



## President's message

by Dave Buzan

Yesterday was an exceptional late winter day with sunshine and warm breezes. Working along the banks of a pristine Hill country stream, its crystalline waters overlaying bleached bedrock, I found the still bloody carcass of a wild turkey surrounded by a neat pile of feathers. The ranch manager told me turkeys and owls were bountiful this year and an owl had probably celebrated an early Thanksgiving turkey dinner.

The chapter and our annual meeting are where we come together to grow, celebrate, and glimpse the future. Like the owl, our chapter family has much to give thanks for. As Kevin Storey said in last year's president's message, an attempt to name all who contributed would fill these pages and leave many overlooked. One-third of you played roles, some large and others small, but all critical to the meeting's success. We are deeply grateful for everything you did.

Randy Rushin, our president-elect, reminded me our population will double as the supply of readily available water decreases over the next decades. The adage, "Whiskey is for drinking and water is for fighting" resonates now as it did a century ago. We are in that fight, struggling to ensure there is water for healthy streams, lakes and estuaries. Ensuring water for people and ecosystems will be the future contribution many of you will make.

Golden algae continues to be an enigma as we now fight to control zebra mussels. For decades, many of us working and playing on rivers, saw mussels and looked at them with little more than passing curiosity. Our work begins in earnest to divert many of them from path to extinction. Our battle of 35 years ago to ban commercial netting in bays is being replaced with the work of restoring oysters to their cornerstone role in our estuaries.

Plenty to do, lots to learn, much to enjoy. Grow your role in our chapter family, it is where we will lay the foundation for much of what is accomplished in the next 40 years.



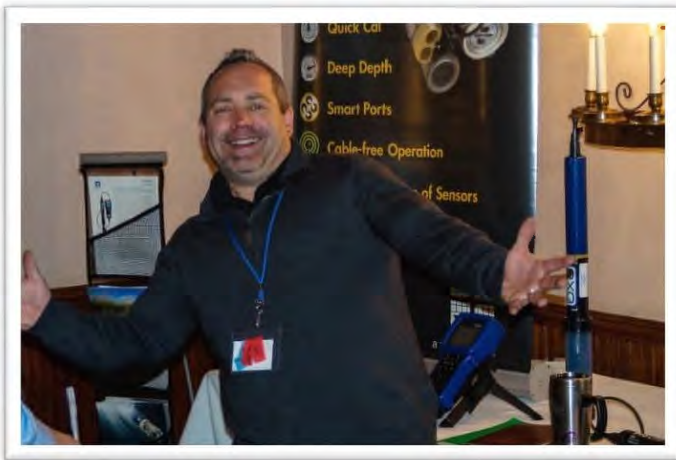
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## President-Elect's message

by Randy Rushin

TCAFS has been an important part of my life since 1998, when I attended my first conference at the TFFC in Athens. Since that meeting, I have always looked forward to attending TCAFS and being part of the membership. I am truly excited to serve as President-Elect!

Our chapter has an unique culture that supports the growth and development of our student members as well as professionals. We are dedicated to helping the next generation be successful contributors to the field of fisheries science. Our chapter is a forward-looking organization that is always looking for ways to improve meetings, presentations, collaboration and fisheries science.



With those thoughts in mind, I am reminded of ideas put forth by Past-President Rick Ott in which he observed that fisheries science is no longer an isolated field of study but encompasses a broad range of disciplines including engineering and hydrology. He suggested that we should consider marketing our chapter and conference beyond scientists and regulators to include anglers, river authorities, water districts and any other individual or entity interested in clean water. I believe that he is right. Our population is rapidly growing all the while our available water resources are diminishing. How will we meet the future water demands of the population, agriculture, and industry without harming the ecology of water bodies? I would like the chapter to consider this idea as the theme of our annual meeting.





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# Texas Chapter AFS Annual Business Meeting Minutes

November 17, 2015

Y.O. Ranch Hotel & Conference Center, Kerrville, Texas

by Michael Homer, Secretary Treasurer

**Determination of a quorum:** Yes, by Michael Homer Jr.

**Approval of minutes:** Kevin Storey requested a motion for approval of the 2015 Business Meeting minutes by those in attendance. Michele Nations gave the initial motion; Danny Lewis gave the second motion. The minutes were approved by the quorum.

**President's Report:** (Kevin Storey)

- Kevin recognized the ADHOC committee that worked to replace the meeting plenary session with a keynote speaker. The change allowed for 38 oral presentations and 25 posters.
- Kevin additionally thanked Dave Terre for his efforts in securing the relationship with the Patsy B. Hollandsworth Foundation which has contributed \$165,000 to date.
- Kevin stated that four committees had new chairpersons. Lynn Wright became the new Continuing Education Committee chairman; Dan Bennett became the new Nominating Committee chairman; Joe Beach became the new Student Outreach Committee chairman; Jake Norman and Alice Best became the Publicity and Exhibit Committee co-chairpersons.

**SDAFS Officer Update:** (Craig Bonds)

- Craig Bonds notified the chapter that the 2016 SDAFS annual meeting was being held on 2/20-2/24 in Wheeling, WV; the 2017 meeting will be held in Oklahoma City, OK; and in 2018, the meeting may be held in San Juan, Puerto Rico. Craig stated that the 2019 sponsorship was still open and suggested that the chapter consider taking the role.
- Craig also informed the chapter that the SDAFS website had been hacked and it has since been moved to the AFS server. The new webmaster is graduate student, Hae Kim. Craig requested that all career and internship opportunities be sent to Jacob Peoples.
- The parent society is now offering Survey Monkey service to all chapters for free, and those interested will need to contact Sean Johnson.
- Craig stressed the importance of reviewing the chapter procedures manual, and he recommended that the chapter work to keep them current.
- The SDAFS listserve is up and running again and managed by Dennis Riecke. If there is anything the chapter would like to be sent to SDAFS members such as job announcement(s) or other opportunities, please contact Dennis.

**Secretary/Treasurer's Report:** (Michael Homer Jr.)

- Mike Homer reported the Chapter finances for 2015 (see Appendix A).
  - The chapter started the year with nearly \$15K in the chapter checking account.
  - Total Income was approximately \$38,265.14 consisting of primarily meeting income, dues, interest, and donation from the Patsy B. Hollandsworth Family Foundation.
  - Expenses for the year were close to \$30K consisting of expenses for the annual meeting (awards, deposits, supplies and printing, raffle items, and the hotel master bill) and other costs such as our chapter insurance, AFS Fish Management Section \$500 contribution, payment to CPA for chapter tax return, easels, display foam boards, iPad, audio recorder, bank fees.
  - \$2,500 was deposited into the endowment account.
  - Once the expenses were subtracted from the total balance, the remaining balance was \$21,041.32.

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- Michael thanked Patsy Berry, Jimmie Green, and Annette Sudyka for their assistance with the registration table at the 2016 annual meeting.
  - Mike gave a preliminary report for this year's meeting. There were a total of 196 registrants at the 2016 meeting, comprised of 132 Professional members and 64 Students. Attendance at the banquet was estimated to be 204 people. Raffles and the auction raised \$7,800.

## Committee Reports

### Awards – (Michele Nations)

- Michele reported that she had 35 professional judges for 37 presentations and 25 posters. 23 Students were given the opportunity to judge the 7 professional posters for experience; however, their votes did not count towards the awards.
- The chapter awarded 9 plaques and 4 honorable mentions.

### Continuing Ed – (Lynn Wright)

- Lynn thanked everyone who participated in the continuing education workshops at the 2016 meeting. Lynn stated that he had sent out a general interest online survey earlier last year to help plan the workshops. He would like ideas from the chapter for topics for continuing education for the 2017 annual meeting.

