

Mainstream

President's Message by Vince Travnichek



GOYA! If you don't know what this means then you need to read the Fall edition of our AFS-NCD Mainstream newsletter. Unfortunately, I have not been practicing what I preached last Fall and seem to be in the "trough" I described a few months back. Hopefully I can get out of it and become more productive as your NCD President. Speaking of NCD President, we are in need of another candidate for Vice-president. I have struggled to find a second candidate for this year. It is a four year commitment (Vice-president, President-elect, President, Past-president), but your first and last years in office are not too big of a time commitment. The term would basically run from 2015 through 2018. If you are interested please contact me, and I can provide more information as to expected duties during the tenure. I will also need candidates for Secretary/Treasurer (two year term) and Vice-president starting in 2016. Please consider self-nominating yourself for either this year or next. These are excellent leadership opportunities, and you can be

part of the inner-workings of our Society. Additionally, the NCD can assist with travel money to attend the Midwest Fish and Wildlife Conference and/or the AFS Annual Conference. Again, if interested in these leadership opportunities, PLEASE CONTACT ME !

Have you heard what is going on in Wisconsin related to proposed budget cuts within their DNR ? One of the proposed cuts would eliminate over 18 staff positions in the highly respected Bureau of Science and Research. These employees provide essential information on population abundance, trends, habitat needs, and effects of habitat changes on numerous species. Results of this research help managers to choose wise regulations and effective habitat projects for fish and wildlife. In just the past two years, the state DNR Fisheries and Aquatic Sciences Research Section in the Bureau of Science and Research produced 140 science publications and made over 333 research presentations. This research also affects the management of the Mississippi River and Lakes Michigan and Superior, making this not just a state issue, but also a regional and international issue. I have signed on to an AFS letter that is being circulated within Wisconsin to legisla-

tors and news outlets, and have included it in this newsletter (see Members Forum section). These cuts not only affect fisheries and aquatic staff but also terrestrial research staff and wildlife health staff. This would not be good for Wisconsin DNR nor the citizens of Wisconsin and those that travel to this state to enjoy the abundant fish and wildlife resources they have.

NCD EXCOM discussed the idea of "branding" our awards at our annual EXCOM meeting in Indianapolis. The Society and numerous Sections have branded various awards by associating a name with the award (e.g., Sullivan Fisheries Conservation Award, Weithman Socioeconomics Award, Skinner Award). We have a lot of history and influential professionals from the AFS-NCD that have shaped our Society and profession. I think we should honor and recognize these folks, but the problem will probably be that we have a lot more deserving folks than we have awards to brand (Most Active Chapter – Large/Small, Most Active Student Subunit, Communications, Meritorious Service, and Fisheries Excellence). What are your thoughts on the idea? I am not looking for a list of names yet, that will come later from a

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President's Message (continued)

probable committee assignment. Of course, the devil is in the details, and again, we will probably have a list of names longer than we have **awards to brand. Please let me know if you think this is a good** idea or not, and if you want to be involved with the possible committee to formulate a list of names for branding our awards.

Finally, please consider stepping up and helping guide our Division by running for a NCD office. Feel free to contact me with any questions you might have regarding time commitment and responsibilities. Hopefully, I will have a long list of folks that are interested. GOYA !

Later - VT

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COMMITTEE REPORTS

Reservoir Technical Committee by Joseph D. Conroy and Rebecca Krogman

We're Not Dead Yet! Re-activating the Reservoir Technical Committee of the North Central Division

At the 75th Midwest Fish & Wildlife Conference held 8–11 February 2015, a special symposium titled, “Managing Midwestern Reservoirs: Connecting Watersheds and Anglers with their Fisheries”, was held in an effort to re-engage Midwestern fisheries managers and researchers and to re-activate the dormant Reservoir Technical Committee of the North Central Division of the American Fisheries Society.

In all, the symposium attracted 11 podium and four poster presentations, representing contributions from nine states and at least 17 agencies and universities. The podium presentations captured a wide range of topics and approaches. Rebecca Krogman, Iowa Department of Natural Resources, discussed a prioritization method for new habitat restoration projects, attempting to assign quantitatively ranks to future lake projects based on the project's feasibility, potential for benefit to the public, and current lake status. Importantly, the lake status component was further subdivided into habitat, habitat integrity, and water quality metrics.

Mark Porath, Nebraska Game & Parks Commission, took a broad view of impaired reservoir restoration, describing the lessons learned from nearly 20

years of reservoir projects in Nebraska—Engage your Partners, Assemble your Team before your Plan, Think Long Term, and (perhaps most importantly) Party upon Completion! Mark demonstrated the wide range of projects successfully completed by the broadly popular aquatic habitat program in Nebraska.

Rounding out the morning session, Debra King and David Kittaka, Indiana Department of Natural Resources, in a set of presentations described (1) the responses of Largemouth Bass and Bluegill populations to and the Largemouth Bass fishery response to Gizzard Shad establishment in West Boggs Lake, IN; and, (2) the process of planning and implementing a total-lake renovation to remove the recently established forage fish species. Establishment of Gizzard Shad disrupted the dynamics of the bass-Bluegill community and the popular Largemouth Bass fishery. Their set of studies emphasized the importance of communicating fisheries management data to engage consumers.

After the lunch break, Anna Settineri, Ball State University, described a Channel Catfish age and growth dataset from five Indiana reservoirs which sought to establish Von Bertalanffy growth parameters and mortality estimates derived using Bayesian-informed models. Finding similar, low mortality across reservoirs, wheth-

er attributable to natural or fishing sources, there appeared to be potential to expand opportunities for catfish angling in Indiana.

Jason Doll, also from Ball State University, illustrated a Bayesian-inference-based optimization approach for yield-per-recruit modeling, using eight years of electrofishing data from Monroe Reservoir, IN. This model focused on the interaction of potential modifications to the existing Walleye length limit under different exploitation and conditional mortality rates. Consequently, better estimating these rates is of particular importance.

Studying Walleye movement patterns with otolith microchemistry, Andrew Carlson, South Dakota State University, identified the effects of a significant flood on the Missouri River during 2011. Movement downstream by Walleye was readily apparent before, contemporaneous to, and after the flood, indicating important inter-reservoir connections under different flow regimes.

Nicholas Haurert, Ball State University, examined movement of age-1 Muskellunge in Eagle Creek Reservoir, IN, using 40 radio-tagged fish tracked weekly, March–November 2014. Home ranges appeared small, with most Muskellunge locations

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apparently related to the presence of nearshore, large woody material.

Kayla Gerber, Kansas Cooperative Fish and Wildlife Research Unit at Kansas State University, used acoustic telemetry and various measures of abiotic factors in an effort to understand the distribution and movement of Blue Catfish, highly mobile reservoir predators in Milford Reservoir, KS. Although the catfish moved throughout the reservoir, they tended to consistently use the mid-reservoir area, highlighting this area as potentially important habitat.

Robert Mapes, also of Kansas Cooperative Fish and Wildlife Research Unit at Kansas State University, considered a relatively new way of conceptualizing recruitment of Largemouth Bass in Hillsdale Reservoir, KS. Specifically, considering the reservoir as a landscape mosaic, recruitment (i.e., relative abundance) appeared dependent on proximity to different habitat “patches”.

Finally, Joseph Conroy, Ohio Division of Wildlife, illustrated continued connections between Ohio reservoir productivity and land cover features. In particular, agriculture-dominated watersheds had reservoirs of higher productivity; consequently, freely-available land cover data may provide an important starting point when managing Midwestern sport fisheries.

Similar to the podium presentations, the four poster presentations demon-

strated diverse approaches to Midwestern (not always reservoir) issues. Mark DuFour, University of Toledo, illustrated the effects of increasing the beam compensation angle when processing hydroacoustic-based estimates of fish abundance. Although these data were collected in Lake Erie, the observed trade-off between hydroacoustic data quantity versus quality transfers to any aquatic system.

Working in a Wisconsin lake (Lake Emily) and reservoir (Stevens Point Flowage), Dan Isermann, Wisconsin Cooperative Fishery Research Unit, USGS, used simulation models to investigate the potential for various minimum length limits to affect yield, harvest, and proportional size of crappies. Ultimately, changes in yield, harvest, and relative stock density of memorable-length crappies were small with implementation of minimum length limits in addition to being directly connected with rates of fishing and natural mortality.

Seeking to define more fully the habitat measures used to inform the current lake status aspect of Iowa’s habitat restoration prioritization method, Rebecca Krogman, Iowa Department of Natural Resources, described the approach to be used and requested input by conference attendees.

James Lukey, Illinois Natural History Survey, reported initial insights on movement of acoustically-tagged Smallmouth Bass in the West Branch

of the DuPage River, IL. Although most movement was relatively local, wider movements were possible and undertaken by some individuals during the project.

The symposium reflected a wide array of research, ranging from traditional population dynamics with new Bayesian twists to novel applications of landscape ecology and otolith microchemistry. All talks were well-attended and seemed to generate interest, providing a promising reactivation for the Reservoir Technical Committee. The symposium also provided a first step on the journey of re-engaging the scientists and managers working on reservoir fisheries in the North Central Division. As the Reservoir Technical Committee moves forward, it will focus on continuing to connect people and projects, communicating outcomes and collaborating with the Reservoir Committee of the Southern Division.

If interested in contributing towards the efforts of the reactivated NCD Reservoir Technical Committee, contact us at: ncd.reservoirs@fisheries.org.

Joseph D. Conroy, Co-Chair, Ohio Department of Natural Resources, Division of Wildlife, Inland Fisheries Research Unit

Rebecca Krogman, Co-Chair, Iowa Department of Natural Resources, Fisheries Research Station

Esocid Technical Committee by Dave Kittaka



North Central Division American Fisheries Society

Esocid Technical Committee
July 24, 2014



Chair – Dave Kittaka: IDNR (dkittaka@dnr.IN.gov)
Immediate Past Chair – Dave Woods: MDC (Dave.Woods@mdc.mo.gov)
Chair Elect - Cory Kovacs, (KovacsC@michigan.gov)

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The following notes highlight discussions from the ETC. business meeting held on the February 8, 2015, Hyatt Regency, Indianapolis, Indiana. Technical committee chairs in attendance at the business meeting were Steve Gilbert, WI, sitting in for Jordan Weeks, WI, Dave Woods, MO, Nick Haunert, IN, Curtis Wagner, OH, Rebecca Krogman, IA sitting in for Jonathon Meerbeek, IA, Dave Woods, MO, and Dave Kittaka, IN

Others in attendance:

- Janice Kerns UWSP Coop-unit
- Michael Vasue UWSP FPSC
- Nick Haunert Ball State University
- Andy Richards IN DNR
- Dylan Sickles IN DNR
- Robin Bruegmann IN DNR
- Matt Tomaso IN DNR
- James Skipper IN DNR
- Jeff Malwitz IN DNR
- Jeremy Price IN DNR

Dave Kittaka opened the meeting of the North Central Division of the American Fisheries Society’s Esocid Technical Committee at 4 pm, February 8, 2015.

The Business Meeting minutes from the, Summer business meeting in La Crosse WI was approved without amendment.

Past and Future Leadership

Cory Kovacs from MI DNR has accepted the Chair Elect of the NCD-ETC. Cory is a fisheries biology stationed at the Newburg office in Newburg MI in the UP.

are only 5 books left. If you are interested in a book contact Cory Kovacs.

Below is Cory’s Business card:

Cory K. Kovacs
 Fisheries Biologist
 Eastern Lake Superior Management Unit
 Michigan DNR-Fisheries Division
 Newberry Operations Service Center
 5100 State Highway M-123
 Newberry, MI 49868
 Office: (906)293-5131 ext. 4071

2016 Hugh C. Becker International Muskie Symposium

The International Muskie Symposium with Muskies Inc. will be held in Minneapolis, MN March 13-15, 2016. Steve Pallo from IL is the Symposium Chair. See attached Muskie symposium announcement. It was suggest that this announcement be made available to the Southern division of AFS since they will be relatively close to the symposium. Dave Kittaka will make contact with Southern Division.

Summer Business Meeting

The 2015 summer meeting will be in Brookings SD on July 20 to 24. See announcement

The WTC Chair Elect John Bruner, Alberta Canada, announced his intent to have the 2016 Summer Joint Meeting in Chicago, IL with meeting/workshop held in the Field Museum and a social at the Shed aquarium more to come as arrangements are finalized.

International Pike Symposium Book Sales

The price of the International Pike Symposium book was dropped to \$15 after the winter meeting. Currently there

Budget – Andy Jansen Submitted a Budget Break Down of the ETC. Finances

2014 Esocid	Description	Expenses	Deposits	Balance
1-Jan				\$2,521.48
23-Jun	Plaque	\$25.00		
30-Jun	Pike Book		\$15.00	
30-Jun	YTD Interest		\$ 5.00	
		\$25.00	\$20.00	\$2,516.48

The State updates were informative and most all the states responded via email, which are attached below. The meeting discussion was interesting this year, the Indiana DNR south region fish hatchery managers attended the meeting and added an interesting perspective from the culture side of the Indiana Muskie program. PIT tagging information from IA will be nice reference for the Indiana Webster Lake Broodstock survey in 2015.

