



# OKLAHOMA CHAPTER of the AMERICAN FISHERIES SOCIETY

## - - - *The Lateral Line* - - -

Volume 35(1)

October 2014

### OK AFS Officers:

#### **President**

**Shannon Brewer**  
Oklahoma Cooperative Fish and  
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#### **Past-President**

**Jim Long**  
Oklahoma Cooperative Fish and  
Wildlife Research Unit  
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#### **President-Elect**

**Daniel Fenner**  
Fish and Wildlife Biologist  
Owasso, OK  
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#### **Secretary-Treasurer**

**Kyle James**  
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#### **Newsletter Editor**

**Andrew Taylor**  
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### PRESIDENT'S MESSAGE

A few weeks ago, I attended a legislative “study” about the possible effects of fracking on groundwater contamination. I was empathetic to the landowner that recounted the devastating change in his well water in a short 3-year period. His dialogue was preceded by several others that shared their version of whether groundwater contamination was really even possible. It made me wonder how our Chapter can improve the information highway of science to policy makers and the general public. In the last year, we completed a position statement on “Sustainable Water Use” in Oklahoma. Since that time, our new Environmental Concerns Chair compiled a list of contacts in Oklahoma associated with policy making. I distributed our position statement to the new distribution list and Daniel Fenner posted it on our web site. Something else we hope to achieve is making the expertise within our membership more obvious to people outside of our Chapter. I have asked people to share short articles (< 350 words) about a project or portion of a project (research or management) that might be of interest. Now that our website has been improved (a big thank you to everyone that made that possible), we will post these short descriptions on our page so that everyone has some idea of the kind of research and management that is completed or ongoing within Oklahoma. I believe this may also have an additional benefit *within* our membership. Every year, the Awards Chair solicits nominations for ‘Fisheries Worker of the Year’ and this may provide a means for folks to get to know about someone else’s efforts in the

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state. If anyone has any additional ideas of how to improve facilitation of our Chapter's skills and knowledge to people outside of AFS and within our membership, please let me know.

Attendance at meetings is one way that we share and improve our knowledge. Oklahoma Chapter members have a strong history of providing presentations and attending our state meeting and also the Southern Division Meeting. We do a great job! However, I think we can improve our participation at the national level. I have heard from several people that the national meeting is not relevant to Oklahoma and more of an exercise in academia. I just attended the AFS Annual Meeting in Québec in August and I wanted to share some of the highlights that are very relevant to research and management in our state. There were several symposiums with very relevant discussions that could be helpful to improving aquatic issues in Oklahoma including advancing our understanding of trophic interactions and dam impacts on fishery resources. There was also a plethora of contributing talks where approaches and results from other states and countries could be applied to Oklahoma resources including presentations that addressed advances in fish-stock assessments, gear efficiencies (e.g., gill net in Idaho and electrofishing in the southeast), and methods to improve sampling programs to monitor the spread of invasive species. The annual meeting of AFS can be expensive when there is a long distance to travel but I am excited that in 2016, the meeting will be held in Kansas City (a short 5 hour drive from the center of OK). I hope that many of you will join me in representing Oklahoma at the national meeting (in our backyard) in 2016.

Lastly, I would like to acknowledge recent efforts of our membership to improve our committee involvement. I am very pleased that several of our younger members have taken active roles within the Chapter. We have a new chair for the Student Concerns Committee, Bob Mollenhauer, who is actively involved in planning efforts for an upcoming writing workshop that will be hosted by the Student Chapter. Jon West took over as the Environmental Concerns Chair and was very helpful in creating a distribution list for our position statements and other letters. In addition, Mr. West attended the legislative study on groundwater contamination and is now actively seeking feedback from our membership to identify environmental concerns from all regions of the state. Also, Mr. Kyle James has embarked on his new journey as Treasurer. A special thank you to the more experienced AFS members for helping make committee and officer involvement a less daunting task. I hope the more experienced members of our Chapter will continue to encourage our young membership to become involved with committees and serve as officers.

- Shannon Brewer, President

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## *OK AFS Committee*

### *Chairs:*

#### *Activities*

##### **Kevin Stubbs**

US Fish and Wildlife Service  
9014 East 21st St.  
Tulsa, OK 74129  
[kevin\\_stubbs@fws.gov](mailto:kevin_stubbs@fws.gov)

#### *Awards and Nominations*

##### **Josh Johnston**

OK Dept. Wildlife Conservation  
PO Box 1201  
Jenks, OK 74037  
(918) 299-2334  
[josh.johnston@odwc.ok.gov](mailto:josh.johnston@odwc.ok.gov)

#### *Continuing Education*

##### **Dan Shoup**

Oklahoma State University  
008 Ag Hall  
Stillwater, OK 74078  
(405) 744-9671  
[Daniel.shoup@okstate.edu](mailto:Daniel.shoup@okstate.edu)

#### *Environmental Concerns*

##### **Jon West**

OK Dept. Wildlife Conservation  
[jon.west@odwc.ok.gov](mailto:jon.west@odwc.ok.gov)

#### *Fundraising*

##### **Bill Wentroth**

OK Dept. Wildlife Conversation  
417 S. Silverdale Lane  
Ponca City, OK 74604  
(580) 762-2248  
[bwentroth@cableone.net](mailto:bwentroth@cableone.net)

#### *Student Concerns*

##### **Bob Mollenhauer**

Oklahoma State University  
007 Ag Hall  
Stillwater, OK 74078  
[Mollenh@okstate.edu](mailto:Mollenh@okstate.edu)

## COMMITTEE REPORTS

### Awards and Nominations Committee:

#### JIMMIE PIGG STUDENT TRAVEL SCHOLARSHIP

STUDENTS!! STUDENTS!! STUDENTS!! This is the first call for students who would like to go to a professional meeting on someone else's money. The Chapter will award the Jimmie Pigg Student Travel Scholarship to a student or students who are involved in fisheries research studies and who are planning to present their findings at an upcoming AFS meeting. The Chapter awards a \$1000.00 scholarship to the lucky recipient.

