BRIEFS – The Official AIFRB Newsletter Vol. 47. Number 2

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Letter from President Kim Anthony

Dear Members,

As we approach our annual Board of Directors meeting coinciding with the American Fisheries Society in Atlantic City next month, I'd like to ask for your participation in reaching out to your districts to support our mission and goals, as outlined in my previous messages. Many of our Board members have committed their time and efforts in providing an important service to AIFRB over the years and I thank each of you for your dedication. In particular, Barbara Warkentine will be stepping down from her position as AIFRB National Secretary following next month's Board meeting. Barbara has been a tremendous asset to the Institute and I thank her for her dedication. In light of her departure, AIFRB is now seeking a national secretary for the next term.

In addition, I'd like to thank Mary Blasius of the Southern California and Baja California, Mexico district, for serving as our Young Professionals Representative for the past three years. Mary's term will also end this summer and this vacancy will be open. As I have alluded to in my previous messages, our young professionals comprise a critical element of the Institute, as it is this group of fishery scientists who will lead the industry in research, education and policy-making.

There are three objectives of the Young Professionals program:

1. Recruit young professionals (YPs) to the AIFRB membership.
2. Understand what YPs, as a group, desire and/or expect from AIFRB.
3. Support AIFRB YPs to excel in their career paths, while promoting good science.

Finally, one of our challenges and a top priority is to revive inactive districts and/or support those districts in hosting meetings, events and providing AIFRB services to respective districts. A productive and outstanding organization is a product of its members and the support they provide to each other, but it starts at the district level. Please join the Board of Directors as a district director, and bring your ideas forward about building and promoting this organization so that we can reach our full potential in providing the services to our membership and to the future of fishery science.
If you, or someone you know, may be interested in serving at the national level as Secretary, Young Professionals Representative or locally, as a District Director, please contact me. I'd love to talk to you about these opportunities to serve on the Board and to serve AIFRB members.

At next month's annual Board meeting I will be leading discussions on continuing to accomplish AIFRB goals and realizing our mission. I invite *all* members to join us this year in Atlantic City, August 18-19, for all or part of our meeting. Please refer to www.aifrb.org for details.

Sincerely,

Kim Anthony
President
kim.anthony@aifrb.org

+ Make a Difference!

Your work matters to the Institute

- Share your research interests, AIFRB activities, and pictures – *Briefs* is always looking for exciting content to share with our members!
- Make a tax deductable donation to the Institute to support student awards!
- Get involved with your regional district and consider volunteering!

Annual Board Meeting/Tradeshow 2018 – Atlantic City, New Jersey

We'll also have our booth at the AFS Tradeshow. We will feature t-shirt sales, new member recruitment bonus items, Institute information, and a great opportunity to meet members of the Board. Please consider volunteering to help out at the booth, or stop by to say hello!

The AIFRB annual Board meeting is scheduled for August 18-19 at the Atlantic City Convention Center, in conjunction with the American Fisheries Society 148th Annual Meeting. We have a full agenda this year covering topics ranging from new member recruiting, retention of current members, financial planning, and convening a national conference.

AIFRB Board Meeting & Tradeshow

- Saturday 8/18
  - *9am-4pm Board Meeting*
  - *6-10pm Board Social Event*
- Sunday 8/19
  - *9am-4pm Board Meeting*
  - *4-6pm Tradeshow Move-In*
- Monday 8/20 – Wednesday 8/22
  - *Exhibits open*

Networking Social with the Fishing Industry – Tuesday August 21st

AIFRB is co-sponsoring a networking social event on **Stakeholder Engagement Day**, Tuesday 8/21. Stakeholder Engagement Day is intended to increase the participation of industry stakeholders at the annual AFS meeting to provide the opportunity to learn about science and management impacting their industries, to stimulate collaborative industry-scientist partnerships, and provide opportunities for stakeholders to contribute to meeting events. There will be numerous presentations and discussion panels on topics related to collaborative research, fisheries management, offshore energy development, stakeholder engagement, electronic monitoring, summer flounder, black sea bass, sturgeon, lobster, Jonah crab and much more! A reduced daily registration rate of $50 for qualifying industry stakeholders is available. Please help spread the word to your industry colleagues! Apply here: https://goo.gl/forms/F6uHHN8VmoouIq6I2

The networking event will take place at Bass Pro Shops of Atlantic City from 5:00-7:30pm. Dr. Doug Zemeckis, Keystone District Director, has been working with local fishermen, seafood dealers, and caterers to provide a spread of locally-harvested seafood and regional cuisine, along with a cash bar. We hope you can join your AIFRB colleagues and meet members of the fishing and aquaculture industries.

Tickets are limited and free to AIFRB members.
Look for the Eventbrite invitation email from AIFRB!