Thanks to all that attended this year’s Midwest and the ETC. meeting.

The meeting adjourned at 4:50pm.

Meeting minutes prepared by ETC. chairman Dave Kittaka

Esocid Technical Committee—State Chapter Updates

Dakota Chapter Esocid Update by Brian Blackwell (Brian.Blackwell@state.sd.us)

Northern Pike Bioenergetics in

Lake Pactola, South Dakota, Natalie Scheibel

Bioenergetics models, along with temperature, diet, and growth data, were used to estimate the consumption of Northern Pike in Pactola Reservoir. Northern Pike under 600 mm acquired 71% of their total annual energy (% J/g/y) from small Centrarchids. Northern Pike greater than 600 mm obtained 50% of their total annual energy from Rainbow Trout. Based on annual consumption estimates and the cost of stocked Rainbow Trout, a single Northern Pike living to an average-age culminates in a cost of about \$200 to \$300. One management approach to reduce Rainbow Trout consumption by Northern Pike is to stock larger Rainbow Trout (355 mm), which would be less vulnerable to Northern Pike predation because of gape limitations.

Muskellunge Sampling in

Eastern South Dakota, Brian Blackwell

Muskellunge *Esox masquinongy* have proven difficult to sample with standard fish sampling gears in South Dakota. We compared muskellunge springtime catches in two

trap net sizes [large trap nets (1.5 x 1.8-m frames, 1.5-m diameter hoops, double throated, single 1.5 x 30.5-m lead and 19-mm knotless mesh) and small trap nets (0.9 x 1.5-m frames, 0.9-m diameter hoops, single throat, single 0.9 x 15.2-m lead and 19-mm knotted mesh)] and we estimated the population abundance of adult muskellunge in three eastern South Dakota waters. Sampling with both large and small trap nets was completed during the spring of 2013 and 2014 soon after ice-out. More muskellunge were collected in large trap nets than small trap nets at all three lakes. Total length of collected muskellunge was not significantly different between large trap nets and small trap nets. Low population abundance (i.e., < 0.5 fish/ha) limits catch per unit effort (CPUE) values in the waters we studied. As a result, the likelihood of collecting 75 to 125 individuals needed for robust analysis of length-structure indices is low and long-term monitoring is needed for population assessment. Sampling with large trap nets in the spring combined with population estimates will improve the ability to monitor and manage muskellunge when compared to sampling with small trap nets.

Iowa's Winter 2015 Esocid Update by Jonathan Meerbeek

Jonathan.Meerbeek@dnr.iowa.gov)

Thirteen lakes and impoundments are currently being managed as Muskellunge fisheries in Iowa. In 2015, yearling muskellunge will be stocked into a 130-acre County Conservation managed gravel quarry in southeast Iowa to provide another unique angling opportunity for Iowans.

Big Creek/Brushy Creek Muskellunge

Emigration Study (Principle Investigators:

Ben Dodd Ben.Dodd@dnr.iowa.gov and

Michael Weber mjw@iastate.edu)

Reservoir fish populations are often supplemented or maintained through stocking to provide anglers with angling opportunities. Anecdotal information from many states including Minnesota, Iowa, and Illinois suggests that a substantial number of these fish do not stay in the systems where they are stocked but instead escape downstream over spillways and through dams. To better retain walleye and muskellunge in Big Creek Lake, the Iowa DNR has installed a physical barrier at the spillway. The barrier consists of eight chain link top rails stacked in a

horizontal fashion with 2" openings between rails. The barrier may be effective at stopping escapement of adult fish but escapement rates of smaller juveniles could still be high, negatively impacting biologists' ability to increase predator densities. The effectiveness of this barrier at reducing fish escapement has not been evaluated; yet this information is needed before similar barriers can be constructed in other locations.

To quantify walleye muskellunge escapement from Iowa reservoirs with and without a barrier, we propose to install passive integrated transponder (PIT) tag antennas on the Brushy Creek (no barrier) and Big Creek (spillway has a barrier) spillways during the summer of 2015. Each year, stocked age-0 walleye and age-1 muskellunge will be injected with a PIT tag for individual recognition and stocked into both Brushy and Big Creek. Additionally, adult walleye and muskellunge will be collected in springtime from each reservoir using a combination of gill nets, trap nets, and electrofishing. Captured fish will be measured for

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length, weight, and gender and a PIT tag will be implanted before the fish is released. The PIT tag antenna will then be used to identify individual fish that pass over the spillway of each reservoir. Environmental data (e.g., temperature, water level, flow rates, time, etc.) will be monitored continuously and used to evaluate factors influencing muskellunge escapement. Escapement rates and influential factors will be compared between the reservoir with a physical barrier (Big Creek) and the control reservoir without a physical barrier (Brushy Creek). PIT tagging and recapture events will take place for 5 years from spring 2016 through fall 2020, providing sufficient time to collect information about escapement under a wide range of environmental conditions. This information will then be used to guide management decisions about barrier installation at the study reservoirs and other reservoirs throughout Iowa.

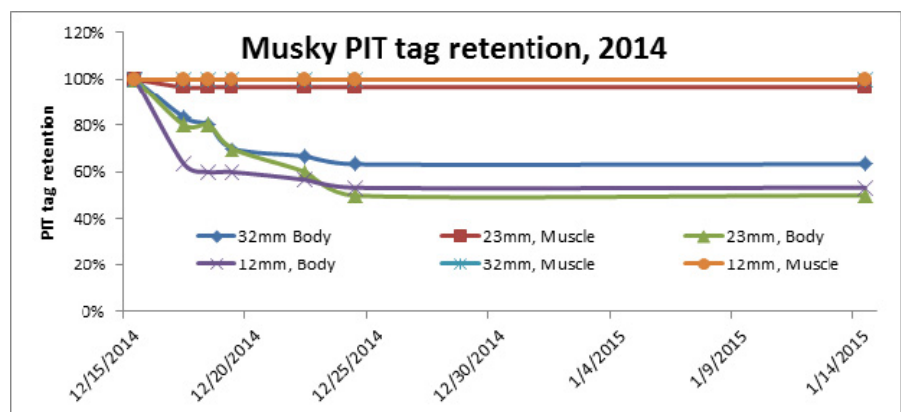
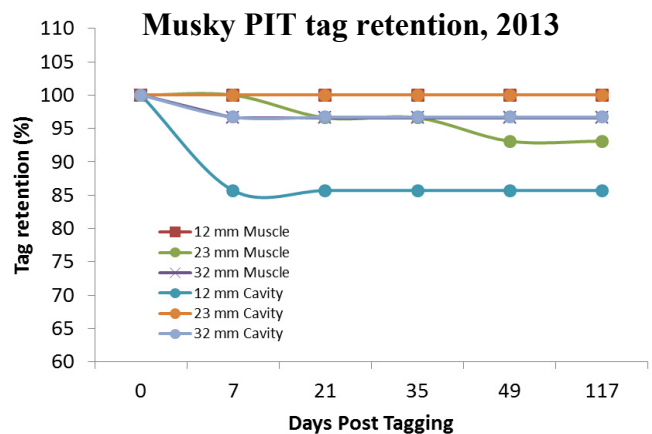
To complement our PIT tagging study and better understand walleye and muskellunge behavior, we propose to monitor movements and habitat use of these species through the use of acoustic telemetry in Big Creek. Fish will be tagged and then located during the open water and safe ice seasons using a handheld acoustic receiver. Fish locations will be marked with GPS and transmitter frequency, time of day, water depth, and surface temperature will be recorded. Fish locations and habitat use will be overlaid onto topographic maps and exported into GIS databases. Using GIS, movement rates, habitat use, home range size, etc. will be calculated. Additionally, the number of fish implanted with acoustic tags will provide an independent estimate of escapement and fish attributes (e.g., species, size) and environmental conditions (e.g., flow, temperature) will provide insights into mechanisms influencing escapement.

Effects of Passive Integrated Transponder (PIT) Tag Size and Implantation Site on Tag Retention, Growth, and Survival of Juvenile Muskellunge

(Principle Investigators: Mark Flammang Mark.Flammang@dnr.iowa.gov and Michael Weber mjw@iastate.edu)

Iowa DNR and Iowa State have been investigating the effects (survival and tag retention) of implanting three different sizes of PIT tags in two locations (body cavity and dorsal musculature) of small (6-10 in) Muskellunge. Mortality has been very low, but tag retention rates did differ substantially among tag sizes and locations (Figure 1). These results will be used to guide fisheries managers as they design projects to evaluate emigration.

Figure 1. Effects of PIT Tag Size and Tagging Location on Tag Retention in Juvenile Muskellunge, 2013 (top) and 2014 (bottom)



Factors Affecting Mercury Concentration in Iowa Fishes

(Principle Investigator: Darcy Cashatt Darcy.Cashatt@dnr.iowa.gov)

Study Objective – Evaluate how mercury concentration in Iowa sport fish is related to fish trophic status, length, weight and age, and determine if these relationships are true across a variety of landform, lake type and limnological gradients. Use these relationships to provide anglers with information about mercury in Iowa sport fish that they can use to guide their decision on where to fish and what to harvest.

Mercury concentrations of various sizes and ages of Northern Pike collected from natural lakes and the Mississippi River were all below 1.0 mg/Kg guideline for no consumption. Two Muskellunge were found to be above the 1.0 mg/Kg threshold.

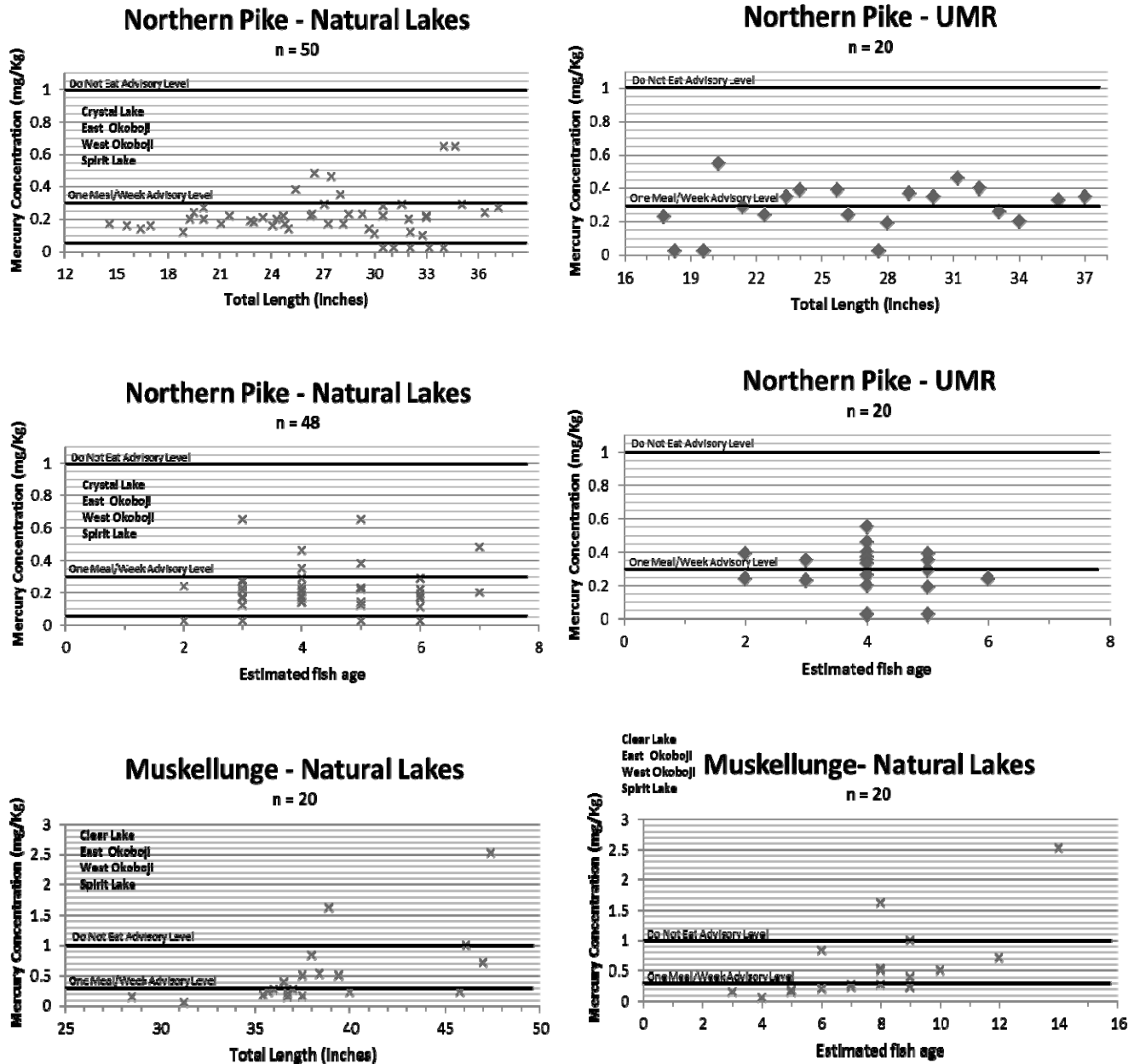


Figure 2. Mercury Concentration (mg/Kg) for Northern Pike (natural lakes and upper Mississippi River) and Muskellunge (natural lakes) by Total Length (inches) and Age

Missouri Muskie Report – Winter 2015

By Dave Woods, Muskellunge Program Coordinator (Dave.Woods@mdc.mo.gov)

Currently, five lakes in Missouri are managed for muskies: Pomme de Terre Lake (7,820 ac.), Fellows Lake (820 ac.), Hazel Creek Lake (530 ac.), Henry Sever Lake (158 ac.) and Lake 35, Busch Conservation Area (62 ac.). Henry Sever Lake is included in the program as a surplus stocking location only.

