AFS Estuaries Section Newsletter
Winter 2015

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Issue Highlights

PRESIDENT'S MESSAGE

Hello Estuaries Section Members,

Greetings from the land of ice and snow! There's over two feet of the white stuff outside my office window. Theoretically the frostfish (*Microgadus tomcod*) are out in the creeks having a grand time, but the massive amounts of snow and ice have prevented me from going out to look for them. http://www.gma.org/fogm/Microgadus_tomcod.htm

I was thankful to escape the cold for a couple days and head to the AFS Mid-Year Governing Board meeting in Savannah, Georgia. We heard updates from all the sections and divisions (practically everyone is working on new websites!), but the main focus was on

developing clear messaging about the Society. Two professional consultants from the Potomac Communications Group presented the results of a set of 29 informal interviews they conducted with members and non-members. Please contact me if you'd like a copy of the report.

The consultants then walked us through an exercise to develop a three-pronged message about the Society. If someone asked us what AFS was – what would we say? Everyone individually wrote down on sticky notes what they thought the three messages should be. We gave them to the consultants, and while we took a break they summarized and consolidated all of our input into six main

messages. We then voted with sticky dots for our top three. Two were clear winners – but the other four received roughly the same number of votes. We discussed the merits of combining various ones and did some wordsmithing, and eventually the consultants took pity on us and said they'd do the rest. They will be delivering a final report on this and other communication recommendations in April. If anyone would like more details, or would like to provide input, please contact me.

In other news – we have a new website! Please check out the short article below and check it out for yourselves. As always, feedback is appreciated.
Also, we have a great slate of candidates for President-Elect, Secretary, and Treasurer of the Estuaries Section. Thank you to them all for stepping up and offering to volunteer their time in service to our Section. Their bios are on page 3 to 6. Keep an eye out for your election ballot in April.
--Abigail Archer, President, Estuaries Section

NEW WEBSITE!

The Estuaries Section has a new website:

http://estuaries.fisheries.org/

Many thanks to AFS staff member Sarah Gilbert -Fox for helping former webmaster Anthony Overton migrate the content from our old site onto the new one, and for training me on how to edit content. The main AFS website will be getting a new look in a couple months, and at that time our jumbled looking homepage will be changed to match that format. Please take a few minutes to check out the rest of the site and feel free to send any comments to aarcher@barnstablecounty.org

A CALL FOR PHOTOGRAPHS

The Estuaries Section has members in every coastal state, and it would be great to showcase everyone's work on the website. When you have a minute, please look through your fieldwork photos and send 1 or 2 along with captions to aarcher@barnstablecounty.org

VOLUNTEER OPPORTUNITY

Would you like to help Estuaries Section members learn more about each other's work? Then consider signing up to be a regional correspondent. We're looking for people in the following geographic areas to be in touch with fellow members from the region and then, twice a year, forward research updates, success stories, student opportunities, and announcements to the Newsletter Editor:

- California
- Oregon & Washington
- Canadian West Coast
- Gulf Coast
- Southeast
- Mid Atlantic
- Northeast
- Canadian East Coast

If you're interested please email Lee Benaka at lee.benaka@noaa.gov

EXECUTIVE COMMITTEE CANDIDATE STATEMENTS

The Esutaries Section is very fortunate to have an excellent slate of candidates for our Officer elections. Section members will receive electronic ballots in April. Elected officers will be installed at our 2015 business meeting in Portland, Oregon. Following are candidate statements from President-Elect candidates Lyn Waterhouse and Jim Vasslides, Secretary candidate Geoffrey Smith, and Treasurer candidate Konstantine Rountos.

Lynn Waterhouse (President-Elect)

Current Employer/Student Status:
PhD Student, Biological Oceanography, Scripps Institution of Oceanography, University of California, San Diego.

Please describe how you have been involved with AFS in general and with the Estuaries Section in particular:
I currently serve as the Secretary of the Estuaries Section. I joined AFS at the urging of my master's advisor at the Virginia Institute of Marine Science, Dr. John Hoenig, back in 2008 and have been a member ever since. I first became involved in the Marine Fisheries Section that same year and attended the joint meeting with the Estuaries Section. I joined the Estuaries Section at the 2011 meeting in Seattle. That same year I started serving in my current position of secretary for the section. I have helped with the creation and management of the Section's Facebook page.

What goals do you have for the Estuaries Section in the next two years?
As a current student, I would like to see student involvement in the Estuaries Section increase. I would also like to see the Estuaries Section continue to strive to be a diverse group, possibly even interacting with the Equal Opportunities Section directly. I am excited for the benefits that social media and online communities can bring to the section, but I believe we need to decide how these technologies will work with the section (and AFS in general), and then really strive to excell at them. I also look forward to working with Karin Limburg (who will be President at that time) and supporting her and the section. Hopefully the section can continue to grow and produce some exciting materials (be it online classes, books, etc.).