2018 AIFRB Symposium – Atlantic City, New Jersey

We are excited to be organizing and sponsoring another AIFRB symposium at this year's annual meeting of the American Fisheries Society (19-23 August in Atlantic City, NJ). The symposium will focus on the topic of politics in fisheries science and management. With so many current and future challenges facing the field of fisheries, including climate change, ocean use conflicts, increasing levels of marine debris, and continued emphasis on sustainably harvested seafood, AIFRB members are tackling the difficult question of what role does politics play in our science and management. The session is being organized by Dr. Cate O'Keefe, AIFRB Treasurer, Dr. Steve Cadrin, AIFRB Past-President, and Sean Lucey, AIFRB-AFS Liaison and will be held on August 21st.

AIFRB SYMPOSIUM

August 21, 2018

Atlantic City, NJ

Organized by:

Cate O'Keefe – Treasurer

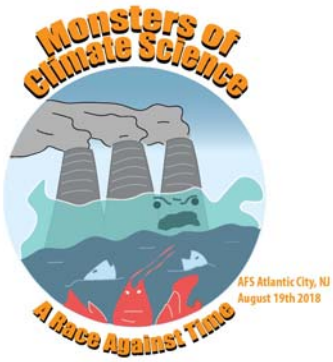
Steve Cadrin – Past President

Sean Lucey – AFS Liaison

Making Waves: Political Intervention in the Fisheries Science and Management Process

Politics play an important role in fisheries management and a direct role in fisheries law. Fishery management bodies typically consist of politically appointed members of federal, state and local agencies, industry groups, and non-governmental organizations. Policies, laws and regulations are subject to change based on political climates, political strategies, and special interests. Availability and prioritization of scientific research funds are subject to constituent lobbying and election cycles. Although politics are layered through the entire fishery management system, transparency and integrity are emphasized in the process. However, what happens when politics intervene and disrupt the process? Are there appropriate occasions for political intervention, and do we know how to determine those situations? If we ignore societal needs and desires in our fisheries advice, do we open the process to political intervention? This symposium examines the role of politics in fisheries science and management through case studies of recent political interventions and asks questions about when and why intervention happens and whether or not it is appropriate for the management process.

"Monsters of Climate Science" Workshop – Atlantic City, New Jersey



AIFRB is a sponsor for the Monsters of Climate Science Workshop being held in Atlantic City on Sunday August 19th. The 1980s "Monsters of Rock" tour brought together the best heavy metal bands in the world to play together. The Monsters of Climate Science workshop will bring together top scientists from around the country for an afternoon of mayhem, mirth, and majorly informative presentations on different aspects of climate change and the impacts on fisheries. This event, which is organized by the AFS Estuaries and Marine Fisheries Sections and AIFRB, will benefit student travel awards for the AFS Annual Meeting. Laser lights, heavy metal, great talks, and a great cause–what's not to like? Registration is $40 for non-students and $20 for students. You can register via the AFS registration page. Contact **Lynn Waterhouse** with questions (lwaterho@ucsd.edu).

Speakers:

Doug Beard, USGS Associate Director for Land Resources

Lisa Kerr, Research Scientist at Gulf of Maine Research Institute

Vince Saba, Research Fishery Biologist at NOAA/NMFS Northeast Fisheries Science Center

Michelle Staudinger, Science Coordinator, DOI Northeast Climate Adaptation Science Center

Talia Young, Postdoctoral Fellow at Princeton University, Department of Ecology & Evolutionary Biology

Kirstin Holsman, Resource Ecology and Ecosystem Modeling Program at NOAA/NMFS Alaska Science Center

Abigail Lynch, Research Fish Biologist with the U.S. Geological Survey's National Climate Adaptation Science Center

Upcoming CAPAM Workshop – La Jolla, California – October 1-5, 2018

The Center for the Advancement of Population Assessment Methodology (CAPAM) will host a workshop on the development of spatial stock assessment models at the Southwest Fisheries Science Center (La Jolla CA, October 1-5, 2018). CAPAM received the 2017 AIFRB Outstanding Group Achievement Award, largely in recognition of its development of standards for the application of stock assessment methodology through its training and educational workshops. This workshop on spatial assessment models promises to confront an important aspect of fisheries science and management.