### Editorial – (Dan Daugherty and Allison Pease [not present])

- Dan Daugherty reported that the 2015 annual meeting proceedings are online on the TCAFS website.
- Dan reported that student presentations at the 2016 annual meeting were up to 53%. The change to adding a keynote speaker instead of having a plenary session allowed for 40 presenter slots, which only two were turned down. Dan requested feedback regarding how these changes affected the meeting.
  - Many members agreed that the changes were positive.
  - Tim Bonner suggested that the chapter make a better effort to keep talks on-time and that a possible solution could be to use moderator assistants.
- Dan requested that the chapter explore the use of an online abstract submission system for future meetings to facilitate the abstract submission process. Dan suggests that if the chapter were to adopt this option, that the abstract submission system be similar to that of the parent society.

### Endowments – (Dave Terre)

- Work summary:
  - The Endowments committee continued to nurture relationships with our major contributors, including the Patsy B. Hollandsworth Family Foundation and the Sportsmen's Club of Fort Worth.
  - We had the pleasure of having Larry Courington, Will Courington, and Clayton Courington attend this year's annual meeting.
  - We continued our relationship with the San Antonio River Authority to provide an exclusive seasonal, summertime job opportunity for a BS-Level student member for the third straight year. This program was named after Mike Gonzales, a former TCAFS member. Mike passed away in 2012 and was a friend to many of us. Mike also supported the first AFS Hutton student in Texas.
- Fiscal notes:
  - The TCAFS started the year with a balance of \$239,340 in our Scholarship Endowment Account.
  - Donations received in 2015 totaled \$20,947
    - \$17,500 – Patsy B. Hollandsworth Family Foundation (September 2015)
    - \$3,000 – Sportsmen's Club of Fort Worth – Pass-through grant
  - During 2015, the TCAFS delivered five scholarships to deserving fisheries students (total = 4 at \$1,500 each + 1 at \$500 = \$6,500).

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- The total amount of cash we invested in our endowment during 2015 was \$14,000. The account was down 1.34% on investments, but it has improved on the benchmark value.
  - Our ending balance for 2014 was \$250,081 (12/31/2015).
  - **Other topics:**
    - Dave thanked all contributors to the student scholarship program (The Patsy B. Hollandsworth Family Foundation; the Sportsmen's Club of Fort Worth; Randy Rushin; and the TCAFS membership for their generous donations at the raffle/auction).
    - The Endowments Committee will continue to nurture the relationships we have with current Student Scholarship Program contributors and keep lines of communication open.
    - Dave thanked Kevin Mayes for helping on the Endowments Committee this year and for his leadership on the Clark Hubbs Research Grant Award.
    - Dave recognized Jimmie and Kirk Green for their continued help with TCAFS Endowment Committee activities and for their communications with the Patsy B. Hollandsworth Family Foundation. Dave also thanked Jimmie, Patsy Berry, and Annette Sudyka for their support at the registration table at the 2016 annual meeting.
    - Dave also recognized Mike Morgan and the entire Student Scholarship Selection Committee, for all their outstanding work over the past year.

#### **History – (Michele Nations)**

- Michele collected the last remaining judging forms.
- Michele thanked members who provided photos for the slideshow presentation.
- Michele also thanked Ray Mathews for providing this year's Keynote Address.
- Michele reported that she will be working on the 40-year document, adding photos and text, as well as she will be consulting Ray Mathews' old newsletters for additional content.
- Michele proposed using website space for archiving older documents.
- Michele lastly thanked the chapter for 40 years of presence.

#### **Internet – (John Taylor and Danny Lewis)**

- Danny Lewis stated podcasts and proceedings of the presentations from the 2015 TCAFS Meeting are available on the chapter website. This year's meeting will be available soon.
- Danny reported that the chapter's Facebook page has 403 likes, and that the page has nearly doubled in the last year with likes from students interested in the chapter.
- Danny reported that the TCAFS website is now on the new parent society server.
- Danny stated that he plans to contact Sean Johnson for the free use of Survey Monkey.
- Danny also plans to explore the use of an online abstract submission system.

#### **Issues – (Mark Webb and Gene Wilde)**

- No report.

#### **Membership – (Debbie Wade)**

- Debbie Wade acknowledged that collecting dues with annual meeting registration and at the chapter level seems to be effective for keeping track of membership.

#### **Newsletter Editor – (Kevin Storey)**

- Kevin reported that he has had some issues with members' emails bouncing back when newsletters and announcements are sent on the chapter listserve.
- Kevin will set a deadline for newsletter submissions in the next couple of weeks.
- Kevin encouraged members to submit articles for the newsletter.

#### **Pond Management – (Greg Binion).**

- Greg stated that the TCAFS Pond Management manual has not been revised in a while and that the chapter should review and revise it as necessary. Greg requested that an ADHOC committee be

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formed to help with the revision efforts. People interested in assisting with these efforts should contact him via email. Dan Bennett, John Tibbs, and Jake Norman expressed willingness to help.

- Kevin Storey also stated he will solicit help with the manual revision efforts in the upcoming newsletters.

#### **Nominating – (Dan Bennett)**

- Dan thanked John Taylor and Danny Lewis for setting up the online early voting.
- Dan stated that there was only one officer election in 2016 (President-Elect); two officers will be up for election in 2017 (Secretary-Treasurer and President-Elect).
- Dan thanked Dakus Geeslin and Randy Rushin for running for President-Elect. He also thanked the 70 members who voted.
- The 2016 President-Elect will be Randy Rushin.
- Kevin Storey urged members to run for a position if they are interested.

#### **Publicity/Exhibits – (Jake Norman and Alice Best)**

- Jake thanked the Conley Family and Alice Best for their support with the raffle and auction efforts.
- Jake mentioned that he will be stepping down as the Publicity/Exhibits Committee chairperson and that he is looking for someone to take on the chair. He requested that anyone interested contact him or that the chapter nominate a suitable candidate.

#### **Scholarships – (Mike Morgan)**

- Mike stated he mailed 80 letters to universities and colleges for scholarship applications submissions. These mailings are sent to most four-year institutions in Texas. Mike believes that this method is effective at expanding awareness of the scholarship opportunities. He received a total of 28 applications for student scholarships this year: 3 undergraduate students; 12 Masters students; and 13 Ph.D. students.
- Scholarships were awarded to 2 undergraduate students, 2 Masters students, and 2 Ph.D. students.
- Mike thanked all who served on the Scholarship Awards Committee.
- Mike mentioned that John Findeisen will be stepping down from the Scholarship Committee and that Dave Terre will be replacing him. John was a prior scholarship recipient in 1995.
- Mike encouraged members interested in working with the committee to contact him.

#### **Student Outreach – (Joe Beach)**

- Joe thanked Dave Buzan, Susan Wagner, Michael Homer, the various professors, and all student members for assisting with and/or participating in the 2016 Student/Mentor Luncheon.
- Joe stated that 300-400 students are on the chapter's email listserve for career announcements.

#### **Student Subunit Chapter Reports –**

- Aaron Urbanczyk (Texas Tech AFS President) remarked that 27 members will participate in a Texas Parks & Wildlife Department Angler Education Certification workshop.
- Kenneth Zachary (TAMU-AFS President) attended the meeting but had to leave early to travel. TAMU-AFS advisor Dr. Fran Gelwick was in attendance and mentioned a planned fundraiser (crawfish boil) to be held this spring.

