Volume 37 , Issue 2 August 7, 2019

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Iowa Chapter of the American Fisheries Society

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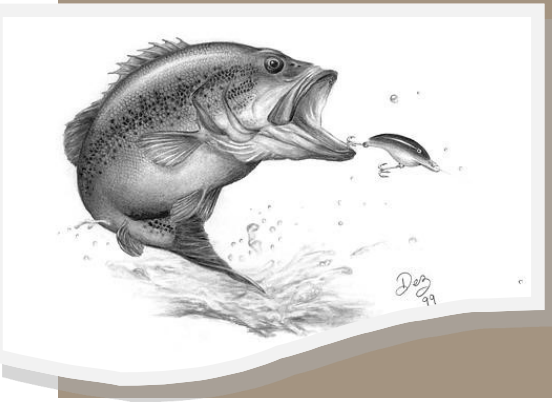

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http://www.fisheriessociety.org/iowa/index.html

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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.

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President's Corner

Scott Grummer

As I sit down to write the last message as IA AFS President, it is hard to believe how quickly things have gone. It truly has been an honor serving in this role. I want to thank the EXCOM for their hard work and dedication as well. Leadership, planning, and decision making is a group effort and the EX-COM collectively makes this happen. I also want to thank Darcy Cashatt for the excellent work with the Iowa AFS Newsletter. The Lateral Lines newsletter is a good forum to share work or ideas. If you come across items of interest, please share those with Darcy for future newsletters.

Soon I will be handing off the baton to Greg Gelwicks, our incoming President. Greg will do an excellent job leading our Chapter. I would encourage all of our membership to consider stepping into a leadership role. Soon there will be a new President-Elect chosen by our membership. Please welcome this person in their new service role. The Chapter is what we as a group want to make of it.

Shortly students will be getting back to the books, fall sampling will be underway, and fish stockings will resume with water temperatures cooling. Take time to reflect on why we are doing these tasks. Work of fisheries professionals promotes healthy and sustainable aquatic resources in Iowa and beyond.

Planning will begin shortly for the annual winter meeting. Watch for emails to come with meeting details. I hope everyone can attend and travel conditions are better than 2019. Please consider giving an oral presentation or developing a poster to share the work you are doing.

In closing, thank you for the support during my term.

~Scott Grummer

Landowners partner with Iowa DNR to improve angler access, protect water quality

Mike Siepker, Fisheries Biologist, Iowa DNR

The Iowa Department of Natural Resources' (IA DNR) Water Quality and Angler Access easement program works with willing landowners to provide coldwater stream corridor buffers that improve water quality while also preserving angler access. Typically 150 to 200 feet in width and centered over the stream, a permanent conservation easement is granted to the state that limits practices deemed detrimental to water quality including, but not limited to, plowing or disking, planting row crops, applying manure, or constructing permanent buildings. In return, the landowners are compensated with a one-time payment of $2,500 per acre included in the conservation easement. The landowner sign-up period is continuous but enrollment dependent on available funding. The easement program began in 2010 and had protected over 15.5 miles of coldwater stream by the end of 2017. Trout program staff continue to engage landowners and discuss the program when funding is available. Within the last year, two easements have been completed by trout program staff.

Yellow River

Farming the fertile lands along the Yellow River is a way of life on the Rissman family farm. That way of life had become much more difficult as numerous floods over the past few years threatened fields, crops, and streambanks along the river. As a result, the Rissman family was looking for ways to improve their agricultural operation so it was more resilient to flooding. In August 2018, the Rissman family met with local DNR Trout Program staff to discuss the Water Quality and Angler Access program. By November 2018, the Rissman family had enrolled a section of their stream in the program. Their easement permanently protects 0.85 miles of Iowa trout stream with a 200 ft stream corridor easement allowing public fishing access. The easement also protects approximately 22.13 acres of stream corridor. Anglers can access the easement from a parking area on the east side of Forest Mills Road. In this area, the Yellow River has a strong population of wild, naturally reproducing Brown Trout and is stocked annually with fingerling Rainbow Trout. The trout population