This prestigious award is named in honor of the well-known, well-respected late aquatic biologist and educator Mr. Jimmie Pigg, who donated the initial Chapter funding to create the award. Jimmie will always be remembered as a dedicated professional and active fisheries conservationist who loved his work and his students.

Any student who is active in fisheries or a related aquatic discipline is eligible to apply. Recipients are selected by the Chapter Nominations and Awards Committee and are presented the award at the annual Chapter business meeting. Selection is based on academic qualifications, professional service, contribution to fisheries and the applicant's demonstrated desire and need for the grant.

Awards are based on merit and are not necessarily given each year. Deadline for application submittal is **December 1<sup>st</sup>, 2014**. Interested students should contact the Awards Committee Chair, Josh Johnston at (918) 299-2334 or email Josh at [josh.johnston@odwc.ok.gov](mailto:josh.johnston@odwc.ok.gov) for more information and to obtain the appropriate application forms.

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## Awards and Nominations Committee (cont.):

### OUTSTANDING OKLAHOMA FISHERIES WORKER OF THE YEAR AWARD

The Nominations and Awards Committee is soliciting nominations for the OKAFS' highest award, The Oklahoma Outstanding Fisheries Worker of the Year Award. The award is presented annually to an Oklahoma fisheries professional who has made significant contributions in the field of aquatic resources conservation, management, research, culture or education. Fishery workers in Oklahoma have, over the years, amassed a multitude of achievements and advancements in fisheries science. This award recognizes their efforts. Please keep this prestigious award in mind this year and nominate a deserving person. In fact if you already know of a worthy candidate, please submit their nomination along with a justification now. Nominations are due by **December 15<sup>th</sup>, 2014**. All it takes is a letter from you to help give credit where credit is due. I have yet to receive a nomination for this award. Nominations can be submitted to Josh Johnston at [josh.johnston@odwc.ok.gov](mailto:josh.johnston@odwc.ok.gov).

### NOMINATIONS FOR OPEN CHAIRS

In an effort to avoid a major hold-up during the business meeting next year, the Nominations and Awards Committee is soliciting nominations for President Elect. If you are interested in this position, or know someone adequate, please let us know. We would love to have a long list of nominations at next year's meeting, and we are asking for your help. I have not yet received a nomination for this position. Nominations can be submitted to Josh Johnston at [josh.johnston@odwc.ok.gov](mailto:josh.johnston@odwc.ok.gov).

## Continuing Education Committee:

Given that our chapter meeting last year was held in conjunction with the Texas chapter last year, Oklahoma did not develop any continuing education workshop. The committee will be working with the EXCOM to assist with any workshop needs associated with the upcoming chapter meeting. As always, we would welcome input from the membership regarding topics they would find beneficial. If you have suggestions, please contact me at [Daniel.shoup@okstate.edu](mailto:Daniel.shoup@okstate.edu) or 405-744-9671.

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## **Environmental Concerns Committee:**

As you know, environmental issues can affect almost every aspect of our work, from the coarse-scale watershed issues that can be of statewide magnitude down to the more localized concerns at the county and municipal levels. Recently our chapter approved a position statement concerning Oklahoma's need for sustainable water use and it has been uploaded to our state chapter's website. It has also been distributed to Oklahoma's elected officials and influential leaders that have the authority to designate legislation to make changes for conservation. Being stationed in the northeastern corner of the state, it is sometimes hard for me to know what environmental concerns may be in your area but that does not invalidate them. I implore you to send me the concerns that you think our chapter should address and if this is a topic of interest to you, please join the committee! Some topics our chapter may want to consider include: surface-groundwater contamination, proposed legislation that could affect our fisheries either directly or indirectly, prominent land-use practices, Species of Greatest Conservation Need and more! Thank you in advance for your assistance and I appreciate your dedication to the chapter. Have a great fall season and I look forward to seeing you at our next chapter meeting. – Jon West

## **Fund Raising Committee:**

Generous members are already making awesome gifts for the Annual Auction that occurs during the banquet at the OKAFS Annual Meeting! Begin thinking about things you might already have (that are of value!) that you can contribute to the Chapter's fund raising for student scholarships! It can be anything, but preferably aquatic related, art work, tackle of all kinds, knives, or to throw out something new..... I'm always hungry, so make something really scrumptious and put it on the table! (FDA approved?? Naw!) If you have something to contribute, I would appreciate an email so I can have an auction bid sheet already completed prior to the meeting. Thanks, Bill Wentroth

## **Student Concerns Committee:**

The Committee is working on planning a student scientific writing workshop to be held in early 2015. We are currently working with the Oklahoma State Student Subunit about details of the event. The OSU Student Subunit will host the event. The workshop will target upper-level undergraduate and MS student students. The Committee is also working with the President to organize a student-mentor event at the 2015 OK Chapter Meeting. – Bob Mollenhauer

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**OKLAHOMA CHAPTER AFS** was chartered on September 8, 1968.