#### **Old Business (Kevin Storey):**

- Kevin mentioned that TCAFS had been considering taking the lead to host an upcoming SDAFS meeting in 2018 or later. Kevin requested that a committee be formed to begin the ground work for the meeting planning. Kevin asked those interested to raise hands.
  - Members Debbie Wade, Dan Daugherty, Dave Terre, Michele Nations, Kevin Storey, Jake Norman, and Michael Homer expressed interest in participating on the committee.
  - Kevin recommended that the committee will need to meet soon.
  - Dave Terre recommended that a chairperson be nominated, but he is not interested in serving in this role. Craig Bonds said that we have plenty of time to identify the leader of the committee, and that he can relay the chapter's interest.



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- Gene Wilde motioned to form the committee and host an upcoming meeting; Michele Nations seconded the motion.
  - Kevin mentioned that there was discussion regarding the requirement of students to be chapter members when applying for chapter scholarships. The requirement has been presented on prior scholarship announcements, but it has since been removed because it is not required by the TCAFS bylaws. Kevin questioned if the chapter wishes to have membership be a requirement of student scholarship applicants.
    - Debbie Wade motioned that the chapter require membership for those applying for student scholarships.
    - Craig Bonds requested that Debbie Wade restate her motion.
    - Danny Lewis motioned to discuss the issue; Michele Nations seconded Danny's motion.
    - Mike Morgan stated that dues should not be required upon application, but to receive the scholarship then dues should be paid. His reasoning is that requiring students to be members may create a barrier for students to apply for scholarships because they can interpret the requirement to be an application fee. Mike feels that the quality applicants will be sorted out during the evaluation process. The announcement would have to be modified to clarify any dues requirement to ensure that the Scholarship Committee chairperson is not going to have to take on Secretary-Treasurer roles.
    - Dave Terre feels that the requirement would be a barrier to applications for scholarships. Dave suggested that those receiving scholarships will pay their dues at the annual meetings when they receive their award, which seems to be the norm. Dave Terre feels that students should have no requirements just maintain adequate exposure of the chapter to the student base.
    - Gene Wilde inquired if Mike Morgan would be able to determine how many student applicants were members. Mike Morgan said he would need membership data from the Secretary-Treasurer.
    - Kevin Storey stated that the simplest action would be to take no action and not require applicants to be members.
    - Craig Bonds requested a clarification of any requirements of members to apply for scholarships. The bylaws and procedures do not state that there is a requirement for membership when applying for chapter scholarships.
    - Mike Morgan reiterated that the requirement was posted in previous announcements, but he has taken it out. However, some members have been displeased about this not being a requirement, but Mike feels that it has not been an issue. Mike has also clarified that there is a statement encouraging student scholarship recipients to attend the annual meetings to receive their awards. Mike said that roughly 90% of scholarship winners will attend the meetings.
    - Debbie Wade withdrew her original motion.
    - Dan Daugherty asked if students could indicate their membership status on the scholarship application. Mike Morgan said it would be possible to do this, but he would need help from the Secretary-Treasurer. There may also be some concern that students may inherently say they are members to avoid potential bias during the scholarship application evaluation process.
    - Mike Homer suggested that EXCOM revisit this and maybe revise the procedures to provide some clarification to having no requirement for membership for students who wish to apply for TCAFS scholarship.
    - John Burch expressed concern that the Colorado River Municipal Water District would not be able to advertise the scholarship announcement if there was a membership requirement.
    - Kevin stated that the general consensus is to take no action. Chapter decided to take no action.
  - Kevin raised that the Issues Committee had raised the issues of ATV use in Canadian and Red rivers and to work towards developing a resolution. Gene Wilde reported that SDAFS had discussed this issue at the 2015 SDAFS annual meeting, and they have motioned to develop a resolution.
  - Kevin also mentioned that the Issues Committee had also raised the issue of bait fish introductions into the Brazos and Red rivers. Gene Wilde said this issue is still being discussed.
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- Kevin stated that there was a discussion about using the TCAFS for advertising to raise additional funding. Consensus of the chapter was to leave the website alone.

### Installation of new TCAFS Officers

- Kevin Storey presented the official TCAFS skag as a symbol of the passing of chapter leadership to Dave Buzan.
- Dave presented Kevin with an AFS Past-President's Plaque and thanked him for the great work he had done as President and for drafting the newsletters and took over the position.

### New Business (Dave Buzan):

- Dave Buzan wanted to seek a replacement for the Publicity/Exhibits Committee chair. Dave requested nominations and suggestions for potential candidates. Dave will be following up with Natalie and Alice.
  - Michele Nations nominated Alice Best. Alice said she is considering assuming the position, but she needs more time to think about it. Michele Nations also nominated Natalie Goldstrohm as a potential candidate.
- Kevin Storey received an email from Elizabeth Hunt at Texas A&M University Corpus Christi about starting a new student subunit at the university. She would like support from TCAFS for developing a petition to start the subunit. EXCOM will respond to the request and suggest consulting the parent society for completing the necessary steps. Further, the EXCOM will recommend that Ms. Hunt contact John Boreman for guidance to complete the necessary requirements.
- Kevin stated that the AFS Education Section would like to increase the Skinner Award by \$500 from each state chapter prior to June 1, 2016 to allow for better travel accommodations at the annual meeting.
  - Kevin stated that AFS will match the total contributions from the state chapters.
  - Dave Buzan clarified that the winner of *Outstanding Presentation* is awarded \$500 towards travel reimbursement, which Mike Homer stated that the reimbursement was not requested in 2015.
  - Dan Daugherty mentioned that previous discussion has taken place about the Skinner Award not providing enough funding for students to attend the parent society annual meeting.
  - Tom Lang motioned to approve the \$500 contribution to the AFS Education Section. Ken Kurzawski seconded the motion. Chapter voted the contribution was approved.
- Michele Nations requested clarification if TPWD employees that are currently students could be awarded a student award.
  - Craig raised that SDAFS said that employees that had returned to school were only eligible for a professional award.
  - Mike Morgan stated that even if an employee is enrolled, they are still technically a student, and that he still deems them eligible.
- Debbie Wade mentioned that TCAFS has previously supported Texas Bass Brigades with \$500 scholarship for a cadet. IN 2016, the first Coastal Brigade camp will be offered, and Debbie requested that TCAFS support a cadet with the same scholarship.
  - Debbie made the motion to provide the additional \$500 to Coastal Brigades. Brian Van Zee seconded the motion. Chapter voted and agreed to provide the \$500.
- Dave Buzan mentioned that the EXCOM will be discussing the possibility of increased chapter dues. Dave requested a motion to adjourn the meeting.

**Adjourn:** Kevin Storey then made the motion to adjourn which was seconded by Deborah Wade. The meeting was adjourned at 1:40 pm.