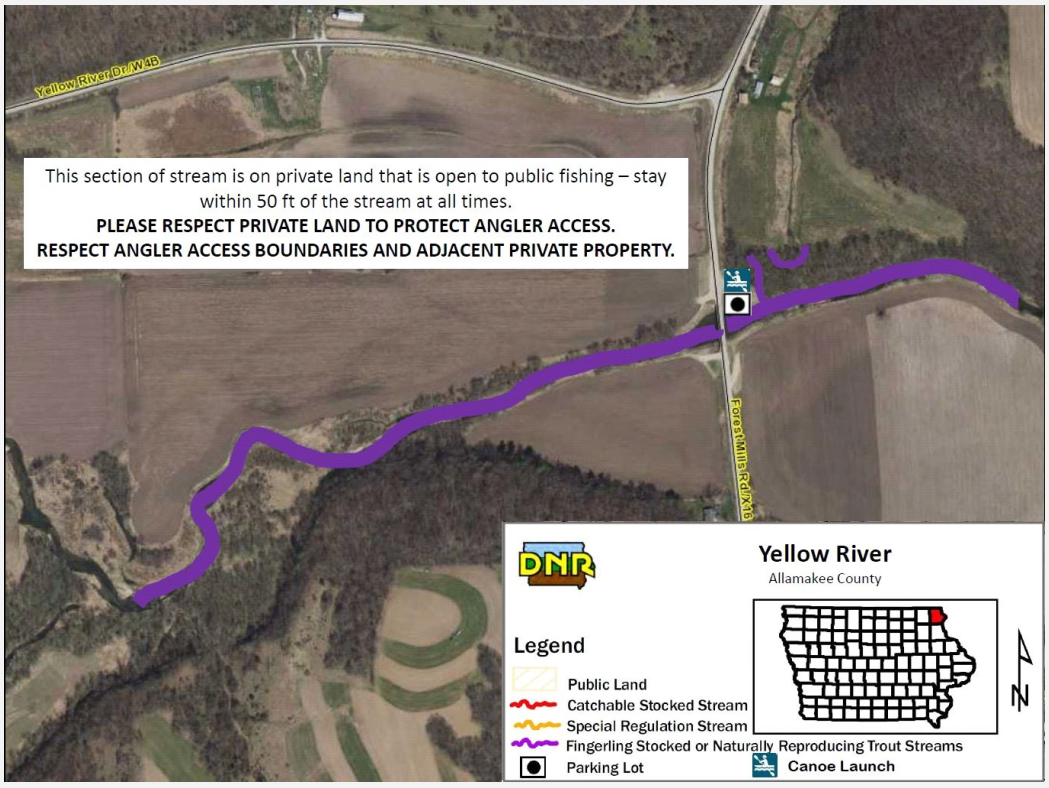

Photo 1: Iowa DNR trout map showing location of Water Quality and Angler Access easement on the Dianne Rissman farm.

Landowners partner with Iowa DNR to improve angler access, protect water quality *(continued)*

North Bear Creek

The Lane brothers have been fishing North Bear Creek for as long as they can remember. Around 1980, Ron was able to purchase the farm that he and his brother Larry had fished as kids. Under his new ownership, anglers were still allowed to fish North Bear Creek as it flowed through his property. Since 1980, the Iowa DNR worked with Ron to manage his stream segment under a handshake agreement- Ron agreed to let the DNR stock catchable trout while also allowing the public to fish his stream. In 2019, Ron and his brother Larry began thinking about the future of North Bear Creek. They wanted to ensure that anglers of all ages would always have a place to trout fish. They contacted the Iowa DNR's trout program and asked how they could keep anglers fishing on the farm. By June 2019, they were enrolling Ron's farm in the Water Quality and Angler Access program. Today, Ron's 0.95-mile section of North Bear Creek is protected with a 150 ft-wide easement that limits practices detrimental to stream quality. The easement also allows public fishing in perpetuity with angler parking available on a widened shoulder along 128th Avenue. This reach of North Bear Creek has wild, naturally reproducing Brown Trout and is stocked weekly from April through October with catchable-sized Rainbow Trout. It is managed under statewide regulations.

To date, the Water Quality and Angler Access easement program has protected 17.3 miles of coldwater stream in Northeast Iowa. I'd encourage you to check out one of these easements next time you are fishing Winneshiek or Allamakee counties. Both provide outstanding opportunities to catch wild Brown Trout and stocked Rainbow Trout. By further protecting water quality and angler access along coldwater streams, the Iowa trout program is making Iowa a great place to fish!