The **mission** of the chapter is:

- To promote conservation, development, and wise use of the aquatic and fishery resources of Oklahoma.
- To promote and evaluate the development and advancement of all aspects of fisheries science and management in Oklahoma.
- To gather and disseminate scientific, technical and other information about fisheries science and management to Chapter members and the general public through publications, meetings and other forms of communications.
- To encourage competent teaching of fisheries science and management in Oklahoma colleges and universities and promote the continuing education of Oklahoma fisheries workers.

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## **OKLAHOMA AFS MEMBERSHIP FORM**

NAME:

(last)

(first)

AFFILIATION:

MAILING ADDRESS

(Dept, Bldg, Office, Street, PO Box, Route, etc.)

(City)

(State)

(Zip)

DAY PHONE:

E-MAIL:

MEMBERSHIP TYPE: 1 Year (\$5) \_\_\_\_\_ 2 Years (\$10) \_\_\_\_\_ 3 Years (\$15) \_\_\_\_\_ Life (\$50) \_\_\_\_\_

MEMBERSHIP STATUS: Professional \_\_\_\_\_ Student \_\_\_\_\_

COMMITTEES (please choose at least one): Activities \_\_\_\_\_ Awards \_\_\_\_\_ Continuing Ed \_\_\_\_\_

Environ. Concerns \_\_\_\_\_ Fundraising \_\_\_\_\_ Program \_\_\_\_\_

Detach, make check payable to OKAFS, and send to: **Kyle James**, OKAFS Secretary-Treasurer, ODWC SE Region, 6733 SW Hwy 1 Wilburton, OK.

Phone: 918-686-3640. Email: [kyle.james@odwc.ok.gov](mailto:kyle.james@odwc.ok.gov).

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## *In Memorium: Julia Matlock*



Born July 22, 1959 in Sallisaw, OK, she died May 29, 2014 from complications due to a brain tumor. She received a BS in Biology from Northeastern State University in 1981 and completed her MS degree in Zoology at Oklahoma State University in 1985 under the direction of Dr. Eugene Maughan at the Oklahoma Cooperative Fish and Wildlife Research Unit. Her thesis, *The effects of clearcutting on trophic relations of benthic macroinvertebrates in streams of southeast Oklahoma*, found similar diversity levels between clearcut and non-clearcut sites, but differences in trophic dynamics with increased abundances of scrapers, shredders and predators at clearcut sites. After receiving her Master's degree, she worked briefly in Arizona before returning to Oklahoma, joining the Oklahoma Department of Wildlife Conservation in 1987 as a hatchery technician at Holdenville State Fish Hatchery. Afterwards, she moved to the Byron State Fish Hatchery, ultimately becoming the Assistant Hatchery Manager when she retired in October 2013. She completed a 27-year career with the Department before illness forced her into retirement. She was dedicated to the mission of the Oklahoma Chapter of the American Fisheries Society, being one of only eight of the Chapter's Life Members. She was president of OKAFS from 1999-2000 and organized the annual meeting held at Roman Nose State Park, February 1999 where she instituted the inaugural white-elephant gift exchange. She was a dedicated biologist and advocate for fisheries and will be sorely missed.

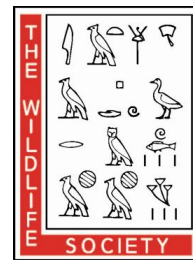
## SAVE THE DATE

Joint Meeting of the Oklahoma chapters of the  
American Fisheries Society and The Wildlife Society

Feb. 11 (evening) – Feb. 13, 2015



Tulsa, OK





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## OKAFS LISTSERVE - eMailDodo



Recall that our old listserve was lost, quite quickly too, but the Southern Division has hooked us up with an option we've been using for about a year now; eMailDodo. Here are some basics for using the list. First, you have to be a member of the group if you want to send a message. To send a message to the OKAFS membership, use the address [OKAFS@emaildodo.com](mailto:OKAFS@emaildodo.com) in your email program. The list is currently set to have all replies go to the sender so the entire membership doesn't receive all the conversations. If you want everyone to see your reply, just cc [OKAFS@emaildodo.com](mailto:OKAFS@emaildodo.com). Many of you have probably been getting email from the list already and if this is the first you've heard of the list, it means we don't have your email address on file in our membership database. If you feel your email has been left off or has changed recently, send the editors of the list (Jim Long; [longjm@okstate.edu](mailto:longjm@okstate.edu) and Kyle James; [Kyle.James@odwc.ok.gov](mailto:Kyle.James@odwc.ok.gov)) an email and we'll update it.

Happy messaging,  
Jim Long

## Articles for OK AFS Website

All,

We would like to start including some brief summaries of interesting research/management projects that are being completed by our membership. I will post one on our web site in the next few days as an example. Our new page looks great and it is a great way to show off projects of interest. Please send any project descriptions (< 350 words) to Daniel Fenner ([dbfenner@gmail.com](mailto:dbfenner@gmail.com)). Pictures associated with the projects are welcome.

Thanks,  
Shannon Brewer

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## OKAFS Logo Design Vote

In an effort to improve the digital image of the OK Chapter AFS, emails have been bounced around the listserv soliciting designs, comments, and ideas about a new logo for our chapter. Below, please find our current design along with several of the designs that Katelynn Gifford and Andrew Taylor have contributed. These are the only designs yet to be contributed towards the effort to find a new logo. To vote on one of the four designs below, click this link: <https://www.surveymonkey.com/s/PKXMZLX>. *Voting is limited to one per person, and voting will close Nov. 30<sup>th</sup>, 2014.*



Current Design



New Logo Design 1



New Logo Design 2



New Logo Design 3

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## A Brief History of the Chapter: How Old are We?