All fish populations exhibit spatial structure to some extent, often simply in abundance, but often involving other characteristics such as life stage, size, or gender, or it could be factors such as fisheries processes or population processes. Spatial structure is a consequence of movement processes, habitat, or spatial patterns in fishing effort, and all of these may change over time. Properly accounting for the spatio-temporal distribution of fishing effort and fish abundance has been one of the largest sources of uncertainty that is ignored in most stock assessments, which typically assume a closed, well-mixed population. Of particular concern are changes in spatial distribution over time due to movement of the stock, recruitment dynamics, or local depletion. Substantial progress has been made in both the statistical methodology and the practical implementation (e.g., software) of spatial stock assessment models. However, there has not been a comprehensive evaluation of the methodology. Coordinated research and focused discussions among experienced researchers are needed to make the most of this modeling technique. The objective of the workshop is to bring together researchers to present and discuss the development and application of spatial stock assessments. The format of the workshop will follow that of the successful CAPAM series with a specialized technical focus and allowing ample time for presentations, questions, and discussion. The presentations and discussions will take three and a half days, with half a day tutorial on implementing spatial structure in Stock Synthesis (taught by Juan Valero, IATTC) and one day dedicated to applying the methods to bigeye tuna in the eastern Pacific Ocean and one or more other stocks, and/or preparing recommendations and research plans.

Kim Anthony presented the 2017 Outstanding Group Achievement Award to Paul Crone (left) and Mark Maunder (center) from the Center for the Advancement of Population Assessment Methodology (CAPAM) in La Jolla, CA.

Topics (and keynotes) included in the workshop will be defining spatial structure (**Steve Cadrin**, University of Massachusetts Dartmouth), movement: data (**Tim Lam**, University of Massachusetts Boston) and theory (**Andrew Hein**, NMFS and University of California, Santa Cruz), spatial stock assessment models (**Andre Punt**, University of Washington), integrating tagging data (**Dan Goethel**, NMFS), other information (**Nathan Taylor**, DFO Canada; **Patrick Lehodey**, Collecte Localisation Satellites, France), management implications (**Aaron Berger**, NMFS), and applications (**John Hampton**, SPC, New Caledonia; **Alistair Dunn**, Ministry for Primary Industries, New Zealand; **Adam Langley**, Trophia, New Zealand). Presentations relating to applications must address general issues encountered when applying spatial stock assessment models. For information concerning the workshop, please contact the Chair **Mark Maunder** (mmaunder@iattc.org), and visit the CAPAM website (http://www.capamresearch.org/) for updated information.

Member Spotlight

Chris Free – Keystone District

Dr. Chris Free has been an AIFRB member since 2017 and recently finished his PhD while working under the supervision of Dr. Olaf Jensen at Rutgers University where he is continuing as a postdoctoral researcher. His dissertation work spanned small-scale fisheries management, data-limited stock assessment, and oceanographic drivers of fish population dynamics. Chris was awarded the Rutgers Outstanding Doctoral Student Award, the highest award bestowed to Rutgers graduate students, for the quality and importance of this work. Chris also received a Clark Hubbs Research Assistance Award from AIFRB in 2017. As a postdoc, Chris is working to (1) determine whether the productivity of marine predators such as tuna, whales, and seabirds is influenced by the abundance of their prey and (2) develop a multi-species catch-only stock assessment model that will be useful in assessing multi-species fisheries commonly targeted in developing countries. Chris is dedicated to building tools for fisheries scientists and managers including an R package for implementing data-poor assessment methods ("datalimited2") and a database of stock boundaries for assessed fish stocks. You can learn more about his work here: https://marine.rutgers.edu/~cfree/

Recent publications:

Free, C.M. 2018. datalimited2: More stock assessment methods for data-limited fisheries. R package version 0.1.0. https://github.com/cfree14/datalimited2

Free, C.M., O.P. Jensen, J. Wiedenmann and J.J. Deroba. 2017. The refined ORCS approach: a catch-based method for estimating stock status and catch limits for data-poor fish stocks. *Fisheries Research* 193: 60-70.

Gill, D.A., M.B. Mascia, G.N. Ahmadia, L. Glew, S.E. Lester, M. Barnes, I. Craigie, E. Darling, **C.M. Free**, J. Geldmann, S. Holst, O.P. Jensen, A.T. White, X. Basurto, L. Coad, R.D. Gates, G. Guannel, P.J. Mumby, H. Thomas, S. Whitmee, S. Woodley and H.E. Fox. 2017. Capacity shortfalls hinder the performance of marine protected areas globally. *Nature* 543: 665-669.

Free, C.M., O.P. Jensen and B. Mendsaikhan. 2015. A mixed-method approach for quantifying illegal fishing and its impact on an endangered fish species. *PLoS One* 10(12): e0143960.