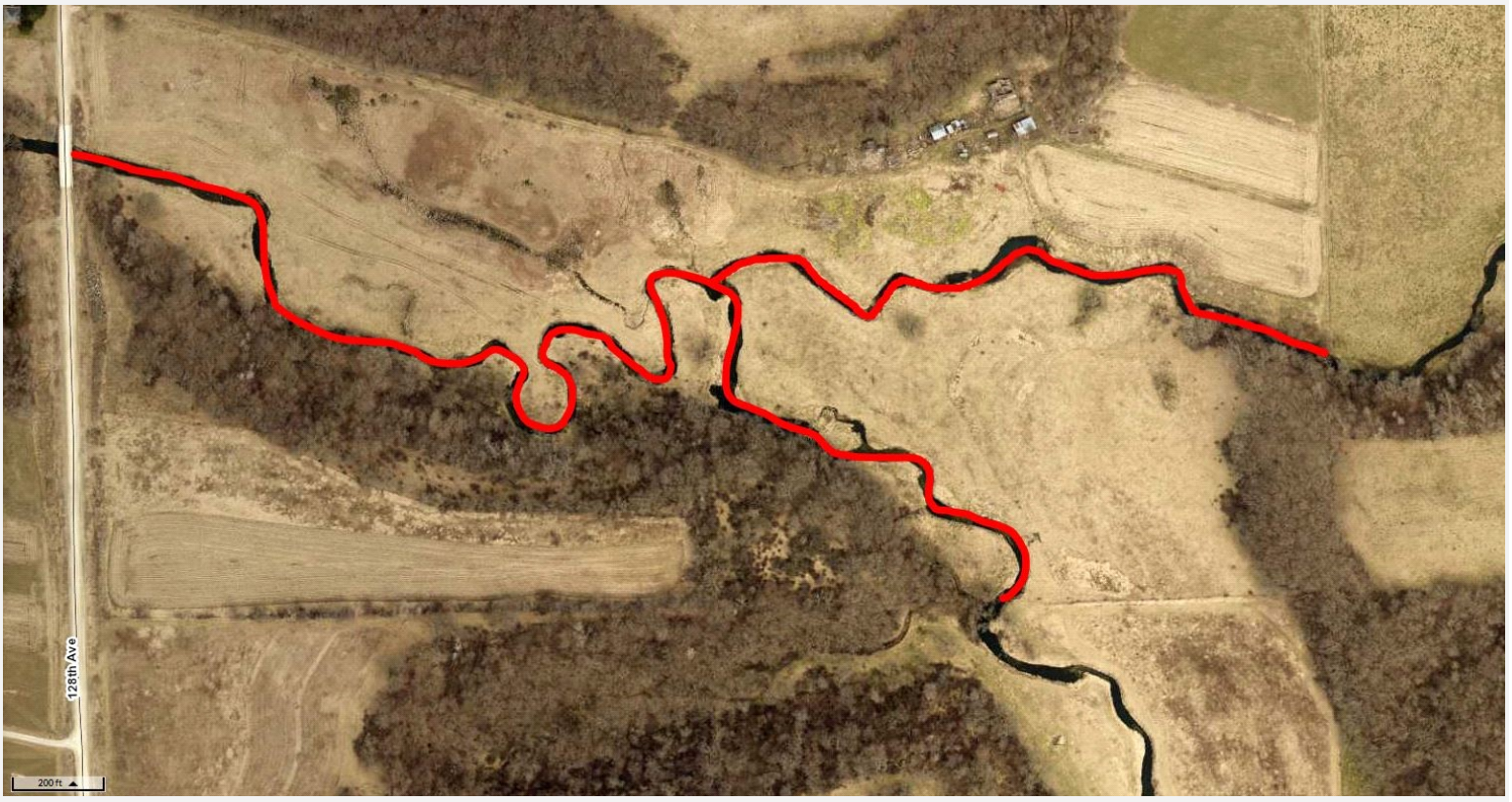

Photo 2: Map showing the location of the Water Quality and Angler easement (red line) along North Bear Creek on the Ron Lane farm.