Texas Chapter of the American Fisheries Society  
2016 Financial Statement

<b>Starting Balance as of 1/1/2015</b>		<b>\$14,964.30</b>
<b>Income</b>		
2015 Interest		\$0.78
2015 Meeting Income		\$24,902.12
TCAFS Collected Dues/AFS Rebate		\$7,362.24
Patsy B. Hollandsworth Foundation* (*17,500 Donated)		\$6,000.00
	<b>Total Income</b>	<b>\$38,265.14</b>
	<b>Balance</b>	<b>\$53,229.44</b>
<b>Expenses</b>		
Awards		
Scholarships		\$6,500.00
Plaques		\$625.00
	<b>Total Awards</b>	<b>\$7,125.00</b>
Annual Meetings		
Holiday Inn – Tyler, TX (2015)		\$16,108.86
2015 Meeting - Cash Bank		\$300.00
2015 Meeting Supplies & Printing		\$800.70
2015 Framing		\$87.48
2015 Auction - Hybrid Strip Trip – Bob Maindelle		\$125.00
2015 Raffle Items – ACK Moken Kayak		\$739.00
40 <sup>th</sup> Anniversary Pins for 2016 meeting		\$445.00
Y.O. Ranch Hotel & Conference Ctr. (2016) – Deposit		\$500.00
	<b>Total Annual Meeting</b>	<b>\$19,106.04</b>
Other		
2015 Chapter Insurance (AFS)		\$150.00
AFS Fish Management Section Contribution		\$500.00
CPA for Taxes (\$1,350.00 plus \$14.19 shipping costs)		\$1,364.19
Easels		\$207.80
Foam Display Boards		\$510.00
Audio Recorder		\$32.35
Postage Stamps		\$9.80
Shipping Costs		\$151.04
iPad, Warranty, & Case		\$522.90
Bank & Check Fees		\$9.00
	<b>Total Other</b>	<b>\$3,457.08</b>
	<b>Total Expenses</b>	<b>\$29,688.12</b>
	<b>Income – Expenses</b>	<b>\$23,541.32</b>
<b>Money Transferred</b>		
TCAFS Endowment Fund		\$2,500.00
<b>Ending Balance as of 12/31/2015</b>		<b>\$21,041.32</b>

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# Outstanding Fisheries Worker Awards - 2015

by Michele Nations, Awards Committee Chair

It is really an honor to work on the awards committee and be its chair where we seek out individuals and/or groups to recognize and honor them for their achievements. I liken the responsibility to anglers seeking to find a trophy fish. We cast our lines and nets out in the form of emails, newsletter articles, listserv notices, Facebook posts, and one-on-one conversations with people who might have someone on their team that deserves recognition. Then it is up to the individual(s) to put together the information on the nomination form and send it in where it is judged by members of the awards committee. This year the people who participated in selecting the winners were Megan Bean, Dave Buzan, Tim Bonner, Dakus Geeslin, Charlie Munger, and Rick Ott. I'd also like to thank all of the people who worked hard to nominate and select these outstanding fisheries workers. I love my work!

## **Fisheries Administration** – Carl Kittel



Since Carl started work for the Texas Parks and Wildlife Department in 2006, he has assumed the responsibility of managing the statewide production and stocking of the native and non-native fish species in Texas, which was approximately 25 million fish for 2015. This requires a great deal of coordination with TPWD management, hatchery, purchasing, and media staffs, as well as reaching out to the community representatives involved with the stocking of channel catfish and rainbow trout for the Neighborhood Fishin' Program. Carl is the Fish Culture section chair for the AFS and was the moderator of the Managing Challenges and Conflicts with the Wise Use of Fish Hatcheries and Traditional Production Objectives at the 145th Annual AFS Meeting in Portland, 2015.

## **Fisheries Education** – Dr. Frances Gelwick

Dr. Frances Gelwick has touched the lives of many friends, colleagues and students during her career. Over the course of her career at Texas A&M University (since 1995, and prior to retiring in 2015), she has had over 30 peer-reviewed articles, four book chapters and 21 graduate students during her tenure at Texas A&M University. Her passion for teaching has carried her into many different classrooms; Dr. Gelwick taught 17 different classes through the span of her career. While at Texas A&M her primary classes were Fisheries Management and Animal Ecology, which she taught for 19 and 14 years respectively. She has helped students and her Department through her involvement with a list of student groups and communities on campus that is too lengthy to list. Dr. Gelwick has been an excellent mentor and teacher during her tenure at Texas A&M, and we hope that her style of enthusiasm and outreach within the community will carry on in the hearts of her colleagues.



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## **Fisheries Management** – John Moczygemba



After graduating from Texas A&M University in May 1969, John began working for Texas Parks and Wildlife Department as a summer intern for Bob Kemp at the Inland Fisheries District Office in San Antonio studying the life history of flathead catfish in the Medina and Rio Grande Rivers. After a tour in the Army, John returned to TPWD in November, 1971 and was stationed at the Lake Texoma Fisheries Station under Ed Bonn and later Bruce Hysmith where he has been ever since.

The biggest project was striped bass introduction into Texas from 1971 to 1976, as well as the experimental stocking of walleye into Lake Cypress Springs (1971-1975), impacts of increased hybrid striped bass

stocking (1987-1991), hooking mortality of striped bass in Lake Texoma (1987-1994), evaluation of guided and unguided anglers from lakes Texoma and Fork (1997-2000), impacts of tournament mortality on a Texas Largemouth Bass fishery (2006-2010), and most recently a catch card survey of anglers at Lake Mineral Wells. He has worked in fighting the challenges brought on by zebra mussels, golden alga, blue-green algae blooms, drought, and competition for water. Through all of his years with TPWD, he has said the most rewarding times have been teaching kids to fish and working in the outdoors with people who love it as much as he does..

## **Fisheries Research** – Dr. Timothy Grabowski

Dr. Tim Grabowski joined the USGS Texas Cooperative Fish and Wildlife Research Unit at Texas Tech University in 2010 as Assistant Leader for Fisheries and is also Assistant Professor with the Department of Natural Resources Management. Tim's research covers multiple basic and applied research areas and extends geographically from the Southern Great Plains to the Gulf Coast to marine waters off Iceland. Tim has successfully established strong collaborations with state and federal agencies, as evidenced by the 14 grants awarded to him as PI or Co-PI by multiple agencies since joining the unit, a grantsmanship record that reflects the high value funding agencies place on his research results. Some of his most recent projects with Texas Parks and Wildlife Department focus on the effects of instream flows on Guadalupe Bass throughout their range in several watersheds, and on the state threatened Blue Sucker in multiple river systems. Tim has successfully managed to create a teamwork environment among his students and staff, and their research is integral to his program. For his research and research mentorship accomplishments and for his dedication to the preservation of aquatic natural resources in Texas, we honor Tim by presenting him with year's Outstanding Fisheries Research Award.





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## **Fisheries Research - Honorable Mention** – Gerald Kurten



Gerald Kurten has worked for Texas Parks and Wildlife Department Inland Fisheries (IF), Hatcheries Branch for over 24 years in various capacities: as hatchery biologist, hatchery manager, hatchery program director, and fish hatchery research and analytical services director. Though more than half of his tenure in these capacities does not require participation in research, his enquiring mind and dedication to science motivated him to conduct research or collaborate on numerous research projects important to TPWD's mission, other natural resource agencies, and fisheries professionals. His research topics include golden algae control as well as ways to increase pond productivity and improve hatchery operation efficiency. Gerald has authored/co-authored over 27 publications, one of these was awarded the North American Journal of Aquaculture Best Paper Award. He also contributed to a book chapter in "Aquaculture Pond Fertilization: Impacts of Nutrient Input on Production" published by John Wiley & Sons, Inc. 2012 and an article to the Featured Collection: Golden Alga (February 2010) of the Journal of the American Water

Resources Association. Gerald has also mentored several hatchery biologists by helping them with study design, research proposal and manuscript preparation, and data analysis. In his current position as hatchery research director, Gerald assists all hatchery biologists with all phases of research projects to bring projects to fruition in a timely manner. He has also served as graduate research committee member.

## **Technical Support** – Ramiro Medrano

Since joining Texas Parks and Wildlife Department's Inland Fisheries Division in 1998, Ramiro Medrano has established himself as an outstanding, highly capable and well respected fisheries technician, with duties typically involving collaboration with inner and intra-agency staff, stakeholders, and constituents. In his district office located in Mathis, Texas, Mr. Medrano is the senior technician and an extremely valuable asset to his work team; bearing much of the workload responsibility with regards to fieldwork, maintenance, and purchasing.