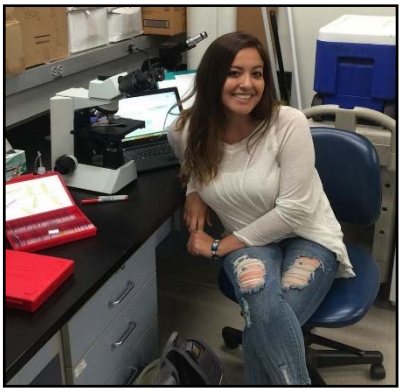
Emily Slesinger – Keystone District

Emily Slesinger, a PhD candidate at Rutgers University, is broadly interested in studying the effects of climate change on U.S. Northeast fishes to provide information for fisheries management. She is using black sea bass as a model organism since they have been moving northward with climate change and are also an important recreational and commercial species. Her first project used laboratory physiology experiments to find the thermal optimum and hypoxia tolerance of black sea bass, results that will be used in projecting future black sea bass distributions based on thermal habitat. Now, she is leading her second project, which will investigate how temperature and spawning location affects black sea bass body condition and fecundity throughout their spawning season by comparing black sea bass at locations spanning the range of the northern population.

Heather Gliniak – Southern California District

Heather Gliniak, the Southern California District's Vice Director, is an Environmental Scientist with the California Department of Fish and Wildlife (CDFW). She works on a variety of fishery-related projects, including the Southern California Fisheries Research and Management Project. Heather is responsible for conducting research on nearshore finfish fishery species, such as barred sand bass, kelp bass, white seabass, and California halibut. In addition, Heather is finishing a manuscript for a beach seine study that was conducted in the shallow sandy surf zone habitat of southern California. Heather is also a Department research diver and conducts fish transect surveys using scuba and deploying baited remote underwater video stations as part of a fishery independent monitoring plan for barred sand bass. For more information regarding the research of the Southern California Fisheries Research and Management Project,
please visit the CDFW website at:
https://www.wildlife.ca.gov/Conservation/Marine/SCFRMP.

Evelyn Bond – Southern California District



Evelyn Bond, the Southern California District's Secretary/Treasurer, is a graduate student at California State University, Fullerton (CSUF) in Dr. Kristy Forsgren's Fish Reproductive Biology Lab. Evelyn was recently awarded the NSF Graduate Research Fellowship Program (GRFP) to help fund her graduate research focusing on the reproductive biology of male surfperches (Embiotocidae). Surfperches are a unique group of fishes that reproduce via internal fertilization; males use an external copulatory structure (i.e., genital papilla) to deliver sperm into the female reproductive tract during copulation. Interestingly, male surfperches also have additional structures on the anal fin (e.g., flask organs) that appear only during the breeding season. Evelyn's research is aimed at understanding sperm transfer and external reproductive structures in order to gain a better understanding of the basic reproductive biology of surfperches. Her research will characterize all external copulatory structure(s), trace the pathway of spermatozeugmata from the testes to the external copulatory structure(s), and establish if anal fin structures are related to reproduction in several surfperch species. Contact Evelyn directly at evelync.bond@gmail.com for more information on her research.

Danny Heilprin – Southern California District

Danny Heilprin, the Southern California Districts Director, is a Senior Marine Biologist at ManTech International, an environmental consulting firm. Danny has been working in the consulting industry for nearly 30 years, focusing on nearshore fishes and fisheries. Danny is currently working on several large National Environmental Policy Act (NEPA) projects looking at potential impacts from military training and testing activities in offshore areas. He also is managing a project characterizing freshwater fish communities at a military base in Japan, as well as recently completing a freshwater fish study at a Navy base in Fallon, Nevada. Many of his projects have field studies that use standard collection techniques such as trawls, traps, seines, and electrofishing to characterize existing fishes in a wide variety of habitats. In addition, many of these projects use other field-collected information, such as water quality data, to address potential changes to water quality conditions.

Todd Chapman – Southern California District

Todd Chapman, the National Membership Coordinator for AIFRB, is a Senior Fisheries Biologist and Aquatic Biological Resources Group Manager for ECORP Consulting Inc., an environmental consulting firm focused on local and regional marine and freshwater fisheries related issues in California and several other western states. Some of Todd's current projects include a long-term non-native aquatic species removal project to benefit endangered species (southern steelhead, tidewater goby, and arroyo toad) on Marine Corps Base, Camp Pendleton. Another project, fish exclusion and relocation efforts during construction monitoring efforts within the Oroville Wildlife Area, is focused on restoring river-floodplain connectivity, channel complexity, and hyporheic recharge and discharge within the Feather River watershed to benefit Chinook salmon, steelhead, and green sturgeon populations. A fish passage barrier removal project for California Department of Parks and Recreation within Bothe-Napa State Park to benefit habitat quality, natural stream channel grade and hydrogeological function within the system, includes ECORP biologists to provide biological compliance construction monitoring, fish relocation, and habitat utilization surveys throughout the duration of the project. Finally, Todd is working on the regulatory permitting and documentation for a project focused on the replacement of a segment of an in-stream sewer line for the city of Roseville within designated critical habitat for California Central Valley steelhead and Essential Fish Habitat for Pacific Chinook salmon, which will include biological compliance monitoring and passive fish relocation during construction related dewatering efforts.