From Days Gone By

Vance Poulton, Brighton Fisheries Management Tech II, IA DNR

Iowa State Fair - 1926

Since it's State Fair Time, here is a photo of the Aquarium Building before the outer Fish and Game Pavilion was built around it in 1927. Construction of the Aquarium Building was started in late July of 1926 and the building was finished in time for the 1926 fair which ran from August 25 to September 3. The architectural firm that designed the Aquarium Building as well as the Fish and Game Pavilion was Proudfoot, Rawson, and Sours of Des Moines. They also designed the Polk County Courthouse as well as the Alumni Hall and the Memorial Union on the Iowa State University Campus. The white post structure around the outside of the Aquarium Building supported an awning to shade fairgoers and was removed from the structure once the Fish and Game Pavilion was built. The Aquarium Building was built at a cost of just over $17,900. The rest of the Pavilion which was built in 1927 with the roof added in 1928 and final touches added in 1929 was built for an additional cost of $31,000. Not seen in this picture but is in others from 1926 is a large tent erected behind the Aquarium Building that house the animal display as well as serving as a theater for the movies that the Department showed during the evenings.

Upcoming Professional Meetings

- Missouri River Natural Resources Committee fall business meeting - August 22-23, 2019, St. Joe, MO
- Association of Fish & Wildlife Agencies - September 22 - 25, 2019; St. Paul, MN
- National AFS Meeting (joint with TWS) - September 29 - October 3, 2019; Reno, NV
- Midwest Fish & Wildlife Conference; January 26-29, 2020; Springfield, IL
- Mid-Continent Warmwater Fish Culture Conference - February 3-5, 2020; MO
- Catfish 2020 - February 18-20, 2020; Little Rock, AR
- UMRCC - March 17 - 19
- Rivers and Streams Technical Committee- March31st-April 1st, 2020; Milan, IL

Who is AFS Anyway?

Jeff Kopaska, Fisheries Biometrician, Iowa DNR

We are fishy folks, we like the water. Perhaps sometimes we, like Thoreau, sit and ponder the existential questions while we are in, on, or around the water – what is the meaning of it all? Lately, for me one of the questions has been "who is AFS anyway?" It is supposed to be representing me, right? Is it?

On the AFS website, the Society states this about itself – "The American Fisheries Society is the world's oldest and largest organization dedicated to strengthening the fisheries profession, advancing fisheries science, and conserving fisheries resources." The AFS mission is "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." AFS also stresses that it is a member-driven organization, but a big question in that regard is who are the members? That is a question I recently dug in on.

This first graphic shows that there are roughly equivalent numbers of members who are part of academia and who are employed by state or provincial governments, and federal employees come in at about half of the total of the other two. Some of the other data collected by AFS shows the gender split, ethnicity of AFS members, membership types and membership by Division.