*Contributed by Jim Long*

For the past year, I've been compiling information on the Chapter in an attempt to document our history and I've come across some gaps and inconsistencies. Mostly, I thank Greg Summers for letting his trash become my treasure because I got all his old files before they made their way to the dumpster as a result of his retirement from ODWC. Next, and totally unexpected, Kris Stahr with the OSU Student Subunit produced a trove of past issues of the Lateral Line. Table 1 (following page) is what I believe to be the most comprehensive listing of officers, newsletters, and annual meetings of our Chapter based on these recovered documents. The president is associated with the year of the annual meeting in which they presided (i.e., Shannon Brewer will be president at the next annual meeting to be held sometime in 2015).

While compiling this information, I found a glaring inconsistency regarding our founding. Information on our website and history of fisheries in OK posters state the chapter formed in 1968 (happy 46<sup>th</sup> birthday!), but back-casting the numbering system of the Lateral Line would put volume 1 at the beginning in 1979 (happy 35<sup>th</sup> birthday!). The November 1988 issue of the Lateral Line (v10, no 2) noted that the Chapter reorganized in 1978 (pg 4). The April 1996 issue stated the Chapter was founded in 1978 (pg A2).

If anyone has information regarding our founding or reorganization, I'd appreciate hearing from you either directly ([longjm@okstate.edu](mailto:longjm@okstate.edu)) or to the entire OKAFS membership via the listserve at ([okafs@emaildodo.com](mailto:okafs@emaildodo.com)). Also, if you have any back-issues of the Lateral Line, please let me know. I know I'm missing volume 1, but I don't know how many issues there were. Otherwise, I have a hard copy of all those listed in Table 1 and will be making electronic copies to be uploaded to our website.

Table 1. Summary of officers, newsletter volumes, and annual meeting locations for OK AFS (1968-2015).

Year	President	Sec-Treas	Lateral Line	Annual Meeting location
1968-1979	Unknown	Unknown	Unknown	Unknown
1980	Steve Lewis	Ron Suttles	2(2)	Unknown
1981	Harold Namminga	Conrad Kleinholtz	3(1), 3(2), 3(3)	Phillips University, Enid OK
1982	Charles Scott	Patti Lanford	4(1), 4(3)	University of Science and Arts of Oklahoma, Chickasha OK
1983	Glen Gebhart	Patti Lanford	5(1), 5(2)	Joint with TX AFS, OU Biological Station, OK
1984	Gene Gilliland	David Combs	6(1), 6(2), 6(3), 6(4)	Oklahoma State University, Stillwater OK
1985	Conrad Kleinholz	David Martinez	None	Pond Management Symposium Joint with OK TWS, Central Plaza Hotel Convention Center, OKC
1986	Steve Hensley	John Stahl	8(1), 8(2), 8(3)	Joint with OK TWS, OKC
1987	Larry Cofer	John Stahl	9(1), 9(2), 9(2)	Joint with AR AFS, Western Hills Lodge, Wagoner OK
1988	Jim Andreasen	Keith Thomas	10(1), 10(2)	Joint with OK TWS, Meridian Plaza Hotel, OKC
1989	Jan Dean	Keith Thomas		Joint with TX AFS, Lake Texoma State Lodge
1990	Alexander Zale	Bob Martin	11(1), 12(1)	Joint with KS AFS, Shangri-La Grand Lake, Afton, OK
1991	James Schooley	Bob Martin	12(2), 13(1), 13(2), 14(1)	Joint with AR AFS, Ft. Smith AR
1992	Steve Spade	Rick Horton	14(2), 14(3), 14(4)	University of Oklahoma Biological Station, Lake Texoma, OK
1993	Mark Ambler	Rick Horton	15(1,2), 15(3)	Oklahoma State University, Stillwater OK
1994	Jeff Boxrucker	Ken Cunningham	15(4), 16(1), 16(2)	Joint with TX AFS, Tanglewood Resort, Pottsboro, TX
1995	Greg Summers	Ken Cunningham	16(3), 17(1), 17(2)	None (SEAFWA in OKC)
1996	Brian Bristow	Bill Wentroth	17(3), 18(1), 18(2)	Joint with AR and KS AFS, Fayetteville AR
1998	Bill Stark	Bill Wentroth	None	Roman Nose State Park, Watonga OK
1999	Julia Matlock	Bill Wentroth	19(1)	Kirkpatrick Science and Air Space Museum at Omniplex, OKC
2000	Julia Matlock	Bill Wentroth	20(1), 20(2)	Best Western, Stillwater OK
2001	Paul Balkenbush	Brent Gordon	21(1), 21(2)	OSU, Stillwater OK
2002	Bill Wentroth	Brent Gordon	22(1), 22(2)	Northeastern OSU, Tahlequah OK
2003	Dana Winkelman	Brent Gordon	23(1)	Joint with SDAFS, OKC
2004	Tim Patton	Brent Gordon	24(1), 25(1)	Beavers Bend State Park, Broken Bow OK
2005	Randy Hyler	Brent Gordon	25(2)	Lake Murray State Park, Ardmore OK
2006	Kurt Kuklinski	Brent Gordon	26(1), 26(2)	Oklahoma Aquarium, Jenks OK
2007	Randy Parham	Danny Bowen	27(1), 27(2)	Sheraton Oklahoma City Hotel, OKC
2008	Cliff Sager	Danny Bowen	28(1), 28(2)	Lake Murray State Park, Ardmore OK
2009	Kevin Stubbs	Buck Ray	29(1)	Joint with AR AFS, Ft. Smith AR
2010	Brent Bristow	Buck Ray	30(1)	Sequoyah State Park, Wagoner OK
2011	James Vincent	Buck Ray	31(1)	Quality Inn, Stillwater OK
2012	Jim Burroughs	Buck Ray	32(1)	Quality Inn, Stillwater OK
2013	Dan Shoup	Matt Mauck	33(1)*	Joint with TX AFS, Tanglewood Resort, Pottsboro, TX
2014	Jim Long	Matt Mauck	34(1)** , 34**(2)	
2015	Shannon Brewer	Kyle James	35(1)- current	