Specifically, Mr. Medrano exhibits exceptional service focus leading the districts youth outreach efforts and assisting with grass carp permit processing representing TPWD with positive interactions in the public, performs his administrative duties flawlessly as the districts point purchasing agent, is a critical member in executing field sampling (both standard management and special project collections), is heavily involved in herbicide control operations both within his district and statewide (by maintaining his herbicide spray applicators license and attending annual continuing education classes), assists in the districts equipment and fleet maintenance, is heavily involved in all of the districts applied management activities (including stockings and habitat enhancement projects), and finally, this past year he played an instrumental role in enhancing the districts plant nursery by substantially increasing its size and production capabilities. There is no doubt Mr. Medrano is one of the most hard-working, knowledgeable, and well-respected fisheries technicians in the state and continues to move the needle forward in helping make fishing better in the state of Texas.



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**Fisheries Student** – Harlan Nichols



In combining his undergraduate and graduate efforts, Harlan has published two journal articles, has one in review, about to submit another (his thesis), will be author or co-author on at least three more, has written a successful grant, presented at numerous society meetings, taught numerous undergraduate labs, and has assisted many other students with field work and laboratory processing. Harlan is a tremendous asset to his professor's program. Harlan Nichol is an outstanding MS student and well on his way in becoming an outstanding fisheries professional.

**Fisheries Student - Honorable Mention** – Eric Tsakiris

Eric is a most promising young graduate researchers. His graduate research on the reproductive and general ecology of Texas freshwater mussels has resulted in novel and important information on the habitat, distribution and reproduction in four species of Texas endemic candidate mussels that are currently being considered for listing under the US Endangered Species Act. To date, Eric has published 8 peer-reviewed papers, organized and executed over 100 field surveys for freshwater mussels within Texas, and has taught well over 200 undergraduate students in laboratory classes focused on general ecology and invertebrate biology at Texas A&M



**Fisheries Student - Honorable Mention**

– Greg Cummings



Greg Cummings, who works for TPWD, was nominated for his graduate work modeling trout habitat using side-scan sonar technology in the Guadalupe River below Canyon Reservoir. His work will help guide Texas Parks and Wildlife Inland Fisheries and its partners in future management and conservation of this important fisheries resource. Greg is a non-traditional student, who has faced and conquered many challenges during his obtained degree; yet he still managed to help other students with projects and development with this limited time. He values education and is devoted to fisheries science, serving as a great example of motivation, dedication, and excellence in his work ethic.



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**Fisheries Student - Honorable Mention** – Dave Ruppel

Dave Ruppel is a PhD student at Texas State University (Aquatic Resources Program), co-author on one publication, lead author on a publication under review, and lead or co-author of several other studies that are designed to quantify the relationship between fish communities and instream flow, species distributions, reproductive biology, and trophic ecology. Dave authored or co-authored 10 poster and oral presentations at TCAFS meetings (Conroe, Pottsboro), Southern Division AFS (Nashville), AFS-Portland, and SWAN (San Diego). Dave is lead on several studies, requiring massive numbers of days in the field, post-processing in the laboratory, and diligent organization of data, while concurrently obligated to his service in the US Army Reserves.



**Special Recognition in Fisheries Work**– Greg Conley



Greg Conley is a regional Kills and Spills Biologist for TPWD, covering portions of the Canadian, Red, Cypress, Sabine, Sulphur, upper Neches and upper Trinity River watersheds. In this role, Greg coordinates closely with the oil and gas industry, transportation authorities, water utilities, local municipalities and other organizations to avoid, minimize, and mitigate impacts to fisheries and other aquatic resources from development projects. In 2015, Greg conducted proactive assessments and planning to avoid and minimize impacts from 45 development projects. Additionally, Greg responded to 71 fish and wildlife kills and pollution events, recovering damaged or lost resources. Greg has been an active member of the TCAFS, serving as

secretary-treasurer and in various other roles in recent years. Overall, Greg is a highly professional, capable, committed, passionate, enthusiastic, and ethical fisheries professional and highly valued member of TPWD's Inland Fisheries Division.

**Special Recognition in Fisheries Work**–  
Dr. Jennifer Pollack

Dr. Jennifer Pollack was nominated for a TCAFS award in conservation and education. Her research focuses on the conservation and restoration ecology of marine and estuarine organisms and habitats, and more specifically the Texas oyster fishery. She has spearheaded the creation and facilitation of an oyster shell-recycling program for the Texas Coastal Bend known as “Sink Your Shucks”, and developed countless outreach and educational tools related to coastal conservation. In addition to Dr. Pollack's gusto for community outreach, her enthusiasm and passion for





helping her graduate and undergraduate students succeed in all academic aspects is unparalleled, many of which have continued on to pursue advanced degrees and careers in the fisheries sectors.

### **Special Recognition in Fisheries Work** – Zoe Ann Stinchcomb



Zoe Ann Stinchcomb was first hired primarily to develop learning activities at the Texas Freshwater Fisheries Center, but through her own initiative, other activities were undertaken in order to reach non-traditional customers and provide learning experiences above and beyond what is available at TFFC. Zoe Ann has established a working relationship with groups as diverse as Wildlife Forever (a national conservation organization), the Texas Wildlife Association (a statewide private landowner organization), Stephen F. Austin State University and Texas Tech State University, the North American Native Fishes Association, Sky Ranch (an outdoor learning youth camp), Trinity Valley Community College, Blooming Grove Elementary School, St. John's Episcopal School, and the Athens, Grand Prairie and Highland Park Independent School Districts in developing and implementing outdoor learning opportunities. Zoe Ann restructured educational programming at TFFC to more completely reflect TPWD's mission and respond to visitor suggestions. Zoe Ann volunteered to coordinate the Texas

division of the Wildlife Forever State Fish Art Contest and built participation to the point that Texas has one-fourth of the entries in the entire nation and the most of any state. Because of Zoe Ann's improvements to educational programming at TFFC, the Armentrout Foundation has funded educational programming at TFFC for 3 years for a total of more than \$100,000.

### **Certificate of Appreciation** – Michele Nations

Michele Nations is an active member of TCAFS who currently chairs the Awards Committee after having served as a member of that committee for several years. If that were not enough she also chairs the History Committee, a position she assumed in 2009 when veteran historian Ray Mathews retired after 10 years of service. She instituted and maintains the Chapter Facebook page where she is a prolific poster on topics related to fisheries. For years she has also donated her photographic skills in service of the Chapter by documenting its activities. She is one of the Chapter's previously unsung heroes and the TCAFS ExCom decided to bypass the Awards Committee and award her with a Certificate of Appreciation for her devoted service to the Chapter.

She has been employed with TPWD for almost 29 years and she started her employment with the agency as a F&W Technician at the Dundee State Fish Hatchery in March 1987. Soon afterwards she transitioned into the administrative and staff support role in the hatchery regional office. In that capacity Michele has seen them come and go. Former supervisors have included Joe Warren and Gerald Kurten and she is currently working for Karl Kittel. During her tenure in the regional office she has relocated eastward from the Dundee State Fish Hatchery in Electra to the Texas Freshwater Fisheries Center in Athens and finally back west again to the Possum Kingdom State Fish Hatchery in



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Graford when the new hatchery administrative building was completed. She is currently Staff Services Officer for the TPWD Inland Fisheries Region 2 Hatchery Office.