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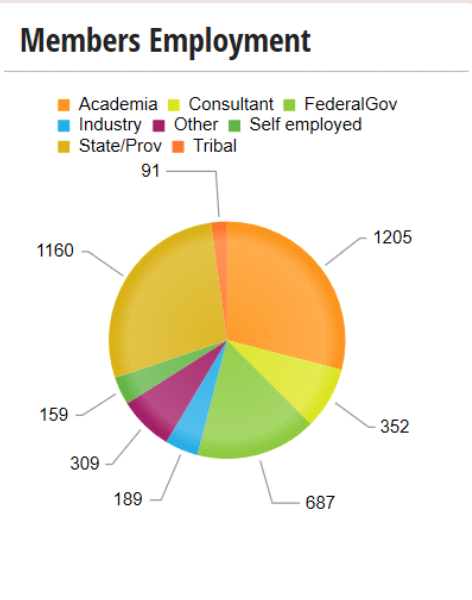
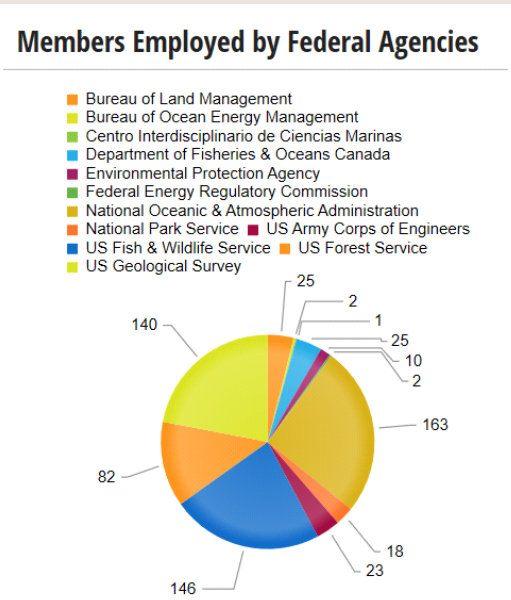
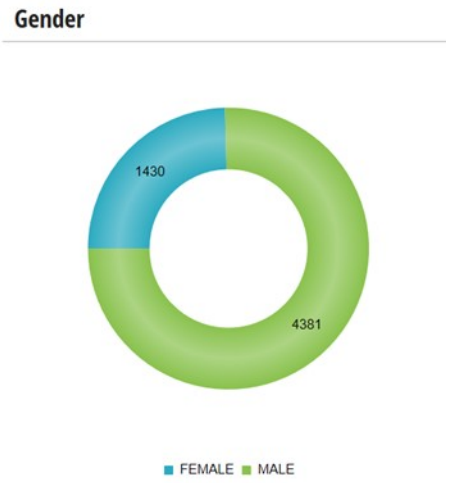
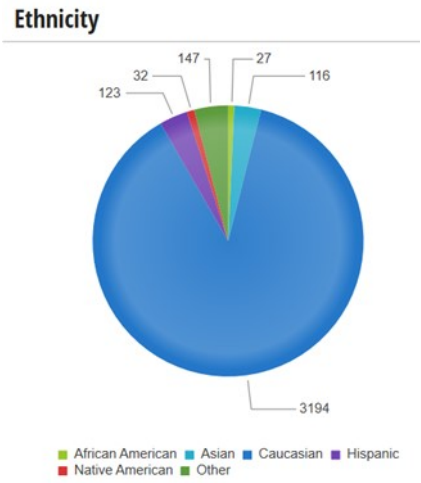
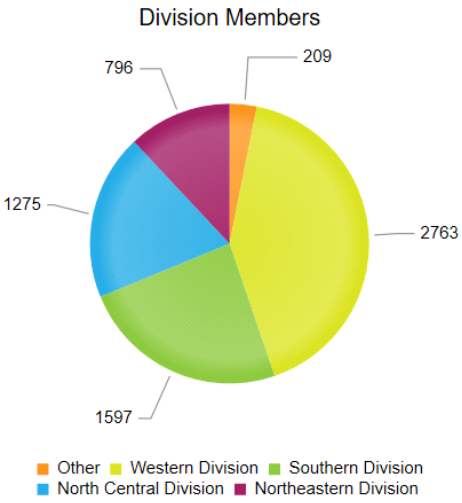








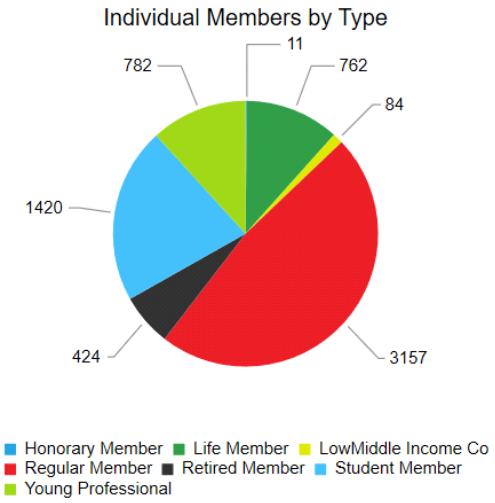
I like looking at numbers (shocking, right), and so I wanted to dig a little deeper. I have played around with the AFS membership database on the AFS website, just to see what it can tell me about our state and our chapter.



