The NCD President Jeff Kopaska was present as a special guest. In attendance at the beginning of the meeting were 60 chapter members (Quorum).

The 2019 Annual meeting minutes were approved.

NCD/AFS Update

Jeff Kopaska gave an update highlighting AFS opportunities and events. The Society is celebrating their 150th year in Columbus, Ohio. Award nominations are being received right now. The Society is celebrating their 150th using the 1870 society (the year that they were founded). Benefits of being a Society member include: Online webinars, continuing education opportunities, access to journals, discount on registration to the annual meeting, discount on books, and travel grant opportunities. The Society is attempting to increase their footprint in Washington D.C. especially co-op units. There are thirty-four positions that are beingfilled with one of those positions being in Iowa. They are discussion creating more cooperative units. Kevin Pope said that there is discussion to add more a couple more units but they are not disclosing anymore information until it happens. The Society is advocating a policy statement to the Supreme Court for a water quality case in Hawaii. The Recovering Wildlife Act is another piece of legislation that AFS is working on. This act would provide state wildlife grant opportunities if it were to go through. Scott Bonar (AFS President) has been challenging members with climate change issues. Jeff talked about a fishing group (Ames Anglers) that he gave a presentation to and mentioned that their top priorities right now or what they want us to focus on are protecting water quality, conserving rivers and streams, and protecting and improving fishing habitat. Jeff mention a few climate change issues that may affect fisheries to the fishing group and the group was receptive to them. Jeff then gave feedback to Scott and he said that this type of presentation was a difficult one to give. A final remark by Jeff was that AFS is the oldest and largest fisheries society in the world and that he would love to see more Society level participation although he knows how difficult it can be .

COMMUNICATIONS REPORT

We have the only Water quality and fisheries voice through the Iowa Conservation Alliance. Lobbying for the Invest in Iowa act. In support for the lifetime trout stamp and against the no fishing license in farm ponds. Ryan Hupfeld asked how we decide what to support. The coordinator said that if it is controversial then we email them out to the non-work email list to receive input. However, for some other bills he waits to see how other conservation organizations might fall before making a decision for us. They usually stand behind us for fisheries bills so he thought that it would be the correct thing to do in this situation.

2019/20 TREASURER'S REPORT

The chapter started report period (2/1/2019) with a balance of $13,914.27 ($2,843.57 in the warm water account and $3,572.80 in Mike Mason Memorial Fund, resulting in $7,497.90 available for AFS). Disbursements since the last financial report equaled $23,187.51 and receipts equaled $23,784.25.

The annual meeting, donation, dues, raffle along with parent society returns brought in $8,210.25. The annual meeting had $4,088.96 in expenses and raffle and auction proceeds from the 2019 IA AFS meeting were split with the ISU Student Subunit for an amount of $837.66. Money brought in minus total expenses and ISU split resulted in a total profit of $3,283.63.

The warm water/cool water conference planning was in full swing. As of February 1, 2019 there was $2,843.57 in the account. After the remaining disbursements and receipts cleared the bank; the account ended with a balance of $3,100.38.

Other noteworthy expenditures included a student scholarship ($500.00), membership in Iowa Environmental Council for 2020 ($100.00), 2019 membership for Iowa Conservation Alliance ($250.00), second and final payment for Catfish 2020 donation ($750.00), an IA AFS grant for fish habitat ($342.00).

All account activity resulted in a balance of $14,511.01 on 2/14/2020. The Warm Water Account has $3,100.38; Mike Mason Memorial Fund has $2,325.10, resulting in an AFS available balance of $9,085.53.

Proposed budget continues payments to the Iowa Environmental Council, the REAP Alliance, the Iowa Conservation Alliance, the student scholarship, IA Chapter insurance, and the remaining balance for each of the approved grants.

Iowa Chapter AFS Annual Meeting ...(continued, 2nd page)

Jay Rudacille gave a Mike Mason Memorial Fund update. He said that Ben Wallace acquired a go pro camera and some equipment to mount it in various locations and applications. Ben mentioned that the camera and accessories are there if anyone would like to use them to create videos of what we do. Jay also mentioned that Rathbun is going to make the theatre functional again using the remaining funds in the Mike Mason account. Mike's widow has approved the project. The current system is dated and no longer functioning. There is a company that is willing to donate labor for updating the theatre. The new one will be a touch screen with mp5 files in the background. Many choices for people to watch. There will be seating for 12. Something that we can change without the need of hiring a professional.