When it became evident that TPWD's financial program was incapable of providing information in a useful format to enable management of budgets, she developed an Access Database that has been used to manage, record, and monitor budgets for Inland Fisheries and provide monthly reports to field offices. She continues to maintain that database to date. During the restructuring and amalgamation of Inland Fisheries Regional Offices she has provided invaluable support at regional and district levels during this transition. She was instrumental in setting up the initial purchasing contract for Channel Catfish for the Neighborhood Fishin' program, in managing the commercial contract for purchasing feed for fish hatcheries, in establishing the stocking notification program, and in creating and managing a hatchery reprint database archive system.



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## *2016 Student Scholarship Awards*

### **Harry Tennison Scholarship – Gunnar Nystrom**

Gunnar Nystrom chose to attend Texas Christian University and he plans to receive a dual degree with a B.S. in Biology and a B.B.A in Entrepreneurial Management. At TCU, he currently working as a research assistant and outreach program coordinator with the TCU Bat and Nextera Wind Energy Project studying the effects of wind turbines on bat activity. In addition, he works as a research assistant in the Toxicology and Endocrinology lab on campus where he studies the effects of environmental contaminants on the physiological processes of fish. His current project consists of analyzing the effects of environmental pesticides (i.e. DDE, a metabolite of DDT) on roach fish from the Syr Darya River in Kazakhstan. He has also had the ability to travel to South Africa and Panama to study the economic and environmental effects of rhino poaching and the sustainability of Panama's non-governmental organizations, respectively. In the future, he plans to continue his work as a research assistant and attend graduate school in biology, wildlife conservation, or some other related field..





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## **Harry Tennison Scholarship – Jeffrey Plumlee**



Jeff Plumlee was an undergraduate student at Texas A&M at Galveston for three years in the Marine Fisheries program. In addition to regular coursework, he was also employed as a lab technician and student worker in the Shark Biology and Fisheries Science lab under primary investigator Dr. Dave Wells. Jeff's research interests center around the trophic dynamics in marine ecosystems. While in the lab, he focused on studying the feeding ecology of coastal sharks using stable isotope and stomach content analyses, along with other research projects. In May of 2015, Jeff completed his requirements for the undergraduate research scholars program at Texas A&M, and in December, graduated with honors from the university. He began work as a graduate

student under the direction of Dr. Dave Wells studying the interaction between trophic and spatial relationships of apex predators in marine ecosystems.

## **TCAFS Scholarship : M.S. – Kaylan Dance**

Kaylan Dance developed an interest in fisheries research while attending Texas A&M University, Galveston Campus, where she received a B.S. in Marine Biology. During her time as an undergraduate, she volunteered and worked in several labs that were conducting fisheries research - which inspired her to pursue an M.S. degree. She is currently working on her Masters in Marine Biology through the Shark Biology and Fisheries Ecology lab at Texas A&M University, Galveston Campus, under Dr. David Wells. Her thesis research aims to assess the role of artificial reefs to associated fish communities off the Texas coast. She is currently utilizing natural dietary tracers to identify the primary source(s) of organic matter, and to characterize fish- habitat relationships of predators associated with artificial reefs. Results of this work will provide useful information concerning the value and functional role of artificial reefs as habitat.



## **TCAFS Scholarship : M.S. – Matthew Dzaugis**



Matthew Dzaugis attended the University of Maine and earned a B.S. in Marine Science. The fall of his freshman year at the University of Maine he began working as a field assistant/ lab technician for Dr. Gayle Zydlewski studying shortnose and Atlantic sturgeon in the Penobscot River and throughout the Gulf of Maine. The research he was doing for Dr. Zydlewski turned into his Honors Thesis in which he studied the diet composition of shortnose and Atlantic sturgeon and assessed the prey availability in the Penobscot River to help define critical habitat for these endangered species. As a graduate student at the University of Texas he is continuing to follow his interests in marine ecology working in Dr. Bryan Black's Ecosystem Oceanography Lab. Using

research techniques he learned over the years, as well as techniques new to him such as climate mapping and sclerochronology, he is studying climate effects on several fish species in the Gulf of Mexico.



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### **TCAFS Scholarship : M.S. – Caroline Arantes**

Caroline Arantes is interested in ecology and conservation of fishery resources in freshwater ecosystems, including fish population and community ecology, management approaches, and the effects of human drive-impacts. Caroline has worked extensively with local people, institutions and conservation organizations to implement community-based management systems for the arapaima, the Amazon's most historically important and overfished species, and to develop research that seeks to understand a broad range of problems and research questions. Her researches has addressed fish biology, ecology, traditional knowledge, and resource governance and her studies have been published in eight peer-reviewed, international journals. She also published six book chapters, 30 abstracts in conference proceedings, and has presented orally at various scientific meetings. She is now developing a study for her Doctoral Dissertation at Texas A&M university to test the hypothesis that deforestation of Amazon River floodplains impacts fish communities and fisheries productivity. Together with Dr. Kirk O. Winemiller, her PhD advisor, Caroline developed a quantitative methodology that compares fish communities, fishery yields, and forest cover along a gradient of forest conservation status (e.g., from the most preserved to the most degraded areas) in order to facilitate examination of the relationships among variables and evaluation of alternative causal relationships.



### **TCAFS Scholarship : Ph.D. – Thomas TinHan**



Thomas TinHan was raised in Honolulu, Hawaii, and it was there that he began his education as a marine scientist, with nearly unlimited opportunities for fishing and diving. While working towards his Bachelor's degree in Marine Biology from the University of Hawaii at Manoa, He had the privilege of interning under Dr. Kim Holland, assisting with acoustic and satellite telemetry studies of tunas, sharks, and reef fishes. In 2010, he went on to pursue a Master's degree at California State University, Long Beach, under Dr. Chris Lowe, where his thesis research focused on monitoring the movements of yellow snapper and leopard grouper in relation to spawning seasons at a small no-take reserve in southern Baja, Mexico. Upon graduation

in 2013, he continued his eastward progression and moved to Galveston, where he is currently a PhD student under Dr. David Wells using a multi-pronged approach (stable isotopes, electronic tagging, vertebral trace element analysis) to study the feeding ecology and movement patterns of juvenile bull sharks over multiple temporal and spatial scales along the Texas coast.

Ryan Vazquez receives the Clark Hubbs Student Research Award from Gordon Linam, of the Clark Hubbs Committee.

Ryan is conducting research on the conservation genetics of the federally endangered Sharpnose Shiner and Smalleye Shiner in the Brazos River for his Ph.D. at Texas Tech University under Dr. Gene Wilde. Results of Ryan's study will support captive spawning and repatriation efforts of these native Texas fishes. Ryan received a B.S. in Wildlife Biology from Humboldt State University, Arcata, CA and received a Post Baccalaureate Research Fellowship at University of Pittsburgh, Pittsburgh, PA.



## *Presentation Award Winners from 2015 Meeting in Tyler*

### **Best Professional Oral Presentation:**

Michele Nations (far left, Awards Committee Chair) and Kevin Storey (far right, TCAFS President) pose with the winners of the Best Professional Presentation Award: (L-R) Nate Smith, Dan Daugherty (presenter), Paul Fleming (principal author), all from Texas Parks & Wildlife Department. The winning presentation was entitled "Use of side-scan sonar to identify and count Alligator Gar: potential for evaluating population density from sonar imagery."



### **Best Professional Poster Presentation:**

Michele Nations (far left, Awards Committee Chair) and Kevin Storey (far right, TCAFS President) pose with the winners of the Best Professional Poster Award: (L-R) Ryan Vazquez, Aaron Urbanczyk, Gene Wilde, and Corey Coleman, from Texas Tech University. The winning poster was entitled "Size-selective predation by Gulf Killifish on endangered Sharpnose Shiner."