To me, it is interesting. Just to start with, the Iowa Chapter tends to have ~115 members, depending on the year. Nowhere near all of those folks are AFS members, which is understandable. Here is how the data from AFS plays out. There are 58 individuals who reside in the state of Iowa who are members of AFS (parent society). By Membership Type (see above graphic) we have:

Honorary	0
Life	13 (9 retired)
Regular	26
Retired	2
Student	12
Young/Early Professional	5

You would think that I would know all of these people, but there are 5 AFS members who live in Iowa that I have never heard of – and one lives only a few miles away from me in Gilbert! Even more interesting, there are quite a few of these folks who are not involved in our chapter at all. Of course, these types of "curiosities" piqued my interested, so I started looking at who the people were who were AFS members, who were chapter members, and who were not involved in AFS at any level. I estimate that there are at least 50 "fish folks" in Iowa who are not involved with AFS at all. We know there are fish professors and students at places other than ISU, are we doing enough to get them involved in our chapter? How about the fish culture and fish health side of things? The person that lives close to me works at the USDA lab in Ames, and I have never even thought about fish folks being there, who might want to be more involved in AFS. Private aquaculture? Fishing guides? Could our relationships with these folks improve if we invited them to see what we are all working on, and have them at our meetings to learn from each other? US Army Corps of Engineers and USFWS? I'm not telling you all this to say we are doing anything wrong. I do think we could be reaching out a bit more, we could be a little bigger, and we could be more diverse and effective than what we are right now. If we were engaged with more people professionally, I think it would enhance what we are doing as a profession.



Lest you despair (which I doubt), we are not alone. Digging into this data for Iowa led me to develop and implement a survey for all AFS Chapters in North America. The vast majority of chapters have way more folks that are chapter members than are AFS members, except for the Chapters bordering the Pacific Ocean (Cal/Nevada, Oregon, Washington/British Columbia and Alaska). Those chapters require AFS membership to be a chapter member, so the numbers are even. In the remaining chapters, about 2/3rds of chapter members are AFS members, so we look a lot like everyone else. I also asked for an estimate of how many fisheries folks there were who were not involved in AFS at all. Most of the answers were WAGs, but from those estimates it looks like literally thousands of fisheries professionals are not involved in AFS. Is AFS fulfilling its mission if 50% of fisheries professionals are not involved in the society at any level? The data provides some insights, but the big questions remain. Why? Certainly, to some

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Who Is AFS Anyway? (continued)

degree AFS is not serving these folks, and that is why they are not involved. AFS knows it needs to provide more valuable services for the investment that members make in the society. That is something I am trying to help AFS improve on. But there is more to be done by us too. Let's start by engaging with those fish folks each of us know who are not involved in AFS, and invite them to our next AFS Chapter meeting. If you don't know who to invite, shoot me a note and I will help you find someone.

Thanks for all you do for AFS, I appreciate it!

Cyclone Corner

Student Sub-Unit Updates

Matthew Dollenbacher, President

(Like us on Facebook, search @ISUAFS)

To close out the school year many of our members enjoyed a fishing trip to Don Williams Lake.
At our last meeting we voted on new officers for the coming school year. Here are the results:

- President: Sam Grinstead
- President: Elect: Marcus Prull
- Secretary: Brayden Crew
- Treasurer: Justin Gard

Cyclone Corner

An evaluation of angling impacts on a Largemouth Bass population:

A summary of my dissertation

Andrea Sylvia

We can probably all recall some of our first fishing experiences, for me it was catching bass in a small Arizona pond with my dad. From that moment forward, I was hooked; I guess you could say both literally and figuratively! I am sure many of us can reflect back on similar experiences, likely explaining why recreational angling for Largemouth Bass (*Micropterus salmoides*; hereafter referred to as bass) has experienced so much growth in popularity over recent decades.

In addition to recreational angling, tournament angling events and anglers have grown exponentially throughout the US and in Iowa. While many recreational and tournament bass anglers practice catch and release angling with the belief that it is a useful measure for sustaining fish populations, fish subjected to such methods may still be vulnerable to multiple sources of mortality and sub-lethal effects. Many studies have quantified the effects of angling mortality on individual bass; however, few have been assessed at the population level. Although effort intensive, mark-recapture studies serve as a useful empirical tool to improve assessment and management of mortality sources in bass populations. Thus, I have spent the past five years conducting a mark-recapture study at Brushy Creek Lake in Webster County to evaluate the impacts of tournament angling on bass populations.