District Highlights

Graduations
Mike Pol – New England District Member

Mike Pol (left) with Advisor, Pingguo He

Mike Pol, the Conservation Engineering Project Leader for the Massachusetts Division of Marine Fisheries in New Bedford, MA, recently completed his PhD, *"Establishing a Sustainable Acadian Redfish Trawl Fishery in the Gulf of Maine: A Conservation Engineering Approach"* and graduated from the School for Marine Science and Technology (SMAST) at the University of Massachusetts Dartmouth.

Abstract:

The Acadian redfish, *Sebastes fasciatus,* stock is one of the few healthy fished populations in the Gulf of Maine. This stock recovered from decades of unsustainable exploitation in the mid-20th century after imposition of codend mesh size restrictions and a long period as a bycatch fishery. Current harvest levels are far below permitted levels, and therefore the stock potentially offers additional opportunity for regional fishermen. However, based on its history and unusual biology, re-establishment or expansion of the trawl fishery for redfish should be conducted with caution; to assure future sustainability, steps to encourage additional landings should include consideration of a wide range of aspects, including appropriate fishing gears, timing of seasons, processing, and marketing, as well as population dynamics. This dissertation sought to provide several vital conservation engineering or fishing technology inputs to a sustainable fishery in a stepwise fashion, beginning with identification of bycatch issues, codend selectivity, and bycatch reduction. This approach, combined with data from other sources, is adequate to inform careful decision making about increased exploitation of the stock.

Publications

Ben Galuardi and Molly Lutcavage – New England District Members

AIFRB members Ben Galuardi and Molly Lutcavage partnered with tuna researchers from Spain to investigate movements and geographic distribution of juvenile bluefin tuna in the Northeast Atlantic. Their paper was published in the ICES journal in May.

Abstract:
From 2005 to 2010, 136 internal archival tags and 29 pop-up satellite archival tags were used to track juvenile Atlantic bluefin tuna in the Bay of Biscay. Information from 15 pop-up and 5 internal archival tags was recovered. The analysis was adapted for a common treatment of both types of tag data, allowing classification of overwintering distribution patterns, fidelity to the Bay of Biscay feeding area, as well as of horizontal and vertical habitat utilization. Results show substantial geographic dispersion from autumn to spring, with high habitat concentration in the Bay of Biscay during summer, when bluefin tuna inhabit in the mixed layer. Of the individuals that left the Bay of Biscay towards the end of the year, a high percentage returned the next year, suggesting a strong fidelity to the area. Thirty-three percent of records during the overwintering periods revealed residency in the Bay of Biscay and surrounding areas. Half of the fish overwintered in the mid-Atlantic, near the Azores or Madeira Islands, while three (17%) made trans-Atlantic round trips, and one individual travelled to and remained off the eastern coast of the United States. These findings challenge previous assumptions regarding the seasonality and annual movements of bluefin tuna from the Bay of Biscay, while demonstrating extensive spatio-temporal dispersion.

Citation:
Arregui, I., **B. Galuardi**, N. Goñi, C.H. Lam, I. Fraile, J. Santiago, **M. Lutcavage** and H. Arrizabalaga. 2018. Movements and geographic distribution of juvenile bluefin tuna in the Northeast Atlantic, described through internal and satellite archival tags. *ICES Journal of Marine Science* doi:10.1093/icesjms/fsy056.

Events

British Columbia District: WA-BC American Fisheries Society Meeting

British Columbia District Director, Brittany Jenewein, hosted an AIFRB exhibit at the tradeshow during the Washington-British Columbia AFS Annual Meeting in Kelowna, British Columbia in March. Brittany has raised awareness of AIFRB for several years at the WA-BC Annual Meeting, including hosting a 2017 symposium titled, "Knowledge Mobilization: More than just bridging the gap between knowledge producers and users."

Brittany currently works for the Department of Fisheries and Oceans Canada in the Resource Management Branch as an Assistant Biologist for Pacific salmon fisheries. Contact Brittany to join the British Columbia District and to get involved with the WA-BC AFS Chapter (btjenewein@gmail.com).

Capital District – VIMS 'After Hours Lecture' Event

Capital District Director, Mark Chandler, co-organized a lecture at the Virginia Institute of Marine Science (VIMS) by Dr. Patrick Lynch, NOAA's National Stock Assessment Project Leader. Dr. Lynch presented information about the National Stock Assessment Program and how assessments support U.S. fisheries. Dr. Lynch is AIFRB's 2015 W.F. Thompson Best Student Paper Award winner, and is a current Member from the Capital District. The event had over 100 attendees, including several AIFRB members from the Capital District and from VIMS. Prior to the start of the After Hours Lecture, Mark was able to recruit several new Student Associate members from the VIMS community.