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## **Best Student Oral Presentation:**

Michele Nations (far left, Awards Committee Chair) and Kevin Storey (far right, TCAFS President) pose with the one of the winners of the Best Student Presentation Award: Lance Williams. Dan Symonds (presenter) has started his PhD work at Ohio State and could not make it to the meeting, and Dr. Neil Ford, University of Texas at Tyler was also unable to attend. The winning presentation was entitled “The effect of electroshocking on unionid mussel larval release.”



## **Best Student Poster Presentation:**

The Best Student Poster Presentation Award went to Meriel LeSueur (primary author), Leah Thornton and Dr. Marlo Jeffries, Texas Christian University. All were unable to attend the meeting, so the award was accepted by Kyle Roush for Meriel LeSueur and Gunnar Nystrom for Dr. Jeffries for the poster entitled “Basic aspects of immunity in two teleost model organisms, the Fathead Minnow and the Sheepshead Minnow.”

L-R, Michele Nations Awards Committee Chair), Kyle Roush, Gunnar Nystrom, and Kevin Storey (TCAFS President)



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## ***2016 Best Presentation and Poster Awards***

### **Professional poster:**

“Effect of pond permanence on aquatic insect-mediated flux of methylmercury to terrestrial ecosystems” by Chumchal, Matt (primary author), R. W. Drenner, K. J. Adams, F. Greenhill, C. Gober, A. Courville, and L. Lossau, Texas Christian University

### **Professional presentation:**

Disparity between state fish consumption advisory systems for methyl mercury and U.S. Environmental Protection Agency recommendations: a case study of the south central U.S.” by Adams, K. J., R. W. Drenner, and Matt Chumchal (presenter) from Texas Christian University; and D. I. Donato from the US Geological Survey. Published in Environ Toxicol Chem 2016; 35:247-251

*Matt Chumchal as he gives the winning oral presentation, January 22, 2016.*





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**Student poster:**

“A scanning electron microscopy study of variation in tuberculation across the range of the Sand Shiner (*Notropis stramineus*)” by Pinion, A. (primary author), S. D. Kim, and K. W. Conway, TAMU – College Station

**Student presentation:**

“Nursery Origin and feeding ecology of juvenile Bull Sharks in the northwest Gulf of Mexico” by TinHan, Thomas C. (presenter), Jay R. Rooker, and R. J. David Wells, Texas A & M University – Galveston

*Thomas TinHan as he gives the winning student oral presentation, January 23, 2016.*



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**2016 Student Scholarship award winners**



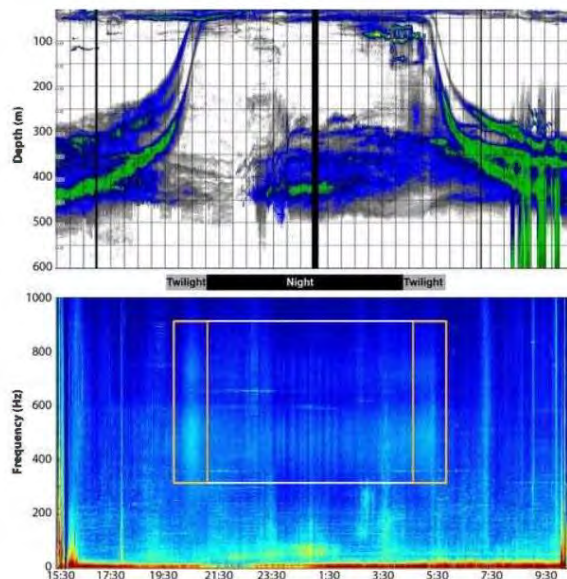
Scholarship Committee Chair Mike Morgan poses with (left to right) Thomas TinHan, Matthew Dzaugis, Caroline Arantes (in front), Kaylan Dance, Jeffrey Plumlee, Gunnar Nystrom and Endowments Chair Dave Terre.

## Flotsam & Jetsam – fish stories from around the world

### ❖ Deep scattering layer makes noise

In the deep ocean, there is a daily migration of mesopelagic organisms into the epipelagic zone at dusk to feed. This phenomenon was observed during World War II by sonar operators who were confused by an apparent false sea floor 300-500 meters deep during the day but shallower at night. This diel vertical migration is accomplished by millions of marine organisms including many small mesopelagic fish whose swimbladders reflect sonar.

New research has revealed that this large community of fish, crustaceans, jellyfish and squid create a distinctive sound as they travel up and down in the water column. This could elicit a Pavlovian response for deep-water organisms signaling the movement of a large marine buffet. Simone Baumann-Pickering, an assistant research biologist at the University of California, in San Diego estimates the combined weight of these organisms to be approximately 10 billion tons. They represent a major link in the food chain between microscopic plankton and top predators like tuna, birds and marine mammals.



Sensitive acoustic instruments were used to record the low frequency hum created during these daily vertical migrations. This sound lasts for an hour or two depending on the day. Since the sound is only three to six decibels louder than the background noise of the ocean, it is difficult for the human ear to detect. The sound is only detectable from up to half a mile away. The exact origin of the sound is unknown as is whether it is used as a cue to initiate migration.

<http://bit.ly/1Rqzcmz>

### ❖ Reversing effects of ocean acidification



Scientists have documented the adverse effects of ocean acidification on the growth of calcium carbonate shells and skeletons of marine organisms such as oysters, crabs and corals. Oceans are currently apparently 30% more acidic than they were before the Industrial Revolution. This chemical shift can reduce the growth of these structures or even dissolve them.

Recently a team of researchers demonstrated an increase in calcification on a reef where seawater chemistry was altered by the addition of sodium hydroxide and a non-reactive dye. At One Tree Reef, a small atoll in the Great Barrier Reef, the scientists detected an increase in calcification as a result of the modification of seawater chemistry. This work demonstrates the proof of concept that calcification could be increased by reducing CO<sub>2</sub> emissions which would lead to lower acidification. While it's not practical to improve calcification in reefs by adding an antacid to seawater, it might be easier than changing the entrenched politics behind arguments on climate change! <http://bit.ly/1Ta1rtu>  
<http://bit.ly/21jATKA>



## ❖ Impact of Asian Carp on the Lake Erie food web

Bighead and Silver Carp, collectively known as Asian Carp (AC), were introduced into the United States in the 1970s to control algae in aquaculture and sewage treatment ponds. Ultimately they escaped into the Mississippi River during flood events and they have spread and managed to out-compete local populations. Perhaps the most extreme example of their impact has been their displacement of native fishes in the Illinois River where they outnumber them by a factor of 10:1. They are currently established in watersheds adjacent to the Great Lakes and there are concerns about their impact on the food webs and fisheries of these systems if they should become established. Lake Erie is perhaps at highest risk of invasion because of its connectivity to watersheds where they occur. There are concerns AC are able to disrupt food webs by competing with native planktivores and reducing prey for larval fishes which would ultimately impact fish recruitment.

In a recent study published in the Transactions of the American Fisheries Society (145:136-162) researchers developed an Ecopath with Ecosim (EwE) food-web model and simulated four AC diet composition scenarios and two nutrient load scenarios using input from 11 leading experts on AC biology and Great Lakes ecology and fisheries to forecast the impact of AC on the Lake Erie ecosystem. Their simulations indicated impacts on lower trophic levels were consistent in direction as changes in the Illinois River though not as high as anticipated. As long as AC do not consume larvae of percid sport fishes their impact on the Lake Erie food web would not be as great as some have feared. They concluded AC would compete with other planktivorous fishes and provide additional prey for piscivores. Still there is a high degree of uncertainty associated with some parameters in the model which would translate to reduced confidence in the conclusions of their overall impact on the food web. There are likely parts of Lake Erie, even those areas important for fisheries and human uses, that would experience the severe outcomes predicted by some model simulations. Over time as the uncertainty of key parameters is reduced and the spatial heterogeneity of Lake Erie is considered, managers will be able to make more informed decisions about the impact on food webs of an invasion of AC.