The Show-Me Muskie Project is a volunteer reporting program in which the Missouri Department of Conservation invites conservation-minded Muskie anglers to help evaluate Missouri's muskellunge management program. Volunteers include a wide cross-section of Muskie anglers at all levels of skill and experience. Missouri's Muskellunge Plan sets Muskie angler catch-rate objectives, which can be documented most efficiently by anglers themselves. The 2014 Show-Me Muskie Project data is currently being received from anglers across the state. That data will be summarized and a report will be available in the Show-Me Muskie Project newsletter in the spring of 2015.

Due to poor hatchery survival of Muskie fingerlings at Spirit Lake Fish Hatchery (Missouri's source for Muskie fingerlings) in 2013, staff was only able to meet about 37% of the stocking commitment for Muskie lakes in Missouri that year. In the fall of 2014, some program lakes received an increased stocking rate to compensate for 2013's shortage. In addition, Pomme de Terre receives a pulse stocking of 8,000 fish in 2014, which occurs in

one out of every six years, as outlined in Missouri's Muskie Management Plan. Muskies averaged 12.4 inches in length and stocking numbers are below:

Fellows Lake	1,486
Pomme de Terre.....	8,263
Hazel Creek	880
Busch Lake 35	64
Henry Sever	318
Total	11,011

The Missouri Department of Conservation is partnering with the Pomme de Terre Chapter of Muskies, Inc. to resurrect a Muskie fishing brochure no longer in print by MDC. While a redesign of the publication is scheduled for 2016, Muskies, Inc. offered to pay for an additional printing of the current Muskellunge in Missouri brochure until the updated brochure is available. The Pomme Chapter of Muskies, Inc. also purchased additional rolls of bird netting for MDC's Lost Valley Hatchery. The bird netting is used to protect Muskie fingerlings from predation in the hatchery rearing ponds. These are just mores examples of the productive relationship between Missouri Muskie anglers and MDC.

Spring fyke-net survey data and Show-Me Muskie Project data from 2014 was provided during the ETC. Summer Business Meeting and can be found in those meeting minutes.

Nebraska Esocid Technical Committee Report 2015

By Keith Koupal (Keith.Koupal@nebraska.gov)

The following report of activities was submitted to the Esocid Technical Committee meeting in July 2014. Nebraska has limited use of esocids within our systems. We are managing to stock both Muskie and northern pike in the requested systems at 2-3 year intervals. Space to culture esocids to a desirable size and the expense involved with raising them to this size are limiting factors for increased production and stocking. Many waters seem unable to successfully recruit these species. Thus, a statewide 40 inch minimum is in effect for Muskie and many stocked waters have a 30" minimum on northern pike. Recently, an interest in enhanced use of northern pike in our systems has been developed and future management may try to incorporate this esocid into our lentic communities. Stocking of advanced fingerling northern (approximately 300 mm long) in October was employed in 2014 at most waters to achieve a better return to creel and try to augment sportfishing opportunities. Two main

items are being investigated concerning esocids in Nebraska.

Northern pike production has hit a snag. There has been a decline in hatch percentage of broodstock spawned from our National Refuge lakes near Valentine Nebraska. An experimental design to test the efficacy of using saline and a buffer/saline mixture to enhance northern pike egg fertilization and subsequent eye-up in our Production Sections northern pike was employed this past spring. Eye-up percentage generally increased with the use of buffer solutions but was still below optimum values that were desired for management production (<60%) and variability of eye-up is still too high for staff to feel comfortable with the protocol. Additional trials are planned that will attempt to isolate the impacts of buffer solutions by splitting eggs from larger females into control and experimental units as well as reducing the amount of

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milt used for fertilization so milt source for both experimental units are from similar parent stock. Adult collection may move to Dewey Lake because individuals from this water have shown greater relative condition the past few years.

A northern pike tagging project was started at Lake Wanahoo in March 2012 to determine angler exploitation by biologist Jordan Katt (questions can be referred to him). This study plans to determine northern pike growth and survival in Lake Wanahoo. Northern pike are being collected with trap nets in the spring and are floy tagged. The 2014 population estimate was 406 (1/acre), which was a 77% decrease from 2013. Several factors likely caused the estimate to decrease that drastically, such as low spring water levels (up to 4 foot lower than previous

years) and wider than normal temperature fluctuations. Mean growth of male northern pike was 78 mm/year while mean growth for females was 114 mm/year. Tagging is scheduled to continue in 2015.

The only other esocid mention in research activity was a compilation of muskellunge sampling, growth and condition for all Nebraska waters. This exercise used the existing sampling database from the Nebraska Game and Parks Commission Fisheries Division to determine growth curves, relative weights. The lack of individuals captured by standard sampling techniques indicates a need to specifically sample for this species or potentially cooperate with anglers who may be handling more individual fish than sampling gear.

Ohio Chapter Esocid Winter Update 2015 by Curtis Wagner and Kevin Page, ODNR Division of Wildlife (Curt.Wagner@dnr.state.oh.us and Kevin.Page@dnr.state.oh.us)

Reservoir Escapement and Angler Use of Stocked Muskellunge in Ohio – Project Update

Within four reservoirs, all advanced fingerling muskellunge stocked from 2013 – 2022 are being implanted with passive integrated transponder (PIT) tags. PIT tags are a reliable marker for monitoring muskellunge over long time periods. Emigration of PIT tagged muskellunge is being monitored using PIT tag readers (Oregon RFID Inc.) stationed on shore, below dam spillways. Readers are housed in a PVC case secured to a nearby structure (pole, building), or within nearby structures (gauging station, pump house). Readers are powered using either deep-cycle 12V marine batteries maintained using solar power (Salt Fork Lake) or by connecting directly to AC power located onsite (Alum Creek Lake, Clear Fork Reservoir, and Leesville Lake). Antennas (0/1 AWG welding cable or smaller) are extended from the reader across the width of the spillway and buried several inches within the substrate. Similar designs have been used previously to monitor fish emigration through dams and movement of stream fishes. In addition to PIT tags, all muskellunge stocked within these reservoirs are being tagged with an individually numbered (and yearly cohort colored) T-bar anchor tag (Floy Tag and Manufacturing; type FD-94). Together, PIT tag and T-bar tag data are expected to provide a detailed picture of muskellunge emigration and other population dynamics.

Monitoring of tagged muskellunge within reservoirs is being conducted through reporting of tagged fish by anglers. Anglers will report tagged fish using a designated 1-800 phone number or online via the Ohio Muskie Angler Log (<https://apps.ohiodnr.gov/muskielog/welcome.aspx>). Hand-held PIT tag readers (Biomark 601 Reader) have been supplied to the most productive anglers (5 anglers per reservoir) chosen based on previous catch reports reported in the Muskie Angler Log. The top five anglers for each reservoir caught 40-50% of that reservoir's fish reported during 2008–2011.

In 2013 and 2014, over 16,000 muskellunge have been tagged and stocked, with good post-stocking survival (88% in 2013; 84% in 2014). To date, no tagged muskellunge have been detected below dams. Twelve tagged muskellunge (age-0 and age-1) have been reported by non-muskellunge anglers. An EF sampling trip below Leesville spillway found no tagged muskellunge and one large untagged muskellunge. Historically, ad hoc sampling within dam spillways have only found large muskellunge. A previous long-term tagging study on Clear Fork found that few age-1 and age-2 muskellunge emigrated and a recent published study from Illinois suggested that notable muskellunge escapement begins around sexual maturity (Wolter et al. 2013, NAJFM 33:829-838). Consequently, we do not expect many tagged muskellunge to be detected below the reservoirs for another year or two.

Tagging Trials – Ongoing Assessments Update

Currently, we are using 12 mm tags in the above mentioned reservoir escapement study. However, we are aware that if we increase to a larger PIT tag size, 23 mm for example, we may increase our spillway antenna read range by roughly 300%. Therefore, in a hatchery environment, we tested survival of advanced fingerling muskellunge (248-325 mm TL) implanted with 23 mm PIT tags during fall 2014. During the first trial we implanted tags in the intraperitoneal cavity of 50 fish. Only 54% survived to the following day. For the second trial we implanted 25 fish in the intraperitoneal cavity and 24 fish in the dorsal musculature. Muskellunge exhibited 100% survival to the following day for both groups. We also fin clipped 25 fish as a control during the second trial. All fish, including those from the first trial, were transferred to a pond the following day to be held overwinter. Six fish from the second trial have been observed dead: 1 dorsal implanted (currently estimated at 96% survival); 3 abdomen implanted (currently estimated at 88% survival); 2 controls (currently estimated at 92% survival). We will know final 6-month survival estimates when we drain the pond in spring 2015.

Ohio Muskie Angler Log 2014 Update

The online Ohio Muskie Angler Log (MAL) (<https://apps.ohiodnr.gov/muskielog/welcome.aspx>) was launched online in 2008. Anglers register by setting up a username and password, much like any other user-based internet tool. Consequently, the Ohio Division of Wildlife gets basic user information for a unique angler that can be used in fisheries analyses while the Muskie angler has the ability to tailor their online experience and keep their catch and trip diary online. Of important note is that anglers can go into their preferences and opt in to declare themselves as Reporting All Trips angler. This allows us at the Ohio Division of Wildlife to filter the data to include only those who declared this status when calculating catch-per-unit-effort estimates, while also allows anglers who only want to log in their caught fish to do so without skewing our data analyses. The MAL is a collaborative effort between the Ohio Division of Wildlife and the organized

muskellunge clubs throughout Ohio, whom we have a great relationship with.

Below are some factoids and figures from a recently compiled 2014 Muskie Angler Log summary distributed to the clubs.

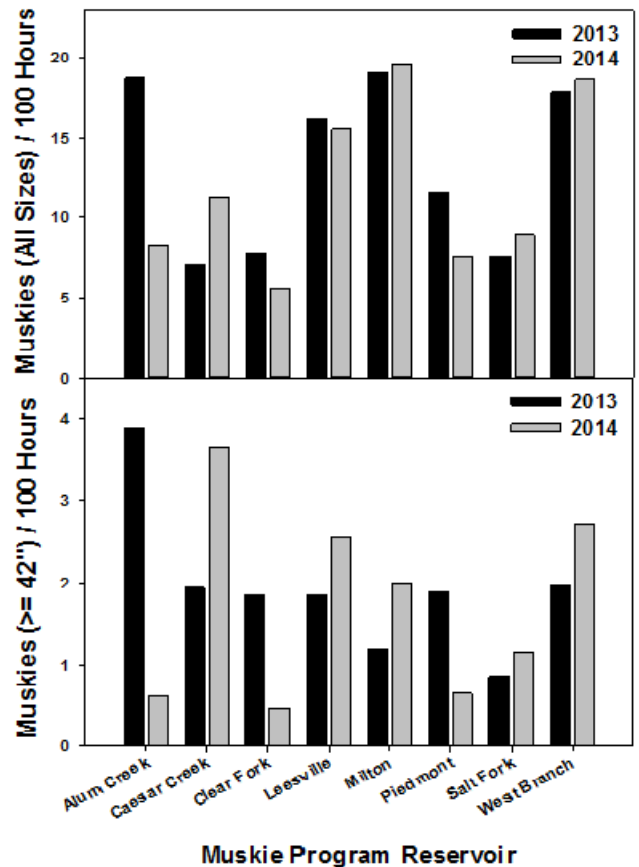
MAL Highlights:

- 16,499 Ohio muskies reported into the MAL since 2008 launch
- 1,904 Ohio Muskie anglers have registered in the MAL since 2008 launch
- In 2014, 181 anglers reported 2,333 Muskies
- 1,192 trips were reported by 83 anglers who committed to report all of their trips during 2014
- Statewide average catch rate in 2014 was one Muskie for every 8.4 hours of angling
- The release rate of reported muskies since 2008 is 98.8%

MAL 2014 Catch Update:

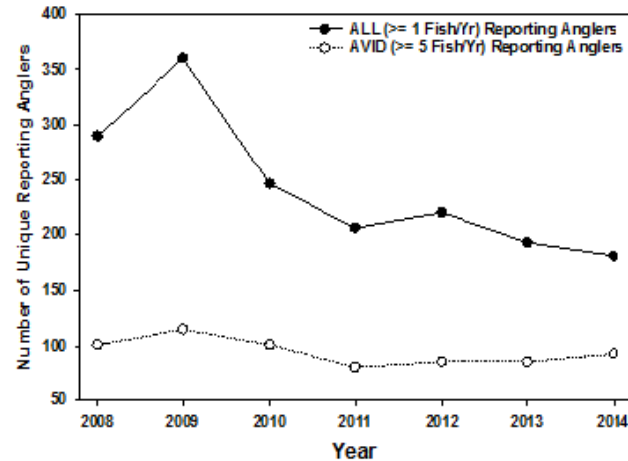
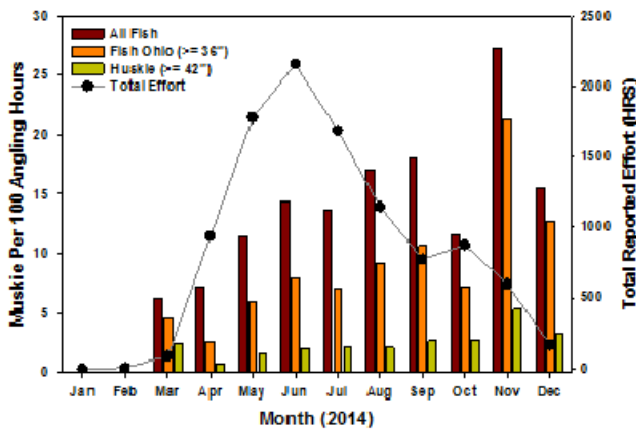
Program Reservoir	Number Caught	Avg. Length	% Caught $\geq 42"$
Alum Creek	132	34.9	15.9
Caesar Creek	131	38.3	27.5
Clear Fork	80	34.9	17.5
East Fork	0	.	.
Leesville	684	37.2	15.5
Milton	146	34.5	8.2
Piedmont	264	35.8	13.6
Salt Fork	105	35.5	8.6
West Branch	713	36.3	14.3

2013 & 2014 Catch Rates: Lake-by-Lake Comparisons:



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Monthly Catch Rates 2014:



MAL Participation Over Time:

We are seeing a decline since the 2008 launch of casual anglers (those reporting 1-4 fish/yr) while maintain a steady base of “avid” anglers reporting 5 or more fish/yr. These categorizations are based solely on number of reported fish, not necessarily trips or hours fished.

Wisconsin Esocid Technical Committee Report-February 2015 by Jordan Weeks

Implement Wisconsin’s Muskellunge Management Plan and coordinate muskellunge management statewide. Specific assignments are:

1. Develop/review regulation guidance and proposals,
2. Develop/review stocking guidance and stocking plans,
3. Develop/review assessment metrics and sampling protocol,
4. Review/update management plan; assess status of fishery,
5. Identify research needs; coordinate statewide evaluations,
6. Maintain/update musky water classifications.

Regulations:

Muskellunge Seasons and Size Limits on Wisconsin-Minnesota Boundary Waters and Nemadji River, Douglas County:

This proposal would establish uniform seasons and size limits for muskellunge on the WI-MN boundary waters as well as the Nemadji River, Douglas County. The open season would run from the Saturday nearest Memorial Day to November 30 (rather than March 1), and would require kept muskellunge be at least 50 inches (rather than 40 inches) on the Mississippi River and St. Croix River boundary waters and the Nemadji River, Douglas County. The minimum length limit on the St. Louis River is already 50 inches.

This season change was requested by anglers in the Duluth/Superior area for the St. Louis River and the length limit change will ensure that regulations are consistent between the Wisconsin and Minnesota waters of the Mis-

issippi, St. Croix and St. Louis rivers, reducing angler confusion and improving ease of enforcement.

Question-Do you favor establishing a uniform open season (from the Saturday nearest Memorial Day to November 30) and requiring that kept muskellunge be at least 50 inches on the WI-MN boundary waters (Mississippi, St. Croix and St. Louis rivers) and the Nemadji River, Douglas County?

Spider Lake Chain, Tiger Cat Chain, Mud/Callahan lakes, and the North Fork Chief River, in Sawyer County:

This proposal would allow a muskellunge to be kept if it is at least 40 inches in Spider Lake Chain (includes Big Spider, Little Spider, Clear, Fawn, and North lakes), the Tiger Cat Chain (includes McClaine, Upper Twin, Lower Twin, Tiger Cat Flowage, Burns, and Placid), Mud/Callahan lakes, and the North Fork Chief River from the Tiger Cat dam downstream to Mud Lake in Sawyer County.

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These waters have high numbers of slow-growing muskellunge and are currently managed under a 28-inch minimum length limit. The daily bag limit would remain at 1 fish.

The management goal for these waters is moderate- to high-density muskellunge populations that support high angler catch rates and provide occasional opportunities to encounter memorable-size fish. This regulation proposal is expected to have no biological impact. It will meet social desires (based on responses to a recent Conservation Congress advisory question) to protect these fish with a

higher length limit rather than relying on a voluntary release rate that is presumed to be as high as 98%.

Question-Do you favor allowing a muskellunge to be kept if it is at least 40 inches on the Spider Lake Chain (includes Big Spider, Little Spider, Clear, Fawn, and North lakes), the Tiger Cat Chain (includes McClaine, Upper Twin, Lower Twin, Tiger Cat Flowage, Burns, and Placid), Mud/Callahan lakes, and North Fork Chief River from the Tiger Cat dam downstream to Mud Lake in Sawyer County?

**Wisconsin Muskellunge Standing Team Notes
August 26, 2014
Cabela's, 1499 Lombardi Avenue, Ashwaubenon, WI 54304**

1. In attendance – Tim Simonson (CO), Scot Stewart (SAD), Aaron Cole (NAD – Barron), Steve Hogler (EAD – Green Bay), Dave Rowe (SAD – Fitchburg), Jordan Weeks (WAD – La Crosse), Greg Matzke (NAD – Florence), Luke Roffler (SAD-Sturtevant), Jeff Kampa (SS-Spooner), Mark Luehring (GLIFWC-Odanah), Don Gilbert (Muskellunge Clubs Alliance of Wisconsin), Joe Weiss (Congress-Washburn Co.), Roger Sabota (Congress-Oneida Co.), John Aschenbrenner, Dan Isermann (UWSP), Janice Kerns (UWSP), Justin Van De Hey (UWSP), Mike Donofrio (EAD-Peshigo), Steve Fajfer (Wild Rose Hatchery), Jesse Landwehr (Hatchery Supervisor), Mike Baumgartner (Besadney Anadromous Fisheries Facility), Max Wolter (NAD-Hayward). A special THANKS to members of the Titledown Chapter, Muskies, Inc., for providing interested team members with an opportunity to fish out on Green Bay, including Bob Volm and Bill Gerndt for coordination, and to Ron Myslik, Steve Haas, and Mike Wichmann for sharing time in their boats! And, thanks to John Aschenbrenner, who also took a couple of us out fishing! THANKS GUYS!
2. Team Structure, Charge, and Work Plan - We reviewed the team structure and team charge ([Musky Team Web Site](#)) – no changes were suggested. Outstanding Work Plan objectives: a) Explore the idea of changing the 28” minimum lakes to “no minimum” and to also consider a protected slot proposal, if accompanied by a convincing modeling effort; b) To specifically consider removing the 2500 cap on selected lakes to allow for more efficient management of these fisheries. One idea was to cap small lakes to provide enough fish for larger lakes. We will explore the implications of this idea and discuss at a future meeting; c) add a habitat element to our general charge, to specifically look at the weed control issue as it relates to fish mortality, and to develop more specific research topics related to bulrushes, critical habitat designation/sensitive area designation, etc.; d) pursue the use of fin rays for aging muskies (including validation of fin rays from known-age fish), and exploring the idea of PIT tagging every musky handled in our surveys (may require external funding).
3. Habitat Protection and Improvement – a) AIS Plant Control – impacts on fish – Andrew Rypel (SS) was hoping to attend but was unable to make it. He provided a write-up of a proposal to evaluate the impacts of plant management on fish populations. The proposal was distributed to team members (via email), who provided comments directly to Andrew; b) WI Conservation Congress WWSC – Habitat Sub-committee – Joe Weiss provided a brief update on an advisory question that was being developed for the 2015 Spring Hearing questionnaire, related to seeking support for more research and on-the-ground habitat management in warm-water systems.
4. Harvest Regulations – The following proposals were reviewed and discussed:
 - a) 2014 Conservation Congress Resolutions ([Link to 2014 Resolutions](#)):
 - i. 030214 – 50” minimum length limit – Holcombe and Wissota, Barron (63-12), Brown (21-16), Chippewa (11-32), Dunn (65-13), Eau Claire (63-18), Trempealeau (21-9), TOTAL (244-100) – Approved;
 - ii. 050114 – Reinstate dark-house spearing WI/MI waters Brown (26-16), Marinette (22-9) – Reject;
 - iii. 080114 – Allow trailing one line with live bait while casting (38-18) – Defer to statewide trolling proposal;
 - iv. 640214 – Allow trailing one line live bait while casting – (34-41) – Defer to statewide trolling proposal;
 - v. 640514 - Allow trolling while positioning when fishing (39-26) – Defer to statewide trolling proposal.

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- b) 2015 Fisheries Management Proposals:
 - i. 50” minimum length limit on Garden and Jackson Lakes, Bayfield Co. (connected to Lake Namekagon) – Approved (could Garden be considered housekeeping?);
 - ii. Eliminate 3-line trolling in 5 Oneida County Lakes – defer to statewide trolling proposal;
 - iii. Eliminate 28” minimum and revert to statewide 40” - Spider Lake Chain, Tiger Cat Chain, Mud/Callahan Lakes, Chief River (Sawyer County); Solberg Lake (Price County) – Approved.
 - iv. 50” minimum length limit/Saturday nearest Memorial Day to November 30 season on WI-MN boundary waters – Approved.
- c) 2017 Fisheries Management Proposals:
 - i. Statewide Trolling Proposal – Because the rule adopted by the Natural Resources Board in May 2014 included a 3-year sunset, we’ll need to come up with a new proposal for the 2017 Spring Fish and Wildlife Hearings (to be effective in 2018). We discussed the logistics but no specific proposals were advanced; this topic will need to remain on the front burner.
- 5. Information and Education – Max Wolter gave us an informative presentation on the work he and Jeff Kampa are doing in the Hayward area with PIT tags and using local guides and Muskies, Inc., club members to record recaptures of tagged fish. He discussed the many benefits of the tagging (and working in cooperation with area anglers), including individual growth increments, spawning site fidelity, stocking success, migration rates, and estimation of population size and survival. There are some issues with data management (particularly with stocking tagged fish, in terms of getting that information into the database), but those issues are being addressed, so the new interface should be well-equipped to handle PIT tags into the future.
- 6. Propagation/Stocking
 - a) Comparative Survival of pellet-reared muskellunge – We received an update on the study from Justin Van De Hey and discussed logistics with Steve Fajfer for the upcoming fall stocking and evaluation, including schedules for the pond harvest and hauling, and we reviewed the methods for the fall shocking. In addition to the established methods, we recommended that any yearling fish captured should be PIT Tagged for future identification.
 - b) Implications of eliminating the 2500 fish Cap on large waters – I had hoped to start the discussions, but we did not have sufficient time to discuss this issue. We will carry it over to the next meeting.
 - c) [Brood Stock Management](#)
 - i. 2014 Spawning/rearing report – A written spawning report was provided for AOH by Bruce Underwood (unable to attend); GTH was unable to provide a report due to commitments related to the anniversary celebration scheduled at that facility. I will try to get a report from Neal and send it out.
 - ii. Evaluation of the Brood Stock Management Plan – Update – Justin Van De Hey provided an excellent summary on the evaluation of our brood stock management plan, a study that was recently completed by Zeb Woiak. Generally, the plan is working as designed and we are doing a decent job at stocking a product with the appropriate genetic diversity.
 - d) GL Spotted Musky Update – Steve Hogler provided an update on the GLS musky program. Wild Rose has received about 12,700 fingerlings from Lake St. Clair via Michigan DNR in exchange for fingerlings from AOH for stocking in the Upper Peninsula. The fish will be reared overwinter and into next summer and stocked in the GLS brood lakes as yearlings (15”+). Steve expects to have about 8,000 available, in total; remaining fish will be stocked towards GLS quotas. Jesse Landwehr and Mike Baumgartner also provided an update on pond improvement at the Besadney AFF (Kewaunee). They will be expanding production of GLS muskies from Fox River eggs to 2 ponds at BAFF for stocking directly back into Green Bay. Much financial support has been pledged by local musky clubs and the Musky Clubs Alliance to complete this project.
- 7. Muskellunge Surveys and Assessments – We discussed three topics related to surveys and assessments:
 - a) There was a proposal at our last meeting that we investigate the idea of PIT tagging ALL muskies handled in our surveys. Based on a quick summary of the total number of fish entered in the database annually from 2005-2013, the average number of fish handled was about 1,953. That would equate to a total cost per year of about \$4,590. After some discussion, it was agreed that we proceed with this recommendation, modify the FM Handbook section on musky management, secure funding, and

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- b) Validation of fin-ray aging with known-age (PIT tagged) fish – This project is ongoing, with some effort in NW WI, under the direction of Jeff Kampa. We would like to see a more comprehensive effort to inventory all the known-aged fish around the state. Derek Crane, a research associate with Lake Superior State University, has expressed an interest in coordinating an effort to pull all this information together. He will be working with Jeff and Dan Isermann to develop a proposal and seek funding from the Hugh Becker Foundation.