We began by tracking forty-nine bass implanted with radio telemetry tags weekly and five tournament anglers at each tournament event during 2018. Using this data, we quantified bass home range, weekly movement rate, depth used, and spatial overlap with anglers, as well as angler depth use, angler movement rate, and air and water temperature. We then used these estimates as covariates in a mark-recapture model to estimate capture probability at fishing tournaments. In addition to the mark-recapture model, we also used the covariates as independent variables to predict bass tournament catch-per-unit-effort (CPUE;# bass/angler hours) in a multiple regression model. Air temperature and angler overlap were positively associated with bass capture probability, while bass movement changed across the sample period and was positively related to tournament CPUE. Tournament anglers in the study were successful at identifying habitats where bass

An evaluation of angling impacts on a Largemouth Bass population *continued*

reside and both bass and anglers changed patterns as a result of environmental influences. This strong overlap of bass and tournament anglers creates the potential for population level impacts of tournament angling on bass populations.

Tournament angling can have significant impacts on bass populations when anglers successfully target bass; however, assessments of tournament impacts can be difficult, as some mortality occurs after release from tournaments events. We designed a model to evaluate the duration of delayed tournament mortality and to identify important covariates affecting survival. Multiple trends were evaluated to test acute (2, 3, 4, or 7 d) and chronic (15 or 30 d) delayed mortality hypotheses and both environmental and individual covariates were tested to assess additional factors influencing delayed tournament mortality. The most supported models revealed a 3-day trend in survival following tournament capture but no support for chronic mortality. Bass tournament mortality ranged from 17% to 33% and increased with increases in water temperature and the number of tournament capture events experienced by an individual bass. Results of the model confirmed the potential for substantial delayed mortality in bass populations and the importance of including delayed mortality when evaluating population-level effects of tournament mortality. However, the relative importance of delayed mortality for the bass population remained unknown.

Next, we expanded on our assessment of bass mortality and estimated recreational and tournament angler capture probability. We also evaluated contributions of natural, recreational angling, and initial and delayed tournament mortality to total population level mortality. Average annual tournament angler effort at Brushy Creek was 25.0 hr/ha and resulted in ~21% of the bass population captured annually whereas recreational anglers only captured on average 12% of the bass population. Average total bass annual mortality was 0.66, with natural mortality representing the largest component (0.57), followed by delayed tournament mortality (0.06), recreational angling mortality (0.03), and initial tournament mortality (0.004). These results indicate that tournament angling results in higher mortality than recreational angling but that both angling mortality sources are low compared to natural mortality. Therefore, angling mortality likely has minimal effects on bass abundance.

An evaluation of angling impacts on a Largemouth Bass population *(continued)*

Cyclone Corner

Although abundance of bass was likely not influenced by tournament mortality, tournament anglers target the largest individuals in a population that are not abundant. Thus, long-term fishing mortality on these large individuals may lead to changes in population size-structure. We evaluated differences in tournament capture probability and survival of medium (15-18”) and large bass (>18”) and then simulated changes in capture and survival rates of each size group to determine the potential for changes in population size-structure. We found that medium bass had higher tournament capture probabilities than large bass and capture probabilities of both size groups increased with air temperature. Medium bass experienced higher survival rates than large bass at tournaments and tournament survival rates of both groups were inversely correlated with water temperature. However, simulations indicated increases in tournament capture probability and reductions in survival of large bass only resulted in minor reductions in population size-structure whereas changes in tournament capture probability and survival of both size classes had little effect. Thus, reducing the number of large bass weighed in at fishing tournaments may result in only minor increases in bass size-structure.

This holistic assessment of both the capture probability and mortality of a bass population by recreational and tournament anglers adds to knowledge of population level effects of catch and release angling. Findings from this study reveal that although recreational and tournament anglers are successful and locating bass and can capture >20% of the population annually, mortality rates of angling are low compared to natural mortality, resulting in minimal populations level effects as a result of a potentially resilient bass population. Understanding the relative influences of mortality sources on bass populations hopefully allows for the continued enjoyment of bass fishing in Iowa for decades to come. Even today, after tagging nearly 6,000 bass in the process of this study, nothing still quite compares to the excitement of landing a lively bass.

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.