Committee Reports

Committee Reports were sent out for review before the meeting.

Walleye Technical Committee is looking to fund the Walleye proceedings book. It takes $150 per page of the proceedings. Andy makes a motion to donate $300 toward the printing of the proceedings. There was a second. Discussion – We gave Catfish 2020 $1500. Mike Steuck amended the motion where we would donate $500. Amendment passes. New motion is to support the WTC in the amount of $500. No further Discussion. All were in favor. Motion Passes.

Tyler Stubbs thanked IA AFS for supporting the Catfish 2020 and for allowing him to attend the meeting using our complimentary registration.

New Committee – Urban Fisheries: Tyler Stubbs is working to get one started because "he really doesn't fit in" as it pertains to technical committees.

Nothing further to report.

Awards:

Past President: Scott Grummer

Best Student Paper winner from AFS 2019: Andrea Sylvia, Iowa State University, "Use of a mark-recapture model to evaluate bass tournament mortality".

Best Student Poster: Andrea Sylvia, Iowa State University, "Effects of four culling systems on Largemouth Bass physiology and survival".

Best Professional Paper: Jeff Kopaska, Iowa Department of Natural Resources, "Investigating hunting and fishing license purchase patterns".

Acknowledged Scholarship winner: Estefany Argueta Herrera

Acknowledged Joan Duffy Travel Award winner: Brett Kelly

Acknowledged the an AFS member of over 60 years: Dr. Robert Summerfelt every year since 1959

Acknowledged Heros of Fisheries: Mike Siepker, Chad Dolan, Kim Hawkins, Darcy Cashatt, and Ben Wallace.

Jeff Kopaska presented Mike Siepker with an award from Missouri AFS Chapter acknowledging his work in Missouri.

Old Business:

Update on IA AFS grants

Andy Fowler- Bought 5 fish farming units. Also, allowed them to run in water lines for the grant units. Trying to make the hatchery relevant (something for the public to see and to get mussels in the river).

Rebecca Krogman- Post card survey on lakes across the state. Money used to offer incentives to the public to increase the return of postcards.

Committee positions

Chad Dolan- Said he would keep doing the awards unless someone really wanted to step into the role.

Ben Dodd- Said he would stay in the Auditing role.

Mike Weber will stay in the Student Affairs role

Iowa Chapter AFS Annual Meeting *...(continued, 3rd page)*

Continuing Education- haven't heard much from; Ryan Hupfeld has volunteered to take over that role.

Technical Section Committees – 5 Year appointments. All open committers are below. If you are interested, please

submit a letter of interest to the EXCOM by April 8th, 2020. If there is no interest and the current representative would like to continue in their role they may.

Escocid

Rivers and Streams

Reservoir

Centrarchid

Fish Culture

Chapter exhibit: 150 years of AFS

Rebecca was willing to put together the poster. But now there is going to be booth associated with each chapter that would incur expenses. So the EXCOM decided not to do anything with it since our benefit would be minimal/non-existent

New Business:

Midwest Fish and Wildlife Conference Update

George Scholten gave an update. He attended the Illinois Midwest to see what kind of problems that they may have encounted and to see what we are getting into in 2022. The real planning starts in about a year. We need to find a conference theme, logo, and chair the major committees. Think about Plenary Speakers. If there is any interest to be on the theme and logo committee let George know.

IA AFS meeting in 2021

Chris Larson gave an update about a joint meeting with Nebraska and Kansas. Joe talked to the director and she is receptive to us having an out-of-state joint meeting for IA AFS. The tri-state meeting would be Feb. 22, 2021. Chapter was in favor of proceeding.

Continuing Education

If anyone has any ideas/willing to help put something together, please contact Gregory Gelwicks or Ryan Hupfeld.

Gregory Gelwicks adjourned the meeting.

Application form

Fisheries Project Grant

Iowa Chapter – American Fisheries Society

Project Name:_____

Project Description: _____.
_____
_____
_____

Attach map or supplementary 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.

Project Description – 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.

Fisheries Benefits – 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.

Money will be used for – 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.