8. Research

- a) Evaluation of Methods to Estimate Musky Population Metrics in Northern WI Lakes - Janice Kerns and Daniel Isermann, UWSP, have developed a project proposal to evaluate variability in muskellunge populations through time. They will be conducting back-to-back population estimates on a few selected trend lakes in order to measure inter-annual variation in population size. A copy of the study proposal was emailed to team members for review. Comments should be returned to me, Janice or Dan.
- b) Dan Isermann is working on developing a project proposal to study fingerling muskellunge behavior (and survival) just after stocking with radio telemetry. He will also be seeking funding, including writing a grant application with the Becker Foundation.
- c) We spent some time reviewing our research needs and priorities with Jeff Kampa. Jeff compiled the results of this effort, which was used in a larger exercise for Science Services to develop broader, program-wide priorities for research in the coming biennium. The following were identified and ranked as “High” priority by the Musky Team: Age validation of nonlethal aging structures; Performance of pellet-reared vs. minnow-reared fingerling muskellunge; Efficacy of iodophor treatment of muskellunge eggs for control of VHS; and Complete the spawning habitat model. The following topics were ranked as “Medium” priority by the team: Validate existing methods and develop alternative methods to estimate population metrics for adult muskellunge in northern lakes; and development of musky habitat restoration techniques. The following were ranked as “Low” priority: Determine the impacts of trolling on muskellunge populations; and Influence of Climate Change on muskellunge.

9. FYI - Upcoming Meetings

- a) Fall WDNR Biologist’s Meeting – October 22-23, 2014 - Oshkosh
- b) 2015 Musky Team Meeting – Late August, Green Bay
- c) International Musky Symposium, Muskies, Inc., Twin Cities, Spring 2016

Research Priorities Identified by Fisheries Management Species and Policy Teams			
	MUSKELLUNGE		
# ID	Project Title	Priority	Summary
1	Age validation of nonlethal aging structures	H	Accurate age determination of muskellunge using nonlethal aging structure is needed to determine appropriate stocking strategies and rule proposals. Anal fin rays appear to provide clear annual growth increments and be collected without sacrificing fish. Several year classes of stocked muskellunge are recruiting to adult sizes and could provide known age samples to validate anal fin ray ageing. Age validation of scale samples can also be conducted and age correction factors may be developed for scale aging.
2	Performance of pellet-reared vs. minnow-reared fingerling muskellunge	H	Rearing muskellunge on a pellet diet and finishing with fish forage is less costly and reduces biosecurity risks compared to exclusively rearing fish on a fish forage diet. We recommend continuing the production and performance evaluation study that is underway.
3	Efficacy of iodophor treatment of muskellunge eggs for control of VHS	H	The current treatment protocols to eliminate VHS from eggs collected from wild broodstock were developed with the best available science. Specific studies validating the efficacy of VHS treatment of muskellunge eggs would be useful to facilitate acquiring gametes from sources populations found in systems containing VHS. In particular, the Great Lakes spotted muskellunge restoration program in Green Bay would benefit from reliable disinfection techniques that would allow Wisconsin to obtain gametes from Great Lakes sources.

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Research Priorities Identified by Fisheries Management Species and Policy Teams (continued)			
# ID	Project Title	Priority	Summary
	MUSKELLUNGE		
4	Validate existing methods and develop alternative methods to estimate population metrics for adult muskellunge in northern lakes	M	Ceded territory safe harvest levels are based on adult population estimates. Mark recapture population estimates are used for up to two years after the estimate. A regression model is used to predict adult abundance when recent estimates are not available. This project would validate existing models and metrics used in modeling as well as develop alternative models to predict adult muskellunge abundance.
5	Complete spawning habitat model	H	An incomplete spawning habitat model should be finalized and validated to direct restoration projects on systems with degraded spawning and to identify potential spawning areas in systems being surveyed.
6	Determine the impacts of trolling on muskellunge populations.	L	The biological effects of trolling on muskellunge is a frequently debated issue. Obtaining additional scientific information on trolling catch rates compared to other angling methods and knowing the fate of troll-caught fish could address important questions in this debate.
7	Habitat Restoration	M	Habitat improvement projects for muskellunge are uncommon partly due to a lack of information on appropriate approaches. The Warmwater Committee of the Conservation Congress has expressed an interest in conducting more warmwater habitat improvement projects and would like guidance on conducting restoration work.
9	Influence of Climate Change on muskellunge	L	Climate change has been implicated in habitat and community changes in aquatic and terrestrial habitats. We lack information on direct and indirect effects of climate change on muskellunge populations. Climate change impacts on muskellunge could be dovetailed with ongoing climate change research. If existing climate change research is unable to address impacts on muskellunge a directed effort to describe potential impacts and suggest mitigation strategies should be undertaken.

Indiana Esocid Technical Committee Winter Update 2015

By David Kittaka IDNR

Muskellunge Tracking
 Nicholas Haunert, nwhaunert@BSU.edu
 Ball State University
 Muncie, Indiana

The objective of this study was to determine the movements and habitat selection of stocked age-1 muskellunge in Eagle Creek Reservoir. Forty, 12 inch juvenile muskellunge were provided by the Indiana Department of Natural Resources and were tracked in Eagle Creek Reservoir using radio tags. The tags were surgically implanted at East Fork State Fish Hatchery in March of 2014 and stocked on March 29 at the marina in Eagle Creek Park. The tags had a battery life of 257 days and tracking is taking place weekly. Fish were tracked from March to December. Results suggest muskellunge moved little throughout the reservoir and remained close to the shoreline during the tracking period. The fish selected timber the most over other habitat types. A habitat estimation of Eagle Creek Reservoir found that less than 5% of the reservoir was typical habitat for muskellunge. Additionally,

during the last week of April, 24 of the fish disappeared. Some of the remaining fish also disappeared as the summer continued. There was one fish found in a bordering gravel pit and six were found upstream in Eagle Creek. Also, four fish were tracked on shore in July. The remaining missing fish could have been preyed on by predatory birds, passed through the dam, or traveled further upstream out of the reservoir.

General Survey

The general survey of Eagle Creek Reservoir began during the middle of July to study how stocking muskellunge are affecting other fishes. This survey has been conducted annually from 2012 to 2014. A variety fish species have been collected although no muskellunge were collected during the survey.

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Webster Lake
 North Webster Indiana
 Jeremy Price, jprice@dnr.in.gov
 North Region Fisheries Supervisor
 IDNR's Division of Fish and Wildlife
 Columbia City, Indiana

Angler concerns over a lack of small fish prompted our biologists to take a closer look at spring trapping data collected during our annual brood collection effort. This revealed a concerning trend of an increasing average size of fish collected and a steady decline in the number of muskies < 34 in. The results seem to imply recruitment problems. There are a number of hypotheses as to what may have changed since the heyday of the mid 2000's including a decline in size and condition of Muskie fingerlings being stocked, habitat issues related to aquatic vegetation management, and predation of young muskies by a dense adult population. To gain a better understanding of what the Webster Lake population look like, we

plan to repeat an extensive spring trapping survey, a stand-ard fishery, and an angler creel survey that were completed in 2005. Steps have already been taken to grow the hatch-ery fish larger in hopes of correcting the issue. We also plan to split our 2015 year class stockings into two lots, one of which to be stocked in late October (3/acre) and the other to be stocked in spring of 2016 (2/acre). We intend to PIT tag all of these fish for up to 3 years to help assess recruitment of both lots into the fishery. Finally, while past creel surveys indicate that harvest of muskies is very low, as a precaution to protect our broodstock source, we have proposed increasing the minimum size limit on muskies in Webster Lake from 36 inches to 40 inches.

River and Streams Technical Committee

The 27th Annual Spring meeting of the Rivers and Streams Technical Committee (RSTC) was held in March 31st and April 1st, 2015, at the Rock Island Conservation Club / Milan, Illinois. This year's meeting focused on the "Small Streams" and any related subjects as well as other topics related to the river and stream systems across the north central division. It was a wonderful informal setting with 100's of years of professional experience in the room sharing and exchanging ideas and was a great success.

Business Meeting Minutes by Andy Jansen, NCD AFS Secretary-Treasurer



NORTH CENTRAL DIVISION OF THE AMERICAN FISHERIES SOCIETY

Vince Travnichek, President, Vince.Travnichek@mdc.mo.gov
 Phil Moy, Immediate Past President, pmoy@smith-root.com
 Melissa Wuellner, President-Elect, Melissa.Wuellner@sdstate.edu
 Andy Jansen, Secretary/Treasurer, andy.jansen@dnr.iowa.gov
 Website is: <http://ncd.fisheries.org>



2015 BUSINESS MEETING MINUTES

75th Midwest Fish & Wildlife Conference, Hyatt Regency Indianapolis Regency A, Indianapolis, IN, February 10, 2015

President Travnichek called the meeting to order at 5:06PM. Forty-nine members were in attendance therefore the require-ment for a quorum was met.

Introduction of Special Guests

President Travnichek introduced special guests in the crowd including Doug Austen (AFS Executive Director), Donna Parrish (AFS President), and past-presidents of the NCD in attendance.

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Approval of the 2014 Business Meeting Minutes

Andy Jansen (NCD Secretary-Treasurer) completed the 2014 business meeting minutes and they were posted on the NCD website. No comments or changes to the business meeting minutes were received. A motion to approve the business meeting minutes as written was made, seconded, and motion approved by membership.

Awards

Awards were presented during the plenary session yesterday. Summary of the awards:

Meritorious Service: Donna Hanen Muhm (Iowa Department of Natural Resources)

Communications: Michigan Chapter

Most Active Large Chapter: Missouri Chapter

Most Active Student Subunit: Lake Superior State University

Joan Duffy Travel Awards: David Schumann (South Dakota State University)

Jason Doll (Ball State University)

Zachary Mitchell (Eastern Illinois University)

Travis Ellens (Grand Valley State University)

Kyle Bales (Southeast Missouri State University)

Hadley Boehm (University of Wisconsin—Stevens Point)

Treasurer's Report (Andy Jansen):

The North Central Division of the American Fisheries Society has \$88,517.60 on hand as of January 1, 2014. This amount is divided between two accounts as follows.

Money Market	\$75,453.07
Checking	\$13,064.53
The North Central Division's share of all accounts is \$31,774.36	
Major income items during the period were:	
AFS dues rebate	\$ 6,872.00
Money market interest (0.40%)	\$ 300.65
Major expense items during the period were:	
Travel	\$ 6,124.23
Midwest Meeting Expenses	\$ 1,694.59
Joan Duffy Student Travel Award (MFWFC)	\$ 700.00
Servergrid (website)	\$ 134.55
Plaques	\$ 150.00
"Beginning Professional Journey Workshop"	\$ 500.00
The Technical Committee's share of the Money Market Account is \$56,743.24	
Account balance after income, money market disbursements and expenses.	
Centrarchid	\$ 1,629.73
Esocid	\$ 3,015.73
Ictalurid	\$20,542.67
Rivers & Steams	\$ 3,036.97
Salmonid	\$ 8,550.50
Walleye	\$13,450.22
Fenske	\$ 6,517.42
Continuing Education Fund	\$ 3,697.52

Prepared by: Andy Jansen
 Secretary/Treasurer NCD
 Iowa Department of Natural Resources
 2093 E Loch Ayr Rd
 Mount Ayr, IA 50854
andy.jansen@dnr.iowa.gov

Gary Whelan moved to approve the treasurer's report as written, seconded by Mark Porath, and motion approved by membership.

Joe Conroy asked a question concerning what percentage of the regular AFS dues go back to the Division. Doug Austen said 10% of the regular membership dues go back to the Division.

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President's Plan of Work:

President Travnichек reviewed the main goals of the 2014-2015 NCD Plan of Work.