\*Incorrectly numbered as volume 32

\*\*Incorrectly numbered as volume 33

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## Old Vibrations: 30 Years Ago Today in the Lateral Line

*Contributed by Jim Long*


### *September 1984, Vol 6(3)*

This issue of the Lateral Line was a single page outlining the oral presentations made at the annual meeting held on the campus of Oklahoma State University. Check out who was doing what way back when. Twelve presentations were made and structured into two main topics: Non-game fishes and length-limit evaluations. We've come a long way since, with our average number of oral presentations about double this number currently. Check out our revamped webpage at <http://sdafs.org/okafs/newsletters/> to see this and other back issues of the Lateral Line.

OKLAHOMA CHAPTER AMERICAN FISHERIES SOCIETY

# LATERAL LINE

NEWSLETTER VOL. 6(3) SEPT 1984



- TOPICS MEETING -

SATURDAY, SEPTEMBER 15th

ROOM 103, LIFE SCIENCES WEST, OKLAHOMA STATE UNIVERSITY

PROGRAM

NON-GAME FISHERIES: Morning Session

9:00 - 9:15	Harold Namminga	Collecting Permits
9:15 - 9:30	Dana Base	Non-Game Information & Education
9:30 - 9:45	Michael Douglass	University Collections
9:45 - 10:00	Charlie Scott	U.S. Fish & Wildlife Service Viewpoint
10:00 - 10:15	Charles Wallace	Legislative Viewpoint
10:15 - 10:30	Mark Ambler	Paddlefish Exploitation
10:30 - 10:45	Break	
10:45 - 11:45	Open Discussion	
11:45 - 1:30	Lunch	

LENGTH LIMIT EVALUATIONS: Afternoon Session

1:30 - 1:45	Greg Summers	Arbuckle Reservoir PLR
1:45 - 2:00	Karen Hamilton	Birch Lake PLR
2:00 - 2:15	Paul Mauck	Texoma Striped Bass
2:15 - 2:30	Mary Knapp	Copan Reservoir Crappie
2:30 - 2:45	Larry Cofer	Oklahoma Wildl. Dept. Lakes
2:45 - 3:00	Garland Wright	Drippings Springs Lake
3:00 - 3:15	Break	
3:15 - 4:30	Open Discussion	

## Gone with the Flow: How a Little Fish Is Emblematic of Big Problems in Great Plains Rivers

*Contributed by Shannon Brewer*

Declines in aquatic habitat quality and quantity have resulted in the imperilment of approximately 40% of North American fish species. This pattern is particularly evident in the Great Plains where a once diverse endemic fish fauna is rapidly disappearing, most notably, in a unique group of minnows collectively referred to as pelagic broadcast-spawning cyprinids. These fishes reproduce via semi-buoyant eggs released directly into the water column. This strategy is rare in freshwater fishes and is thought to be an adaptation to the 'harsh' conditions of Great Plains rivers. The drifting eggs are kept safe from shifting sand substrates, but potentially require substantial uninterrupted lengths of river to successfully complete development in suspension.

Arkansas River shiner is among the better studied pelagic-broadcast spawning cyprinids. However, the species is believed to have been extirpated from most of its range prompting federal protection. Dr. Shannon Brewer (OSU) and Dr. Tim Grabowski (TTU) are working to assess how the interaction between reproductive strategy and landscape-level environmental change has impacted Arkansas River shiner distribution. They developed species-distribution models demonstrating that annual discharge, stream size, and precipitation seasonality determined the historical range of Arkansas River shiner. Although the potential historical range of the species identified by the models included vast expanses of the Arkansas River Basin, the models indicated that only two primary refuge areas capable of supporting Arkansas River shiner remain, both in the South Canadian River. The models reveal this reduction is related to landscape fragmentation and changes in the annual flow regime.



Flow protection for these refugia may maintain the sustainability of these remaining populations. However, our laboratory studies document changes in the buoyancy and development rate of egg and larval stages due to elevated suspended and dissolved solids in our rivers, a mechanistic response to landscape change that may make restoring Arkansas River shiner a challenging, but not impossible, task. The Great Plains fish assemblage, once considered tolerant of environmental extremes, is being pushed to new limits. Integrating additional aspects of water quality and more specific metrics of habitat quantity that can sustain these aquatic systems would add to the suite of conservation and management options available for Great Plains fishes.