<http://afs.tandfonline.com/doi/pdf/10.1080/00028487.2015.1069211>



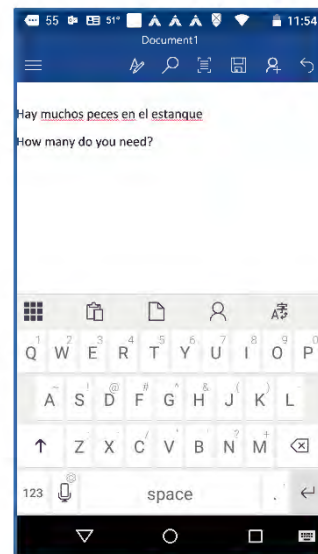
*Freebies for the busy fisheries professional!*

## ❖ Hub Keyboard Preview

The Microsoft Garage produces experimental software for Windows, Android and iOS devices. Some of these projects are only available in one operating system and projects are often withdrawn. The Hub Keyboard is an Android app available in Google Play that allows users to switch between select apps while using the keyboard. Along the top of the keyboard are four icons with links that allow the user to search for and share document links from OneDrive and SharePoint, insert contact information, paste copied information, and translate what you type. If you are working on a document and you tap the contacts icon, you can search for someone's name in your contacts and then insert their name and phone number automatically into your document. The translate button lets you type in English and have it automatically translated into Spanish or a variety of other languages. The translation can be copied to your document by dragging it from the translation window into the body of the document.

<http://bit.ly/1VHnO6Y>

<http://bit.ly/1Lg8opY>



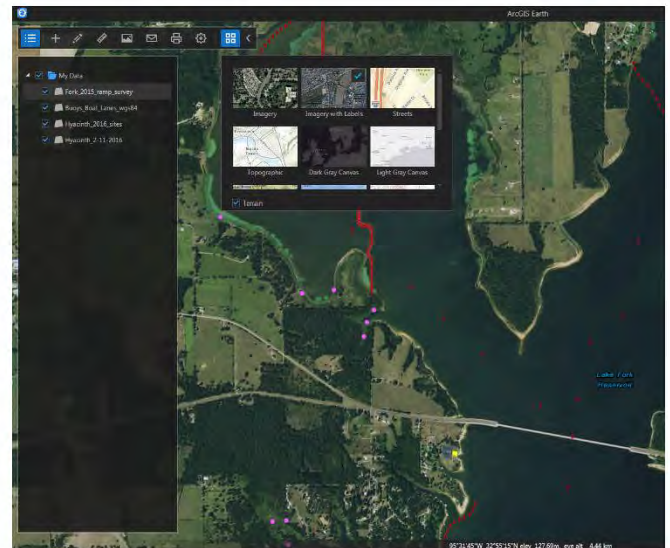
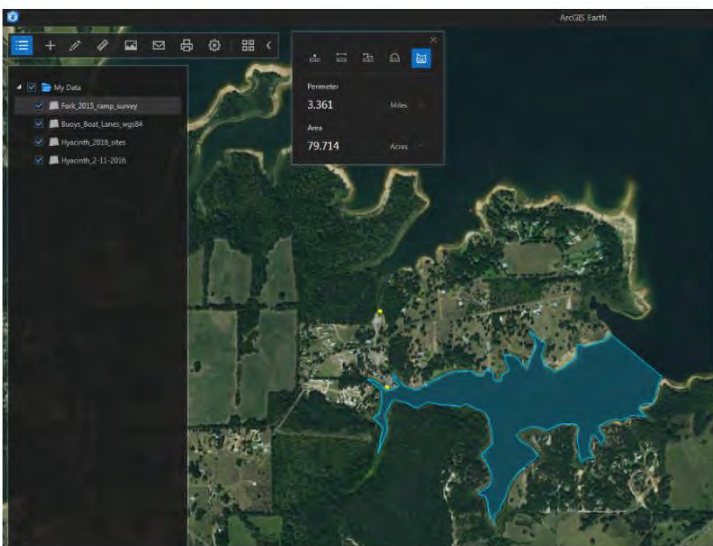


## ❖ ESRI offers a free interactive GIS application

ESRI is an industry leader in the development of GIS software but the high prices of its products can be a barrier to its adoption by agencies or individuals with limited funding. ArcGIS Earth is a free, interactive Windows program that lets you explore the world while working with 2D and 3D data from a variety of sources in a range of formats. It is fully integrated with the ArcGIS platform and it works with ESRI and open standard data formats, including shapefiles and Google Earth's KMLs. These different data types can be explored together using a variety of background imagery including imagery, topography, and streets. The program includes utilities that let you measure distances and areas in a range of units. Completed maps can be saved as images for reference or for sharing with colleagues.

The application requires a computer running a 64-bit version of the Windows operating system from version 7 onward. To download the software, go to <http://www.esri.com/software/arcgis-earth>. Alternatively, if you don't have a 64-bit processor you can use ArcGIS Explorer Desktop or if you use a Mac or an iOS or Android device, you can use Explorer for ArcGIS.

<http://www.esri.com/software/arcgis/explorer/>



## ❖ ArcGIS at an affordable price

If you are an ArcGIS enthusiast and you want to sharpen your skills at home, ESRI offers ArcGIS 10.4 for Home Use. For an annual subscription of \$100 you get access to ArcGIS Desktop Advanced (ArcMap and ArcGIS Pro), the most popular desktop extensions (3D Analyst, Data Interoperability, Data Reviewer, Geostatistical Analyst, Network Analyst, Publisher, Schematics, Spatial Analyst, Tracking Analyst, Workflow Manager), software updates, an online named user account, a living atlas of the world with maps and data including access to foundation content from ESRI and installation support. This software is supported by Windows 7, 8, 8.1 and 10. One important caveat, you are asked to use ArcGIS for Home Use for personal, noncommercial projects. To keep the cost in perspective, that's on par with a year of Amazon Prime. While there is no shipping involved, and you cannot stream music or movies, a year of home access could hone your GIS skills to a fine edge.

<http://www.esri.com/software/arcgis/arcgis-for-home>

ESRI also offers ArcGIS Desktop software for use by students at colleges and universities. Students can also purchase a 12-month license of ArcGIS Desktop for \$100 a year. Students at qualifying institutions may be eligible for a 12-month license at **no cost** as part of the ESRI Education Site License Program.

See details at: <http://www.esri.com/industries/apps/education/offers/promo/index.cfm>



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## Join the Texas Chapter

If you are interested in joining or renewing your membership to the Texas Chapter of the American Fisheries Society, you can get membership materials at our web site, [www.sdafs.org/tcafs/index.htm](http://www.sdafs.org/tcafs/index.htm) or by contacting Deborah Wade, Texas Freshwater Fisheries Center, 5550 FM 2495, Athens, TX 75752, (903) 670-2234, [Deborah.Wade@tpwd.state.tx.us](mailto:Deborah.Wade@tpwd.state.tx.us)

**If your e-mail address has changed, please contact us with an update so you can continue to receive the chapter newsletter.**

Members are encouraged to make submissions to the Newsletter Editor by mail or e-mail to one of the addresses listed below.

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*STUDENT OUTREACH* ..... Joe Beach

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