Patrick Lynch (left) and Mark Chandler at the VIMS Lecture event

Young Professional Spotlight

Young Professional members of AIFRB represent the next generation of leaders in fisheries science and management. Through *Briefs* and our social media platforms we will be highlighting our Young Professionals as a way to introduce them to the full membership and create opportunities for collaborations. AIFRB's Young Professional Representative, Mary Blasius (meblasius@gmail.com), will be regularly showcasing a new Young Professional through a series of biographical interviews. This month's Young Professional Spotlight shines on Laura Oremland, Capital District Member and Acting NOAA Citizen Science Coordinator.

Laura Oremland – Capital District Member

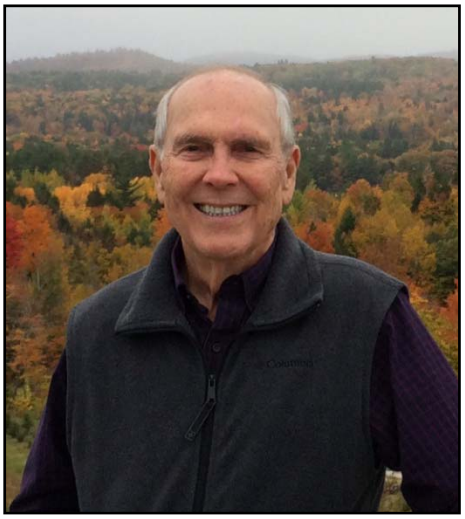
Laura Oremland has over 15 years of experience in fisheries science policy. Her career in marine science and fisheries began through a lucky accident. As a college sophomore on summer break from the University of Kentucky she was seeking a job and happened to overhear of an opportunity at the University of South Florida's (USF) Oceanography Camp for Girls, a program designed to interest young women in marine science. She took the job, and found that the camp had interested her in the field.

The following summer she returned to USF to pursue a research project in physical oceanography. Then, in her senior year Laura created a dynamic optimization model to study foraging patterns of the two-spotted goby (*Gobiusculus flavescens*). After completing her Bachelors of Science in mathematics with a minor in biology she went on to the State University of New York at Stony Brook to pursue a Master's degree in marine science. Her research focused on the invasive zebra mussel (*Dreissena polymorpha*) in the Hudson River and determining which environmental factors best predicted larval abundance and settlement. While there she also assisted with a New York State Department of Environmental Conservation surf clam (*Spisula solidissima)* survey and stock assessment.

In 2002 she received the John A. Knauss Marine Policy Fellowship and came to Silver Spring, Maryland to work in the NOAA Fisheries Office of Science and Technology. She has been with the office ever since and worked in a number of areas over the years, including habitat science, budget and strategic planning, and grants management. She currently manages several education programs including a higher education program designed to help train the next generation of fisheries scientists with strong quantitative skills. One of the roles she is particularly excited to be undertaking is as the Acting NOAA Citizen Science Coordinator with a focus on better understanding how citizen science can contribute to fisheries science and management.

Emeritus Spotlight

Emeritus members of AIFRB represent a generation of leaders in fisheries science and management. While our Emeritus colleagues may have formally retired from the workplace, many of them are still conducting cutting edge research and continue to make important contributions to our field. Similar to our Young Professional Spotlight, we will be highlighting our Emeritus members as a way to keep the membership connected and create opportunities for networking and mentoring.



Charles Wax Caillouet, Jr. – Emeritus Fellow

Dr. Charles Caillouet retired from the NOAA National Marine Fisheries Service, Southeast Fisheries Science Center, Galveston Laboratory, Texas, in 1998. His research focuses were Penaeid shrimp stock assessment and aquaculture, and Kemp's ridley sea turtle population recovery. He is a member of the IUCN Marine Turtle Specialist Group and has been a member of AIFRB since 1970. Dr. Caillouet is also an amateur trombone player and an artist (oil and acrylic painting, pottery, ceramics, and wood carvings of waterfowl decoys), and has created and performed musicals since his early teens. Dr. Caillouet submitted his latest manuscript on Kemp's ridley sea turtles for publication in 2017**, the same year he turned 80 years old! In his own words, Dr. Caillouet describes his career, research interests, breaks into the fisheries research field, and mentors.