There are 6 main goals of the 2014-2015 NCD Plan of Work:

- Goal 1: Strengthen the connection between the chapters and student subunits
–Encourage chapters to attend student subunit meetings
- Goal 2: Respond to the NCD membership survey
–Seek to establish online continuing education offerings
–Enhance member connectedness via Twitter, Facebook, LinkedIn, other social media or other avenues and mechanisms
–Support efforts at the Society level to connect to AFS members
- Goal 3: Review and update the NCD Bylaws
–Remove inactive technical committees
–Money from inactive technical committees would go to support student travel
- Goal 4: Identify chairs for open committee seats
–Archives and Auditing
- Goal 5: Student connection
–Make NCD and chapter more valuable and greater use to students
- Meeting mentors (Division and Chapter level)
 - Social media connectivity
 - Other
 - ◊ Approach student subunits to get suggestions from students
 - ◊ Student socials (time for student subunits to “hang out” & get to know each other)
 - ◊ Wild Jobs Café (Gary Whelan, 2016 Midwest Fish & Wildlife Conference)
- Goal 5: Awards branding
- Goal 6: Chapter goals
–AFS Investment Opportunities for Chapters and other AFS Units
- Minimum \$10,000 investment
 - NCD will be investing \$20,000 in the investment opportunity to potentially get better interest rate to further support student travel or other Division needs. AFS received a 22% return last year, but annually is anticipating about a 6% return on investment
 - Contact Doug Austen for more details
- Participate in semi-annual chapter leadership conference calls
–Update e-mail listservs with NCD & the AFS Bethesda office
–Update chapter officer information with AFS Bethesda office and NCD
–Utilize AFS's web hosting, surveymonkey, and GOTO meeting accounts if needed
- Contact Shawn Johnston in Bethesda for more information

Plan of Work Discussion: President Travnichек opened the floor for suggestions of how to improve the student connection between the student subunits and the NCD. Gary Whelan mentioned the Wild Jobs Café (similar to the 74th Midwest Conference in Kansas City) will be available at the 76th Midwest Conference in Grand Rapids, Michigan next year. There was some discussion on providing time for the students to “hang out” and get to know each other. The NCD will look into supporting a student subunit social or similar event at future Midwest Fish & Wildlife Conferences. Rebecca Krogman discussed her experience with meeting mentors and the need to carefully match up students with the correct mentors so that they have a good experience and can ask in-depth questions to the mentor. Andrew Carlson mentioned the AFS Student Subsection is working on ideas to further provide undergraduate student travel award to the AFS Annual Meeting. A question was received concerning what could be done to resurrect inactive committees after changing bylaws as Rebecca Krogman and Joe Conroy are working to resurrect the Reservoir Technical Committee. President Travnichек explained that once bylaw language is changed and committees move into NCD Procedures it will be much easier to create and remove technical committees.

Motion to approve President's Plan of Work by Gary Whelan, seconded, and approved unanimously.

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Proposed 2015 Budget

President Travnichek reviewed the proposed 2015 budget:

Income AFS Dues Rebate \$7,500

Expenses

Officer Travel	\$3,000
Midwest Expenses	\$1,000
Past-President Lunch	\$ 300
Duffy Awards	\$1,000
Award Plaques	\$ 200
Continuing Ed Workshop	\$1,000
2016 Midwest Donation	\$1,000

Matt Matheney moved to approve the Plan of Work and 2015 budget, seconded by Jim Triplett, and motion approved by the membership.

Committee Reports

Resolutions Committee: No resolutions.

Nominating/Elections Committee (Vince Travnichek): We have one candidate for president-elect, Sandy Clark Kolaks (Indiana). Please contact Vince if know of someone that may be interested in the president-elect position.

Rivers & Streams Technical Committee (Matt Matheney): We had our winter business meeting at this Midwest Fish & Wildlife Conference on Sunday. Our larger annual meeting will be March 31-April 1, 2015 in Rock Island, IL. The meeting will go from noon the first day to noon the second day. We have 15 presenter slots and time for chapter reports. Students are encouraged to attend. Student registration is waived and some hotel rooms will be available for students. Please contact Aleisha King for more information.

Ictalurid Technical Committee (Tony Barada): We had 15-20 people at our winter business meeting at this Midwest Fish & Wildlife Conference on Sunday. There is a lot going on in regards to catfish research. We are considering the need for a Catfish 2020 symposium. We will be taking advantage of the AFS investment opportunity to prepare funds for the potential conference. Please contact Tony if interested in getting on the e-mail list for this committee.

Esocid Technical Committee (Dave Kittaka): We had our winter business meeting at this Midwest Fish & Wildlife Conference on Sunday. We had a good turnout of attendees with lots of information coming from Indiana attendees. There will be an International Musky Symposium in March 2016 in Minneapolis, MN. The conference will be co-hosted by Musky Inc. One half of the conference will be technical and other half will be led by sportsmen. The annual summer meeting will once again be held in conjunction with the Centrarchid and Walleye Technical Committees. The meeting will be held July 20-24, 2015 in Brookings, SD. There will be a continuing education workshop held in conjunction with the meeting. Please contact Dave if interested in a musky book.

AFS Report

Donna Parrish: I'm happy to be here, it is a throwback for me from when I was a graduate student. Last week I attended the AFS Mid-year meeting held in conjunction with the AFS Southern Division meeting. We had a one day governing board meeting at this meeting and as part of my plan of work I want work on a communication's strategic plan. We have contracted with a media firm to take a broad approach to look at our communications from books, journals, *Fisheries* magazine, and social media outlets. We should have a report out soon, but in the meantime there is an interim report that we will get out soon. I'm looking forward to the AFS Annual Meeting in Portland. We have received 112 proposals for symposia. There may be around 35 concurrent sessions, so it will be a massive meeting. We are working to keep a broad range of people involved at all levels, so there will be a list of symposia coming out soon and you can contact symposium organizers if you have a contributed paper that you would like to submit. Abstracts are due March 13th, so be sure to submit those and I look forward to seeing you in Portland!

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AFS Report (continued)

Doug Austen: It is great to be here. It takes about 4 years to plan the AFS Annual Meetings. It is a long process to work out all of the details because it is such a large event. We are expecting around 3,500-4,000 attendees at the upcoming meeting in Portland. Future upcoming annual meeting locations: 2016-Kansas City, 2017-Tampa (emphasis on Gulf Coast restoration), 2018-Atlantic City, 2019-Joint meeting with the Wildlife Society (First ever joint meeting). We are starting to put out bids for the 2019 meeting and will most likely be the largest fish and wildlife meeting in history. AFS is part of the World Council of Fisheries Societies and every four years we work with that group to host the World Fisheries Congress. The 2016 World Fisheries Congress will be held in South Korea. It is a really fascinating event and we work with many societies in Japan, China, Brazil, and Great Britain to co-host the event and exchange science amongst the societies. We are also doing a lot in the policy area. The membership has asked us to ensure that science is integrated into policy. A year ago we hired our policy director, Tom Bigford, and he has done a good job of engaging the federal and state agencies on policy issues. One issue we have worked on recently is the Waters of the U.S. concerning the upper ends of watersheds. AFS is working with a group called the Theodore Roosevelt Conservation Partnership to impact policy issues. AFS was mentioned on House and Senate floors during a joint hearing for supporting the science behind these partnerships. Tom is working with the marine fisheries community on setting up some hearings with the House and Senate committees and national scientists to provide the best information for writing bills. Over the past year we started a policy fellows program and we are rewriting some of our ESA policies and we will be expanding that program next year for those of you interested in policy work. We work a lot with our federal partners such as U.S. Fish & Wildlife Service, Bureau of Land Management, USGS, EPA, etc. to rewrite cooperative agreements with these groups. One of the things we work on with these groups is supporting our Hutton program. We had 25 participants in the Hutton program last year and we are hoping for 50 participants this year. We are working hard on continuing education. We have a new continuing education staff person and within the next couple of months there will be an AFS sponsored webcast. We are currently offering a half-price membership for affiliate members to boost our membership. This will expire in March 2015 so be sure to help us get the word out about this opportunity. Question from Gary Whelan: What efforts are we doing to work with our Canadian members? Donna Parrish-We have about 600 to 700 Canadian members and if the Canadian Aquatic Resources Section looks to us for support on issues, we are certainly here to help.

New Business

Award Branding

President Travnichek mentioned that there are several members in our Division that deserve to have NCD awards named after them for their significant contributions to our Division. Some of the awards that we could rename would be the Communications, Meritorious Service, and Award of Excellence. We will list this topic on our website and listserv to generate some ideas on who would you nominate to name these awards after.

Recognition of Service

President Travnichek recognized Past-President Phil Moy for his service to the Division. Phil was not able to attend the meeting after relocating to Washington to work with Smith-Root Inc., but we will get him his recognition plaque.

Melissa Wuellner 2015 Plan of Work:

Goal 1: Update and revise NCD governing documents

- NCD strategic plan for 2016-2019
- NCD by-laws and procedures

Goal 2: Increase communication within the NCD

- Regular conference calls with state chapters, student subunits, standing & technical committees
- Development of electronic reporting tools for mid- and end-of-year reports
- Up-to-date information disseminated from the Society to NCD members (President's Blog?)

Goal 3: Membership value

- Continuing education survey (ongoing) to figure out what courses are requested by the membership and what platform should they delivered (online, classroom, etc.)
- Membership satisfaction survey
- Provide travel support to young professionals and established professionals

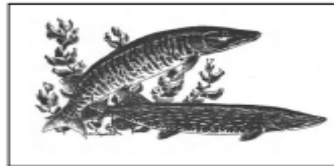
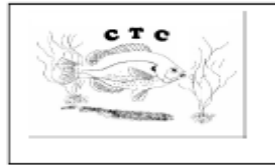
President Travnichek thanked Sandy Clark-Kolaks and all other Indiana members for putting together the fisheries side of the Midwest Fish & Wildlife Conference. Sandy thanked the NCD for providing financial support to the "Beginning your Professional Journey Workshop" and sponsoring the continuing education workshops. Be sure to check out the Indiana Chapter of AFS raffle upstairs during the social.

Motion to adjourn at 6:31 p.m.

Respectfully submitted by Andy Jansen, NCD AFS Secretary-Treasurer

UPCOMING EVENTS

NORTH CENTRAL DIVISION OF THE AMERICAN FISHERIES SOCIETY
JOINT MEETING
 Centrarchid, Esocid and Walleye Technical Committees



**2015 Joint Summer Meeting of the Centrarchid, Esocid, and Walleye Technical Committees
 North Central Division of the American Fisheries Society**

ANNOUNCEMENT AND CALL FOR PAPERS

Dates: July 20-July 24, 2015

Location: Dakota Nature Park Brookings, SD (<http://www.cityofbrookings.org/index.aspx?NID=313>)

**Lodging Location: Quality Inn Brookings 514 Sunrise Ridge Road Brookings, SD 57006
 (1-605-692-9511; http://www.qualityinn.com/hotel-brookings-south_dakota-SD017)**

Lodging

A block of rooms has been reserved until **June 19th** at the Quality Inn Brookings at a rate of \$70 per night under the name **American Fisheries Society**.

Registration Cost

Cost is anticipated at \$60 for the entire meeting, which includes a fish fry social Tuesday; morning and afternoon breaks, lunch and dinner on Wednesday; morning break Thursday. Students are ½ price. A continental breakfast is provided at the Quality Inn.

Continuing Education

A continuing education forum is tentatively planned for Tuesday July 21st. The topic will be walleye tagging methods and data analysis. Cost is anticipated at \$50 per person.

Registration and Presentation Submittal

If you have a paper for inclusion, please contact Hilary Meyer at Hilary.Meyer@state.sd.us. Meeting registration will be via email to Hilary. We will accept payment by cash or check at the door. Sorry, we are not equipped to accept credit cards or other forms of electronic payment. Deadline for registration is **June 17th, 2015**.

Hope to see you there!

WTC Executive Committee

Randy Schultz, Chair
 John Bruner, Chair-elect
 Hilary Meyer, Immediate Past Chair
 and Secretary

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1445 NW Mall St, Suite 4 • Issaquah, WA 98027 • (425) 270-3274 main • (425) 526-2071 fax
www.nwetc.org

Northwest Environmental Training Center (NWETC), a Washington-based, non-profit organization dedicated to environmental education, is pleased to announce 2015 venues for two 3-day courses in Backpack Electrofishing: **Redding, California, May 12-14**; and **Anchorage, Alaska, June 9-11**. Both courses consist of classroom work on the first and third days and field exercises on the second day. For additional course information and registration, visit nwetc.org, select Courses > Chronological Course Offerings, and scroll down to the dates of either course. Individuals with administrative questions, such as tuition details, should contact Sherry McCain (smccain@nwetc.org), Training Coordinator at NWETC, for further information. Those interested in sponsoring another course for 2015 should also contact NWETC. Technical questions about course content should be directed to Jim Reynolds, Instructor, at jbreyolds@alaska.edu.



February 8th, 2015

“Pathways to Success: Principles of Public Involvement”

by Dr. Larry Gigliotti¹

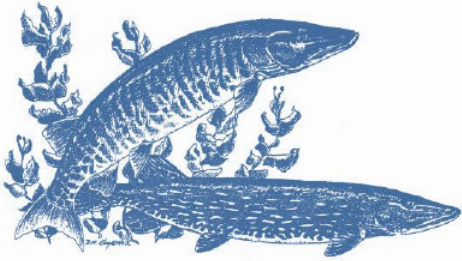
¹South Dakota Cooperative Wildlife and Fisheries Research Unit

“Developing and Delivering Online Surveys”

by Dr. Cindy Longmire²

²Human dimensions specialist for South Dakota Game, Fish and Parks

Find out more at: www.midwestfw.org/html/workshops.shtml



MUSKIES^{INC}

FIRST NOTICE & CALL FOR PAPERS

3rd International Muskellunge Symposium

March 13-15, 2016 - - Minnetonka, MN

Sponsored by MUSKIES, INC. and

Esocid Technical Committee, North Central Division - AFS

Plan now to attend and present at the 3rd International Muskellunge Symposium, to be held March 13 – March 15, 2016, in Minnetonka, Minnesota. Muskellunge researchers, resource managers, and anglers from across North America will be gathering for three days of technical presentations, poster sessions, panel discussions, and great social gatherings! **This symposium also commemorates the 50th Anniversary of Muskies, Inc.**

Venue: The presentations and socials will be held at the Sheridan Minneapolis West, Minnetonka, MN. A block of rooms will be reserved at the Sheridan for a special symposium rate. Early registration for the meeting will begin approximately October 2015.