Oklahoma Fishery Research Laboratory Project Update:  
September 2014

*Contributed by Kurt Kuklinski*

Walleye Length Limit Project: A four-year study of walleye fisheries throughout Oklahoma concludes in December 2014. Data and results from this study were recently used to justify a proposed minimum length change in ODWC fishing regulations. Walleye populations in Oklahoma reservoirs showed low annual mortality rates (range, 0.160 - 0.389) and generally good growth. The proposed reduction from 18-inch minimum length to 14 inches was modeled using Fishery Analysis and Simulation Tools to determine effects on study reservoirs. Reducing the minimum length limit on walleye statewide would not negatively impact any of the populations (size structure and age structure) in the study according to the model. In addition, the current 18-inch length limit has created disproportionate harvest of female walleye in several reservoirs. Age and growth data (using sagittal otoliths) suggests growth of male walleye is slower than growth of females, and in many cases male walleye never reach the minimum length limit of 18 inches (even at ages 6, 7, 8-plus years). Reducing the minimum length limit to 14 inches should allow anglers to harvest some of these smaller male fish and potentially allow for improved growth of the remaining fish in Oklahoma reservoirs. Reducing the minimum length limit on walleye should also reduce the disproportionate harvest of female fish by creating a greater potential for males to be included in anglers' bag limits (6 walleye per angler per day). Given the value of female walleye to ODWC hatchery and stocking programs (both walleye and saugeye), reducing the harvest pressure on females is an important conservation measure. The proposed regulation change will be discussed and reviewed when ODWC presents all regulation changes at public meetings in early 2015. The public can also comment on proposed changes via [wildlifedepartment.com](http://wildlifedepartment.com).



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## American Eel Records in Oklahoma *Contributed by Daniel Fenner*

Oklahoma AFS members,

The U.S. Fish and Wildlife Service is currently working on a status assessment of the American eel (*Anguilla rostrata*). Information in our files on the species distribution in Oklahoma is limited. So, I'm reaching out to you all with two requests:

- 1) Are you aware of any publications or collection records (historic or current) for the American eel in Oklahoma? and;
- 2) Are you aware of any recent research being conducted on the American eel in Oklahoma?

Information we have suggests that the American eel was last seen in Oklahoma from the Kiamichi River in 1973, although Miller and Robison (2004 - *Fishes of Oklahoma*) suggests its distribution is in the Arkansas and Red Rivers, and tributaries (no citations).

Any information you could provide would be much appreciated.

Thanks!

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**All-star Stream Fish:  
Uncovering the Qualities of Successful Competitors**  
*Contributed by Robert Mollenhauer and Shannon Brewer*

What are the defining qualities of great athletes that allow them to excel? Obviously, they must possess the necessary physical traits, but success takes more than physical prowess. They must also have the determination to develop their physical traits through intensive training and be a fierce competitor. Possessing the entire combination of necessary athletic traits is the difference between success and failure. A person will not succeed in sports, despite being physically gifted, if important behavioral qualities are lacking or if they have inherent physical limitations.

Analogous to an athlete, stream fishes must possess unique combinations of traits for successful life-history strategies. However, for fishes the arena is the stream environment and failure to “compete” could mean extinction. Natural selection is continually “testing” combinations of traits against the environment. Stream fishes have evolved combinations of traits for adaptations that increase the chance of persistence. However, human activities are altering stream environments too fast for many fishes to adapt, leading to major losses in diversity. Stream researchers and managers are presented with the challenge of understanding why some fish species continue to succeed in this rapidly changing environment and why so many others fail.

By studying trait combinations possessed by different stream fishes, we can improve sampling methods, relate life-history strategies to the stream environment, and predict future species of concern. This research represents an underexplored use of traits for stream-fish conservation by way of standardizing surveys. To maximize management efforts, we are matching optimal survey methods with groups of stream



fishes that possess unique combinations of behavioral and physical traits. The second part of this research examines how trait combinations explain life-history strategies that ultimately either succeed or fail against different environmental stream conditions. Finally, we are using predictive scenarios to develop more proactive conservation strategies by simulating future changes in stream-fish assemblages under different climate-change and land-use scenarios.



# OKLAHOMA CHAPTER of the AMERICAN FISHERIES SOCIETY

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### PRESIDENT'S MESSAGE

Serving as President for the OSU Student Subunit of AFS this year will be an honor and an exciting opportunity. Building upon the foundations laid by previous officers, Anthony, Trevor, and I have set forth with the goal of continuing to expand the size and scope of the subunit. We believe that we can achieve that goal by focusing on three key areas: expanding our members' education and skillsets in fisheries, performing outreach activities to educate the public about fisheries and aquatic ecology, and fostering camaraderie within our group. In all, we hope this plan will promote the development of young fisheries professionals while leaving a positive impact on our community.

Only a few months into the school year, I am happy to say that the student subunit has already been extremely productive! Our first meeting was attended by 19; including many new faces that form a diverse group of undergraduate and graduate students. We quickly banded together to create an interactive, educational booth for the Oklahoma Wildlife Expo that highlights the diversity of fishes across different ecoregions of our state. This was a great undertaking, as members sprawled across the state to sample fishes, created several educational posters about unique fishes in different ecoregions, and volunteered to work our booth. We were able to educate attendees of all ages on the diversity of fishes in Oklahoma, how human actions can affect fishes, and how fisheries scientists sample fishes. Moreover, the educational materials we created will be used in the future to help to expand our outreach efforts. In the process of completing these activities, the undergraduate and graduate students within the subunit have become better connected, and both

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groups have benefitted. Our undergrads have started gaining valuable field experience while helping grad students with the research projects; meanwhile, grad students have assumed roles as mentors to our younger members.

The Student Subunit has a number of exciting plans for the months ahead. We are planning to host several speakers so we can learn about potential careers, groundbreaking research, and ongoing management efforts. We are also planning to host or co-host several workshops that should improve important skills for up-and-coming fisheries professionals. Regarding outreach efforts, we are looking to be involved with several kid's fishing events and in-class environmental education activities. To encourage camaraderie, we will also be starting a series of informal paper discussions, and we are also looking forward to a float n' fish trip next spring!