Describe your professional career and research interests:

After graduating from Baker High School, Baker, Louisiana 1955, I first majored in Architectural Engineering (because of my art interests) at LSU Baton Rouge, but switched to Forestry in the Department of Agriculture in the second semester of my sophomore year. Forestry complemented my previous interests in nature and biology, and participation in Boy Scouts of America. I received a B.S. in Forestry in 1959, and then pursued a M.S. in Game Management within the Forestry School, received in 1960. Among the courses that greatly influenced my career was Herpetology, taught by Dr. George H. Lowery, Jr., Ornithologist and Professor of Zoology and Statistics. I then received a research assistantship from the Cooperative Fisheries Unit, headed by Dr. Carlander, in the Department of Zoology and Entomology at Iowa State. After receiving the Ph.D. in Fishery Biology in 1964, knowing that I wanted to return to the Gulf of Mexico region, I applied and was accepted for an Assistant Professor position in the Department of Biology at the University of Southwestern Louisiana, Lafayette. The Department of Biology had a small contract with the USFWS Bureau of Commercial Fisheries Laboratory, Galveston, which supported a study of temporal-spatial distribution of postlarval Penaeid shrimp in Vermilion Bay, Louisiana. That contract introduced me to estuarine studies of Penaeid shrimp, as well as the Galveston Laboratory. In 1967, I left USL for an Associate Professor position within the Division of Fisheries at Rosenstiel School of Marine and Atmospheric Science, University of Miami, where I was introduced to Penaeid shrimp aquaculture research. I also assisted in developing a commercial marine fisheries statistics collection program in Puerto Rico, and in a recreational fisheries catch per unit effort sampling survey in Everglades National Park. After 5 years, I applied for a Supervisory Fishery Biologist position at the NOAA NMFS Galveston Lab. I served as Chief of various Divisions during 1972-1998, supervising and conducting research on *Penaeid* shrimp biology and population dynamics, environmental impacts, and sea turtles in the Gulf of Mexico, as well as shrimp aquaculture.

****Caillouet et al. 2018. Did Declining Carrying Capacity for the Kemp's Ridley Sea Turtle Population within the Gulf of Mexico Contribute to the Nesting Setback in 2010–2017? *Chelonian Conservation and Biology* 17: in press.**

What were the big breaks in your career and how did you achieve them?

My choice to continue my education through the Ph.D., without interruption, was very beneficial in the long run. All of my professional "big breaks" came through decisions to relocate to new positions I applied for (first academic, then federal government) and received, with the help of letters of recommendation by benefactors. These relocations provided new opportunities, learning experiences, and many challenges for me and my family. In 1995, my staff and I (at the NMFS Galveston Lab) received the U.S. Department of Commerce Bronze Medal Awards for Superior Federal Service in developing techniques in sea turtle husbandry, head-starting, tagging, submergence physiology, and support of the NMFS Southeast Fisheries Science Center's Sea Turtle Stranding and Salvage Network. My post-retirement engagement in advisory roles with the Texas Parks and Wildlife Department and Sea Grant Program, as well as collaborations in research and publications related to management of *Penaeid* shrimp fisheries and sea turtle population recovery, provided unique opportunities to continue work on projects I worked on while employed at the Galveston Lab. The freedom of expression afforded by retirement was also a motivating factor in my continuing to do research and publish.

Charles with wife Nancy Laird Caillouet, 2017 4th of July Parade, Montgomery, TX

Who were your mentors and how did they influence your career/research?

My parents, Charles Wax Caillouet and Elida Millet Caillouet, were my first mentors. My father worked at the Esso Standard Oil Company refinery in Baton Rouge, and my mother was a teacher. My father introduced me to freshwater sport fishing and catching blue crabs, and I learned many useful skills from him. My parents emphasized the importance of a college education, and supported me through the B.S. degree. When I was around 13 years old, Albert "Bert" Nelson Robinson, Jr., an Ornithologist who was working for the LSU Museum of Natural Science, formed the Baker Nature Club through which he introduced a group of teenagers, including me, to observing, collecting, and appreciating the biota of the fields, forests, streams, and ponds around Baker, Louisiana, a small community about 20 miles north of Baton Rouge. He later served as Leader of the Baker Boy Scout Troop 25 and Explorer Post, in which I participated and achieved Eagle Scout rank. I served as a Nature Lore Counselor at Boy Scout Camp Istrouma, Greenwell Springs, Louisiana, for a number of summers. Dr. Kenneth D. Carlander *(an AIFRB Founding Fellow)*, Chairman of my Ph.D. committee at ISU, was a major mentor. He took a personal interest in his students, supporting and encouraging them and their families throughout their stay in Ames. Dr. Carlander's career focuses on age and growth and weight-length relationships of fishes influenced me in numerous ways. Finally, Dr. Clarence Purvis Idyll *(another AIFRB Founding Fellow)* was an important mentor, providing me the opportunity to participate in Penaeid shrimp aquaculture research, a sampling survey of sport fish catch per unit effort in Everglades National Park, and development of a commercial marine fisheries statistics program for Puerto Rico.