Please Submit Abstracts for Presentations and Posters to the program Technical Committee, c/o:

Dr. Derek Crane, Lake Superior State University: dcrane83@gmail.com

Final deadline for abstract submission will be approximately December 2015.

See you in the Twin Cities!



Sheridan Minneapolis West
12201 Riverdale Drive
Minnetonka, MN 55305
(952) 593-0000

CHAPTER & STUDENT SUBUNIT REPORTS

Kansas State Student Subunit

By Casey Pennock, Graduate Research Assistant, Fish Ecology Lab, Kansas State University

2014 was another busy year for the K-State Student Sub-chapter (KSU-AFS). Members started off the year by attending the Kansas Natural Resource Conference (KNRC) in Wichita, KS where they helped the Kansas Chapter run their annual raffle. Two members, Casey Pennock and Nate Cathcart, were awarded Kansas Chapter awards for Undergraduate and Graduate student achievements, respectively. The sub-chapter also sold pint glasses featuring the federally endangered Topeka Shiner *Notropis topeka*, illustrated by renowned fish artist - native Kansan - Joe Tomelleri. Throughout the spring and fall semesters the sub-chapter hosted multiple biologists from the Kansas Department of Wildlife, Parks and Tourism to present at our monthly meetings. A fish identification workshop was conducted by research associate Nate Cathcart to enhance student's knowledge of Great Plains fishes. Students continued a long term community study of Stagg Hill Pond, a remnant oxbow lake of the Kanas



Members, Claire Ruffing and Caroline Skidmore, showing off two beautiful Bigmouth Buffalo *Ictiobus cyprinellus* that were caught using bag seines in Stagg Hill Pond during 2014 Fall sampling.

River, first started by retired K-State Professor Dr. Harold Klaassen in 1968. The study, again led by Research Associate Nate Cathcart, gave students the chance to learn and practice field sampling and identification techniques. This year, students set gill nets, trap nets, and seined, as well as tagged fish for further research and even collected structures (fin rays, dorsal spines) for aging (see pictures). Some outreach plans in the works are

to increase public awareness of local aquatic habitats on campus. KSU-AFS will place signs at Campus Creek, a small, aptly named creek running through Kansas State University campus. These signs will educate the public about the Campus Creek fish community and encourage students to keep the area clean. Continuing with the theme of public outreach, members of the student chapter attended an open house event at the Konza Prairie Biological Station where they displayed an aquarium filled with native fish species common to streams on Konza Prairie. The event was designed to showcase to the public the ongoing research conducted on Konza. The sub-chapter is gearing up for another trip to KNRC in January 2015 where many members will be presenting research talks and posters from Kansas and beyond. For more information regarding the subunit, please visit our website (<http://www.k-state.edu/ksuafs/>), or find us on Facebook!



Black Buffalo *Ictiobus niger* was sampled this fall (2014), and was the first record of the species occurring in Stagg Hill in the history of this 46 year long community sampling effort.



Gar, Gar, Gar!!! Casey Pennock, Graham Zurschmiede, and Caroline Skidmore practice their Gar handling skills. Both Shortnose Gar *Lepisosteus platostomus* and Longnose Gar *Lepisosteus osseus* are dominant species in the fish community of Stagg Hill Pond.

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Nate Cathcart demonstrates to undergraduate members, Caroline Skidmore and Jordan Webster about what characteristics to look for on juvenile Bluegill *Lepomis macrochirus* during sampling of Stagg Hill Pond.



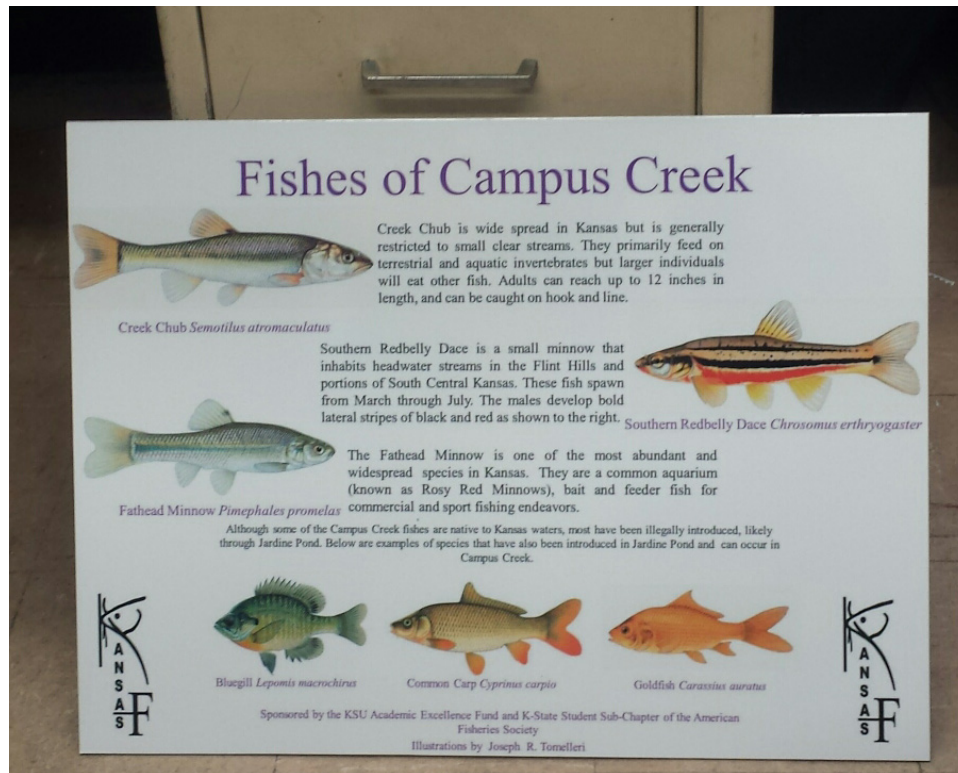
Working up fish...Claire Ruffing records data while Nate Cathcart takes fin clips from a Shortnose Gar *Lepisosteus platostomus*. John Brant and Casey Pennock wash off some fish slime after recovering gill nets.

Quit playing with your dinghy!...John Brant and Graham Zurschmiede retrieve the last gill net of the Fall 2014 community sampling.



Between gill net sets students seined shallower shore line habitats, and were successful in sampling species like Gizzard Shad *Dorosoma cepedianum*, Bigmouth Buffalo *Ictiobus cyprinellus*, and juvenile *Lepomis* spp. (members from left to right: Nate Cathcart, John Brant, Casey Pennock, Graham Zurschmiede, Caroline Skidmore, and Claire Ruffing).

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The Fishes of Campus Creek! Two of these signs will be placed near a small creek running through the Kansas State University campus in areas that receive high levels of student foot traffic. The goals of these signs are to increase public awareness of local aquatic habitats, and encourage students to take pride in our natural areas while also discouraging introduction of species such as the Goldfish *Carassius auratus* and Common Carp *Cyprinus carpio*.

Minnesota Chapter by Owen Baird, President

2015 Minnesota Chapter Annual Meeting a Success

The Minnesota Chapter's 2015 Annual Chapter Meeting was held March 2 – 4 at the Arrowwood Lodge in Baxter. With about 200 attendees this was probably the largest meeting we have had that was just our Chapter and not associated with other groups. The meeting started off with presentations by featured speakers. Bruce Vondracek, Professor in the Department of Fisheries, Wildlife and Conservation Biology and assistant Leader, Minnesota Cooperative Fish and Wildlife Research Unit gave a talk on *What he had Learned Over the Past 40 Years* in his research on Fish and Streams. This overview of Bruce's career really showed how much technology used in fisheries research has changed in the past decades. Paul J. Radoski, author of *Lakeshore Living*, gave his perspectives on *Two Slow-Motion Fisheries Wrecks: aquatic invasive species management and Mille Lacs Lake walleye management*. Paul described why he believes *Why We Can't Look Away from these wrecks because they provide important lessons for better resource management*. Reuben Goforth, Professor in the Department of Forestry & Natural Resources, Purdue University, spoke about his work on *Bigheaded Carp Ecology in Midwestern Rivers* show-

ing findings from research on bigheaded carps movement and reproduction in the Wabash River in Indiana providing important perspective on species knocking in Minnesota's door. The featured speaker at the banquet was Jeremy Smith, Sales and Media Director for Lindner Media Productions. Jeremy spoke about *How Sport Fishing Television is Produced*, including discussing how show topics are selected, how specific water to fish are found, and how various aspects of fishing and catching fish are filmed. The meeting also featured 55 submitted presentations and 33 submitted posters.

2015 Annual Meeting Student awards:

Andrew K. Carlson won best student presentation with "Advancing Missouri River Science: Otolith Microchemistry as a research and management tool".

Peter Xiong won best student poster with "Determining whether polyamines function as behavioral deterrents in a model filter-feeding invasive species, the bigheaded carp (*Hypophthalmichthys nobilis* and *Hypophthalmichthys molitrix*)"

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Scholarship Award Winners. The MNAFS Scholarship Committee awarded scholarships to the following students at the Annual Meeting:

1. Jaime Doboscenski – Jaime Doboscenski is a junior at U of M – Duluth and has worked extensively with Dr. Tom Hrabik.
2. Lee Austen – Lee Austin is a senior at U of M Duluth and has completed or is currently engaged in five research projects.
3. Sara Struger – Sara Struger is a senior at Winona State University interested in stock densities and growth rates to improve recreational fishing.



Scholarship Committee chair Bruce Vondracek hands out awards to (L - R) Jamie Doboscenski, Lee Autin, and Sara Struger.

Wisconsin Chapter by Mike Seider, President

On February 24-26, 2015, the Wisconsin Chapter of the American Fisheries Society held their annual meeting in Eau Claire. A total of 222 students and professionals attended the meeting, which featured 32 oral presentations and 19 poster presentations. A local student from the Eau Claire area, Zach Mohr, also shared his experiences with the Hutton Scholarship program. During the Business meeting, each student sub-unit (UW-Stevens Point, Northland College, UW-Green Bay, UW-Stout) provided a summary of their recent and upcoming activities. Each of the Chapter committees presented updates on relevant information during the business meeting. Mike Seider (USFWS, Ashland) was installed as President and Greg Sass (WDNR, Escanaba Lake Research Station) was selected to be President-Elect. Ted Treska (USFWS, Green Bay) was vot-

ed in as Secretary/Treasurer.

During the meeting banquet, the Wisconsin Chapter was honored to present Pete Segerson with the Bill Threinen Outstanding Service Award for his many years of service. Pete retired in 2014 after a 35 year career with the Wisconsin Department of Natural Resources. Throughout his outstanding career, Pete supported the Wisconsin Chapter through his exceptional leadership and committee participation. During the final luncheon, the Best Professional Paper was given to Max Wolter (WDNR, Hayward) for his presentation “Volunteer River Guides as a Source of Fisheries Data Collection”. The Best Student Paper was awarded to Zachary Snobel (UW-Stevens Point) for his talk “Using Side-scan Sonar to Assess Habitat use of Sub-adult Lake Sturgeon in the Wolf

River, Wisconsin”. The Best Poster Award was presented to Keith Turnquist (UW-Stevens Point) for “Use of Real-Time Polymerase Chain Reaction for Identification of Larval Walleye and Yellow Perch”.

The Wisconsin Chapter has started planning for its annual meeting in 2016 and has also begun preliminary discussions about hosting/ organizing the Midwest Fish and Wildlife Conference in 2018. See our Chapter Website www.wi-afs.org for more information on our chapter and for instructions on how to be added to our email list.

In addition, the resolution below that was proposed during the annual business meeting was subsequently approved by the membership through electronic voting on April 3, 2015 (see also Members Forum):

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**Resolution to
SUPPORT FUNDING FOR THE UNIVERSITY OF WISCONSIN SYSTEM AND THE
WISCONSIN DEPARTMENT OF NATURAL RESOURCES TO SUPPORT THE SUSTAINABLE
MANAGEMENT OF WISCONSIN'S FISHERIES AND AQUATIC RESOURCES**

WHEREAS Wisconsin is home to abundant aquatic resources (lakes, rivers, wetlands, and the Great Lakes) that are vital to the citizens of the state and;

WHEREAS the diversity of Wisconsin's aquatic resources makes management of them complex and in need of sound science, and;

WHEREAS the state's aquatic resources have traditionally received careful study and management, and;

WHEREAS the Wisconsin Chapter of the American Fisheries Society is dedicated to promoting scientific research and enlightened management of fisheries resources, and;

WHEREAS proposed cuts to funding of the University of Wisconsin system will affect the number of students trained in fisheries science and aquatic ecology needed to research and manage the state's aquatic resources, and;

WHEREAS proposed cuts to the Wisconsin Department of Natural Resources will have a negative impact on the delivery of fisheries conservation, management and enhancement programs now and into the future;

Therefore, be it Resolved that the Wisconsin Chapter of the American Fisheries Society opposes the proposed cuts to funding for the University of Wisconsin system and the Wisconsin Department of Natural Resources, and urges restoration of funding to these agencies so that they can continue to use science to guide the sustainable management of Wisconsin's fisheries and aquatic resources.