Finally, there are several ways that the subunit is trying to give back to the Oklahoma Chapter AFS this year. Kris Stahr is drafting plans for an undergraduate travel scholarship that would help ambitious but underfunded students attend our annual meetings. Furthermore, several of our members have been working on a "digital facelift" for OK AFS. Katelynn Gifford, Dr. Jim Long, and myself have been working on a series of color logos complete with our state fish, which will be up for vote in the near future. In combination with many excellent contributions from OK AFS members, I have been working on improving the layout and graphics of the Lateral Line newsletter – something that I hope all members will enjoy. If you have any ideas on how the student subunit can become more involved, please email me. Also, all members are welcome to join our new [Facebook group](#) to keep up with the subunit's ongoing activities and discussion of fisheries topics.

Tight Lines and Full Nets,  
Andrew Taylor



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## Student Subunit Events



**Sierra Club Nature Camp** – Members assisted with a kid’s fishing event on Lake Sanborn in June 2014. Kris Stahr and Trevor Starks guided many children to catching their first fish – even going so far as to clear out areas of thick aquatic vegetation to accommodate angling.



**2014 Oklahoma Wildlife Expo** – Members assisted with the creation of an interactive and educational booth that highlights the diversity of freshwater fishes in Oklahoma. We had three 15-gallon aquariums full of fishes and macroinvertebrates from three different ecoregions, along with informational posters about the unique fishes and watershed-level threats in each area.

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## Student Subunit Member Activities



**Jahna Hill's** internship with the Oklahoma Department of Wildlife Conservation involves snorkeling to assess fish community structure. This young bass enjoys a large root wad in Spring Creek, Cherokee County.



**Kris Stahr's** research currently focuses on the effect of American water willow, an emergent macrophyte widely planted in Southern reservoirs, on juvenile largemouth bass survival. In addition, Kris is also investigating the role of aquatic vegetation stem density and complexity on the foraging ability of pre-piscivorous largemouth bass.



**Matt Pallett** has worked the past two springs in Miami, OK at the Paddlefish Research Center. He got to catch this one while on the job!



**Trevor Starks** is studying community structure and life history of big river fishes in the lower Missouri River.

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## Student Subunit Member Activities



**Andrew Taylor** is investigating the influences of fragmentation on fluvial-specialist black bass species using species distribution modeling, conservation genetic measures, and population dynamics data.



**Nicole Farless** is studying how flow alteration influences the fish assemblage and the habitat for streams in the Ozark Highlands and Arbuckle Mountains.



**Joseph Dyer** is beginning his dissertation research on Blue Sucker (*Cycoreptus elongates*).



**Colt Holley** worked for the Oklahoma Department of Wildlife Conservation at the J.A. Manning State Fish Hatchery in Medicine Park during the summer of 2014. He helped raise and harvest game fish for transporting and stocking into various lakes around the state.

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## Student Subunit Publications

- Alvarez, A., D. Peterson, **A.T. Taylor**, M. Tringali, and B. Barthel. *In press*. Distribution and amount of hybridization between Shoal Bass *Micropterus cataractae* and the invasive Spotted Bass *Micropterus punctulatus* in the lower Flint River, GA. Pages XXX-XXX in Tringali et al., editors. Black Bass Diversity: Multidisciplinary Science for Conservation. American Fisheries Society, Bethesda, Maryland.
- Cartabiano, E.C.**, D.R. Stewart, and J.M. Long. *In Press*. Effect of bait and gear type on turtle bycatch and Channel Catfish population parameter estimates in a reservoir. *Journal of Freshwater Ecology*.
- Freeman, B., **A.T. Taylor**, K. Oswald, J. Wares, M. Freeman, J. Quattro, and J. Leitner. *In press*. Shoal basses, a clade of cryptic identity. Proceedings of the Black Bass Diversity Symposium: Multidisciplinary Science for Conservation. Pages XXX-XXX in Tringali et al., editors. Black Bass Diversity: Multidisciplinary Science for Conservation. American Fisheries Society, Bethesda, Maryland.
- Powers, J.**, S.K. Brewer, J.M. Long, and **T. Campbell**. 2014. Evaluating the use of side-scan sonar for detecting freshwater mussel beds in turbid river environments. *Hydrobiologia*. Doi: 10.1007/s10750-014-2017-z
- Worthington, T.A.**, S.K. Brewer, and **N. Farless**. 2013. Spatial and Temporal Variation in Efficiency of the Moore Egg Collector. *North American Journal of Fisheries Management* 33:1113-1118.
- Worthington, T.A.**, S.K. Brewer, **N. Farless**, T.B. Grabowski, and M.S. Gregory. 2014. Factors affecting the transport time of semibuoyant fish eggs in large, altered river systems. *PloS ONE* 9(5): e96599. Doi: 10.1371/journal.pone.0096599
- Worthington, T.A.**, S.K. Brewer, T.B. Grabowski, and J. Mueller. 2014. Backcasting the decline of a vulnerable Great Plains reproductive ecotype: Identifying threats and conservation priorities. *Global Change Biology* 20:89-102. Doi: 10.1111/gcb.12329
- Taylor, A.T.**, and D.L. Peterson. 2014. Shoal Bass life history and threats: a synthesis of current knowledge of a *Micropterus* species. *Reviews in Fish Biology and Fisheries* 25:159-167.
- Taylor, A. T.**, **T. Starks**, **N. Farless**, S. K. Brewer, and K. Elkin. 2014. "Section 2 Regional Flow-Ecology Hypotheses, Chapter 7 Orangethroat Darter (*Etheostoma spectabile*)." Pages 49-55 in Davis, M. M. and S. Brewer (eds.). Gulf Coast Prairie Landscape Conservation Cooperative Regional Hypotheses of Ecological Responses to Flow Alteration. A report by the GCP LCC Flow-Ecology Hypotheses Committee to the Southeast Aquatic Resources Partnership (SARP) for the GCP LCC Instream Flow Project. Wildlife Management Institute Grant Number GCP LCC 2012-003.