Dr. Caillouet's professional profiles are available at:
https://www.gulfbase.org/people/dr-charles-w-caillouet-jr

Selected Research:

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Contact Information

President
Kim Anthony
S. California Edison
2244 Walnut Grove Ave.
Rosemead, CA 91770
kim.anthony@aifrb.org

Past President
Tom Keegan
HELIX Environmental
11 Natoma St., Suite 155
Folsom, CA 95630
TomK@helixepi.com

Past President/Kasahara/Service
Steve Cadrin
SMAST – UMass Dartmouth
836 South Rodney French Blvd.
New Bedford, MA 02744
scadrin@umassd.edu

Treasurer
Cate O'Keefe
MA Divison of Marine Fisheries
836 South Rodney French Blvd.
New Bedford, MA 02744
cokeefe@umassd.edu

Secretary
Barbara Warkentine
SUNY – Maritime College
6 Pennyfiled Ave.
Throggs Neck, NY 10465
Synodus@aol.com

Investment Chair
Allen Shimada
NMFS OST
1315 East West Highway
Silver Spring, MD 20910
allen.shimada@noaa.gov

Membership Chair
Todd Chapman
ECORP Consulting, Inc.
1801 Park Court Pl., B-103
Santa Ana, CA 92701
tchapman@ecorpconsulting.com

AIFRB-AFS Liaison
Sean Lucey
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543
sean.lucey@noaa.gov

Young Professional Representative
Mary Blasius
Califonia State Univeristy Long Beach
1250 Bellflower Boulevard
Long Beach, CA 9084
meblasius@gmail.com

Achievement Award
Dick Beamish
DFO Canada (Retired)
3904 Hammond Bay Road
Nanaimo, BC, Canada
rabeamish@shaw.ca

W.F. Thompson Award
Frank Panek
Fishery and Aquatic Health Assoc.
925 Chantilly Lane
Inwood, WV 25428
fpanek@aol.com

Hubbs Research Assistant Award
Jerry Ault
Rosenstiel School – U Miami
4600 Rickenbacker Causeway
Miami, FL 33149
jault@rsmas.miami.edu

District Directors

British Columbia
Brittany Jenewein
Fisheries and Oceans Canada
#301-1918 McCallum Road
Abbotsford, British Columbia
btjenewein@gmail.com

•••

California, Northern
Thomas Keegan
Senior Fisheries Scientist
Helix Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630
TomK@helixepi.com

•••

California, Southern
Danny Heilprin
Senior Marine Biologist
ManTech International Corporation
420 Stevens Avenue, Suite 300
Solana Beach, CA 92075
danny.heilprin@aifrb.org

•••

Capital
Mark D. Chandler
NMFS Science & Technology
1315 East West Hwy
Silver Spring, MD 20910
mark.chandler@noaa.gov

•••

Florida
Bonnie Ahr
Integrated Mission Support Services
2235 N. Courtenay Pkwy, Suite C
Merrit Island, FL 32953
ahr.bonnie@gmail.com

Keystone
Doug Zemeckis
Cooperative Extension of Ocean County
Dept. of Agriculture and Natural Resources
Rutgers University
1623 Whitesville Road
Toms River, NJ 08755
Zemeckis@njaes.rutgers.edu

•••

New England
Ben Galuardi
NMFS – Seagrant Fellow
SMAST – UMass Dartmouth
200 Mill Road, Suite 325
Fairhaven, MA 02719
drgaluardi@gmail.com

•••

Pacific Northwest Super District
(Washington, NW, Oregon – SW Washington)
David Hand
Supervisory Fish Biologist
Columbia River Fisheries Program Office
1211 SE Cardinal Court, Suite 100
Vancouver, WA 98683
david_hand@fws.gov

•••

Oregon
(sub-district to Pacific Northwest)
Robert Mussgnug
Pacific Seafood
7514 SW Barnes Road, Unit D
Portland, OR 97225
rm.academic@yahoo.com

Texas
Brad Erisman
University of Texas at Austin
Marine Science Institute - Port Aransas
750 Channel View Drive
Port Aransas, TX 78373
berisman@utexas.edu

•••

Mississippi
Kelsey Kuykendall
Gulf Coast Research Laboratory
University of Southern Mississippi
703 East Beach Drive
Ocean Springs, MS 39564
Kelsey.kuykendall@usm.edu

•••

Vacant District Director Seats
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Gulf of Mexico, Northeast

+ We need new Directors!

- Plan fun networking events
- Raise funds for students
- Recruit new members
- Contact: Kim Anthony

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