NEWS AND ANNOUNCEMENTS

Nominations for 2015 Outstanding Sport Fish Restoration Projects *by Ken Kurzawski*

Each year the Fisheries Administration Section of the American Fisheries Society recognizes outstanding fisheries projects completed with Sport Fish Restoration (Dingell-Johnson/Wallop-Breaux) funds. Awards are given in three categories: Sport Fishery Development and Management; Research and Surveys; and Aquatic Education. Award-winning projects will be announced at the 2015 AFS annual meeting in Portland, Oregon, recognized through national press releases and on the AFS website and other media, and will be presented with handsome award plaques at an appropriate function in the winning state or protectorate. Previous winners can be viewed at:

<http://afsfisheriesadministration.wordpress.com/2013/03/13/recipient-history/>.

We are currently soliciting nominations from your state or protectorate for 2015! Detailed description of the awards program with instructions for submitting nominations and judging criteria for the awards program can be found at <http://wp.me/p3p2Vs-7D>. As Chair of this year's Awards Committee, I ask that you distribute this information to

appropriate personnel in your agency and urge them to nominate projects that are outstanding examples of the use of Sport Fish Restoration funds. Please email nominations as PDF files to: ken.kurzawski@tpwd.texas.gov. We will accept nominations through **June 15, 2015**.

The AFS Fisheries Administration Section looks forward to the opportunity to recognize outstanding projects and help promote all the benefits of the Sport Fish Restoration program. If you have any questions about this unique award program, please contact me by email or at 512-389-4591.

Ken

Ken F. Kurzawski
Fisheries Administration Section President-elect
TPWD - Inland Fisheries
4200 Smith School Road
Austin, TX 78744
512-389-4591 (o)
512-389-4405 (f)

2014 NCD-AFS Awards

Each year, the NCD recognized the accomplishments and contributions of students, professionals, subunits, and chapters through seven awards given at the Midwest Fish and Wildlife Conference. Our 2014 award winners were recognized in February in Indianapolis:

- Most Active Student Subunit – Lake Superior State University
- Most Active Chapter (Large) – Missouri Chapter
- Best Communications – Michigan Chapter
- Meritorious Service Award – Donna Hanen Muhm (Iowa Department of Natural Resources)
- Joan Duffy Student Travel Awards (6) – Kyle Bales (Southeast Missouri State University);



The NCD Awards Committee

Hadley Boehm (University of Wisconsin Stevens Point); Jason Doll (Ball State University); Travis Ellens (Grand Valley State University); Zachary Mitchell (Eastern Illinois University); David Schumann (South Dakota State University)

Congratulations to these deserving winners! Keep up the great work!

It's never too early to start thinking about applying for the next round of awards! Two of our awards (Most Active Small Chapter and the Fisheries Excellence Award) received no nominations this past year, and we would love to see each state select a Duffy Award winner!

For more information all NCD awards, their criteria, and the application process, check out <http://ncd.fisheries.org/awards/>.

A Call for Moderators!



Are you headed to the 2015 annual AFS meeting in Portland this coming August? Would you like to be more involved with the meeting and serve AFS? If so, please consider serving as a moderator for a contributed session! Moderator duties include introducing speakers and keeping presentations on schedule in their session (sessions in-

clude up to six oral presentations). Moderating is a very important job and an easy way to support AFS. AFS meetings are run by volunteers, so your help is necessary and greatly appreciated!

If you would like to serve as a moderator please contact Julie Harris (julianne_harris@fws.gov). In your email, please include your name (as you would like it written in the program), the organization where you work, the email address you would like for us to use in correspondence, your research interests, and any time constraints you have at the meeting (e.g., I am author/coauthor of a talk, I know I am not going to attend on Monday, etc.). We will accommodate

constraints and try to match moderators with talks they would plan to attend. Please also feel free to email Julie if you have any questions about being a moderator.

Anyone attending the AFS meeting in Portland, OR, is welcome to serve as a moderator, including students! Thank you in advance for your consideration.

If you are interested in being a moderator, the sooner we hear from you the better! In order for us to finalize the program on time, it would be great if you could contact us by early June, if possible.

Thank you!!!!

MEMBERS FORUM

Proposed Budget Undermines Critical Fish and Wildlife Research and Training Programs

Wisconsin's fish and wildlife resources are an immense treasure for the state and its residents. Nearly 2.5 million residents and another 1 million non-residents (over 16 years of age) participate in fishing, hunting or wildlife associated recreation in Wisconsin and contribute substantially to the state's economy.

The U.S. Fish and Wildlife Service has coordinated a survey every 5 years since 1955 that tracks participation and expenditures associated with fishing, hunting, and other wildlife-related activities nationwide. The most recent survey revealed that 1.25 million licensed anglers ages 16 and older (73% residents and 27% nonresidents) fished 21.3 million days in Wisconsin in 2011. These anglers spent an estimated \$938 million on all trip-related expenses (transportation, meals, lodging, bait, etc.) and \$480 million on equipment, totaling \$1.4 billion in 2011.

Clearly fish and wildlife resources are a big business in Wisconsin and a fundamental part of what makes Wisconsin such a magnificent state. Yet the research and development needed to sustain this business is at risk, and every Wisconsinite should be concerned.

A major reason that Wisconsin has been able to benefit from these resources is the solid foundation of fish and wildlife research that guides sensible decision-making by managers. Indeed, Wisconsin should be proud of its rich science heritage, which goes back to the days of Aldo Leopold. Since then, Wisconsin has been a leader in applying sound science to fish and wildlife management. Unfortunately much of that is currently in

jeopardy by a misguided proposal in the 2015-2017 budget that will undermine ongoing efforts and harm the state in ways that will be felt for generations.

One of the proposed cuts will eliminate over 18 staff positions in the highly respected DNR Bureau of Science and Research. These employees provide essential information on population abundance, trends, habitat needs, and impacts of habitat changes on numerous species. Results of this research help managers to choose wise regulations and effective habitat projects for fish and wildlife.

In just the past two years, the state DNR Fisheries and Aquatic Sciences Research Section in the Bureau of Science and Research produced 140 science publications and made over 333 research presentations. This research also affects the management of the Mississippi River and Lakes Michigan and Superior, making this not just a state issue, but also a regional and international issue.

To support their work, DNR scientists have brought in almost \$3 million in external grants. Indeed, much of their funding comes from federal dollars through sportsmen-supported Wildlife and Sport Fish Restoration Programs authorized under the Pittman-Robertson and Dingell-Johnson Acts. By federal law, these funds cannot be diverted into other state programs not related to fish and wildlife activities. If not spent appropriately, they would be returned to the federal government to be re-appropriated to other states.

If cuts to critical fish and wildlife science aren't bad enough, Governor

Walker's proposed budget eliminates funding for the University of Wisconsin System's Northern Aquaculture Demonstration Facility (Aquaponics Innovation Center) and eliminates funding for the university's undergraduate aquaculture education program. These cuts go beyond immediate impacts and will end the university's long-standing fish culture educational program. No longer will Wisconsin be able to educate future generations of fish culturists, hatchery staff, fish farmers and propagation scientists at the level it currently does.

A likely scenario resulting from this disappointing budget proposal is that Wisconsin DNR and private aquaculture industry employers would have to look outside of Wisconsin to hire qualified staff. Students with an interest in these growing fields would be forced to apply to universities in other states to obtain their education. This is a situation that nobody in Wisconsin should accept.

Clearly, the budget proposal to drastically reduce these programs, as well as \$300 million cut to the University of Wisconsin System that has a long and storied history of educating and training fisheries and aquatic scientists, is a bad idea for Wisconsin and should be dropped from further consideration. Our organization, The American Fisheries Society, the world's largest society of fisheries research and management professionals with members in Wisconsin, throughout the U.S. and in 62 other nations, is very concerned that Wisconsin and its fish and wildlife resources will be placed at tremendous risk as a result of this proposal.

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With the challenges that fish and wildlife resources are facing resulting from human use, disease, invasive species, land use changes, and many other stresses, we should be looking for ways to enhance our understanding and increase our support for solid science that will help us to ensure healthy and abundant fish and wildlife resources for current and future generations.

Signed,

Dr. John Magnuson, Professor Emeritus of Zoology and Director Emeritus of the Center for Limnology, University of Wisconsin, Madison

Dave Neuswanger, Retired Wisconsin DNR Fisheries Unit Supervisor, Hayward, Wisconsin

Dr. Vince Travnicek, President, North Central Division of the American Fisheries Society, Columbia, MO

Dr. Douglas Austen, Executive Director, American Fisheries Society, Bethesda, MD

Wisconsin Walleye Initiative

The first year of the Wisconsin Walleye Initiative provides insight to what preparation may be needed to meet next year's goals **by contacting Emma Wiermaa, Outreach Specialist at ewiermaa@uwsp.edu**

From May through October, 2014, UWSP Northern Aquaculture Demonstration Facility (UWSP-NADF), worked cooperatively with Hayward Bait and Tackle and Northside Enterprises on rearing walleyes for the Wisconsin Walleye Initiative. The UWSP-NADF provided approximately 10,000 extended growth (13/lb) walleyes to our cooperators. The UWSP-NADF used outdoor earthen ponds, several types of organic and inorganic fertilizers, various aeration systems and forage minnows. The intent of this project was not only to provide fish and technical assistance to farmers to help meet the goals of the Walleye Initiative, but also to provide an informational report to assist other aquaculture personnel and hatcheries that are raising walleyes and other cool water fish. Although the facility was able to provide to cooperators, various issues arose during this year's walleye rearing season across Wisconsin, which should be carefully considered to prepare for next year's Walleye Initiative.



Extended growth walleye sampled for fish condition throughout the summer prior to harvest



UWSP-NADF ponds reached optimum walleye rearing temperatures only 13 days during the growing period

Last spring, outdoor ponds in Wisconsin and across the Midwest were behind due to a late ice out and cold spring. Due to this late start, it was difficult for ponds to maintain high plankton blooms during the spring months, which may ultimately affect the survival of early fingerlings. This late spring was then followed by a cool summer. We did not see very many days in the optimal temperature range of 23-28°C for growing walleye as published in the Walleye Culture Manual by Summerfelt. Temperatures recorded in the outdoor ponds at UWSP-NADF reached above 23°C for only 13 days total during the months of June, July and August. In September and October, ponds never reached temperatures above 23°C. According to Summerfelt, growth rates of walleye at temperature <15.5°C (60°F) are nearly zero. Due to colder fall temperatures, walleyes were harvested early October from NADF ponds.

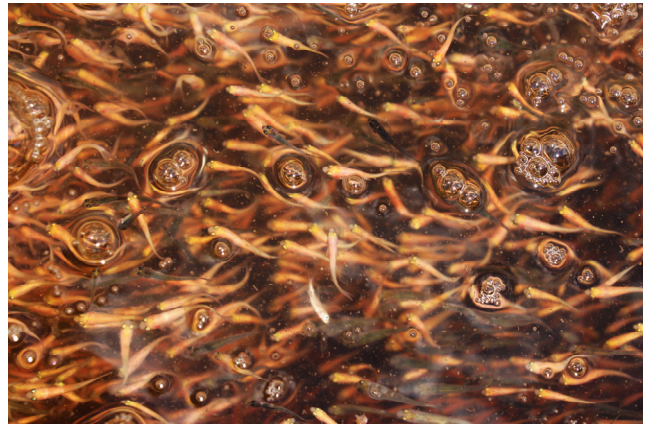
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In addition to poor temperatures, another drawback for walleye pond production was obtaining small pinhead or Tuffy fatheads at the appropriate time to feed the small walleye. This is a critical time for providing adequate and appropriately sized forage for small fingerlings (1.3-2.0 inch). Due to the large numbers of walleye being reared in state and the high demand for the pinhead fatheads there was a shortage of this forage at the most important time for the walleye. We would recommend that arrangements be made far in advance for bait delivery to get the appropriate forage at the correct time with your baitfish provider.

Hopefully 2015 will be a better year for rearing walleyes in Wisconsin and fish rearing facilities can make advanced plans to deal with some of the trials and tribulations that came along with the first year of the Walleye Initiative

If you are interested in the UWSP-NADF 2014 Walleye Initiative full report or other project reports they can be found on our website at: aquaculture.uwsp.edu

Or by contacting Emma Wiermaa, Outreach Specialist at ewiermaa@uwsp.edu



Pinhead or Tuffy fathead minnows must be ordered far in advance to account for high demand during the Walleye Initiative