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## Student Subunit Presentations

- Cartabiano, E.C.**, and J.M. Long. 2014. Fish community responses to drought in an aging Great Plains reservoir. Annual Meeting of the Oklahoma-Texas Chapter American Fisheries Society, Pottsboro, TX. *Oral presentation.*
- Cartabiano, E.C.**, D.R. Stewart, and J.M. Long. 2014. Comparison of methods and bait-type to minimize by-catch when sampling for channel catfish in reservoirs. Annual Meeting of the Southern Division of the American Fisheries Society, Charleston, SC. *Oral presentation.*
- Mollenhauer, R.**, and S.K. Brewer. 2014. Incorporating a trait-based approach into effective stream-fish management and monitoring. Annual Meeting of the Southern Division of the American Fisheries Society, Charleston, SC. *Oral presentation.*
- Stahr, K.J.**, and D.E. Shoup. 2014. The role of American water willow in mediating juvenile largemouth bass survival and anti-predator behavior. 23<sup>rd</sup> Annual Meeting, Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. *Oral presentation.*
- Stahr, K.J.**, and D.E. Shoup. 2014. The effects of aquatic vegetation on foraging efficiency and predator avoidance of juvenile largemouth bass. Joint Meeting of the Oklahoma and Texas Chapters of the American Fisheries Society, Pottsboro, TX. *Oral presentation.*
- Stahr, K.J.**, A. Pennell, and D.E. Shoup. 2014. Differences in epiphytic macroinvertebrate communities between two aquatic macrophyte species: implications for juvenile largemouth bass. 23<sup>rd</sup> Annual Meeting, Oklahoma Clean Lakes and Watersheds Association Conference, Stillwater, OK. *Poster presentation.*
- Starks, T.A.**, and J.M. Long. 2014. Community responses of larval fishes to created shallow-water habitats in the Missouri River. 3<sup>rd</sup> Annual Student Water Conference, Stillwater, OK. *Oral presentation.*
- Starks, T.A.**, and J.M. Long. 2014. Community structure of age-0 fishes in paired mainstem and created shallow-water habitats on the lower Missouri River. Annual meeting of the American Fisheries Society, Quebec City, Canada. *Oral presentation.*
- Taylor, A.T.**, P. O'Rourke, and J.M. Long. 2014. Black bass (genus *Micropterus*) community composition upstream of impoundment in two southeastern rivers. Annual Meeting of the Georgia Chapter of the American Fisheries Society, Athens, GA. *Oral presentation.*
- Taylor, A.T.**, P. O'Rourke, and J.M. Long. 2014. Black bass (genus *Micropterus*) community composition in the river-reservoir interface of two southeastern rivers. Annual Meeting of the Southern Division of the American Fisheries Society, Charleston, SC. *Oral presentation.*



### Student Subunit Completed Theses

**Dyer, J.** 2014. The impacts of flow alterations to crayfishes in southeastern Oklahoma, with an emphasis on the Mena Crayfish (*Oronectes menae*). Masters Thesis, Oklahoma State University, Stillwater.

**Snow, R.A.** 2014. Life history of juvenile Alligator gar (*Atractosteus spatula*) in Oklahoma. Masters Thesis, Oklahoma State University, Stillwater.

### Student Subunit Awards

**Joseph Dyer.** 2014. Travel Award, Oklahoma-Texas Chapters of the American Fisheries Society Annual Meeting.

**Joseph Dyer.** 2014. Best Student Presentation Award, Oklahoma-Texas Chapters of the American Fisheries Society Annual Meeting

**Nicole Farless.** 2014. Robert L. Lochmiller II Endowed Scholarship for Excellence in Graduate Research, Oklahoma State University.

**Kristopher Stahr.** 2014. Outstanding Fisheries Graduate Student Award, Oklahoma State University.

**Andrew Taylor.** 2014. Jimmie Pigg Travel Scholarship, Oklahoma Chapter of the American Fisheries Society.

**Andrew Taylor.** 2014. Otto S. Cox Graduate Fellowship for Genetics Research, Oklahoma State University.

**Andrew Taylor.** 2014. Don L. Brumbaugh Scholarship, Sonotronics.

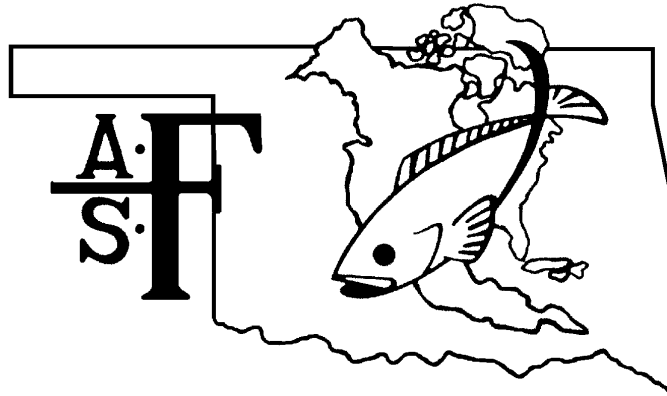
**Tianjiao Zhang.** 2014. Best Student Poster, 23rd Annual Oklahoma Clean Lakes and Watersheds Association

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### **THE LATERAL LINE**

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