Jim Vasslides (President-Elect)

Current Employer/Student Status:
I am the Program Scientist for the Barnegat Bay Partnership, located in southern New Jersey. The Barnegat Bay Partnership is one of 28 National Estuaries Programs across the country, and as the lead scientist I am responsible for overseeing our research and monitoring programs and leading our Science and Technical advisory committee. My research interests are fairly broad and include understanding the impacts of dams and barriers on diadromous species in coastal watersheds and using long-term or comparative datasets to assess the impacts of incremental changes in estuarine environments (*i.e.* eutrophication, urbanization, climate change).

I am also on-track to finish my PhD in Ecology and Evolution at Rutgers University in Fall 2015. I am using ecosystem models (semi-quantitative social-ecological system models as well as trophic-based quantitative models) to better understand the interactions in the Barnegat Bay system, in hopes that it will lead to management strategies for restoration and recovery.

Please describe how you have been involved with AFS in general and with the Estuaries Section in particular:

Besides being a long-term member of AFS (though I guess that is relative), I have been active in the Mid-Atlantic Chapter, previously serving as Treasurer and currently serving as Student Judging coordinator. I was also part of the team that put together the winning bid for the 2018 AFS Annual meeting. Outside of the AFS, I am a member of the Atlantic Estuarine Research Society (AERS), the local affiliate of the Coastal and Estuarine Research Federation.

What goals do you have for the Estuaries Section in the next two years?
In order to continue to grow our membership, I think it is important to understand our member's expectations (retention) as well as those qualities that enticed new members to join (recruitment). I am particularly interested in offering educational/training opportunities on topics of interest to our members at meetings and through distance learning using new technologies. I would continue the Section's strong presence at annual meetings through support of estuarine focused symposia. Finally, I would engage with other estuarine-minded units outside of AFS to encourage collaboration on cross-disciplinary themes.

Geoffrey Smith (Secretary)

Educational Background: 2006, New College of Florida, BA in Marine Biology, Thesis: Spatial Mapping in a Jumping Fish: The Frillfin Goby, *Bathygobius soporator*
2011, University of Florida, MS in Fisheries and Aquatic Sciences, Thesis: Field Based Non-lethal Sex Determination and Effects of Sex Ratio on Population Dynamics of Greater Amberjack, *Seriola dumerili*

Current Position: University of Florida, PhD Candidate in Fisheries and Aquatic Sciences, Dissertation: Impacts of a Non-native Piscivore, the Pike Killifish, on Juvenile Common Snook

Current Employer/Student Status:
PhD Candidate in Fisheries and Aquatic Sciences; Working as an OPS biologist on several projects for Debra Murie and Daryl Parkyn at the University of Florida (gag and red grouper release mortality, impacts of Deep Horizon oil spill on growth of several commercial and recreational fish species, ecological impacts of dredging nearshore sand shoals on the east coast of Florida.

Please describe how you have been involved with AFS in general and with the Estuaries Section in particular:
I have been a member of the Florida Chapter of AFS since my first year of graduate school in the spring of 2009, and have maintained that membership since then. My advisor for my master's research purchased an AFS membership for me as a birthday gift in 2009. Other than one brief period of time I have maintained that membership, and also subsequently joined both the Marine Fisheries and Estuaries Sections. I have presented and been a co-author on a number of presentations given at Florida Chapter, Southern Division, and AFS meetings. At Florida Chapter meetings and the 2011 Southern Division Meeting held in Tampa, FL I have been a member of several committees that helped in the execution of those meetings. I have also reviewed papers for the AFS Journal: Marine and Coastal Fisheries. I more recently joined the Estuaries Section, and have attended the joint business meetings of the Marine Fisheries and Estuaries sections at 2 of the 3 AFS meetings I have attended (I was unable to make it to this past business meeting due to flight delays and lost luggage).

What goals do you have for the Estuaries Section in the next two years?
In the short time I've been involved in the Estuaries Section; I have noticed that this section is largely centered around the Atlantic coast from New England southward to the Carolinas. I'm not sure if the actual membership reflects this, but the newsletters typically do. I'd like to see some greater participation from those along the Gulf coast and the Pacific coast. I will certainly be trying to get more people involved from my connections and the regional meeting I go to in Florinda and elsewhere in the South. I'm not sure the best way to go about boosting participation in these other regions, (perhaps a greater affiliation with CERF and its regional affiliate societies) but I certainly think it is worth pursuing.

Konstantine Rountos (Treasurer)

Educational Background:
PhD (Stony Brook University, 2014)
MS (Stony Brook University, 2008)
BS (Manhattan College, 2005)

Current Employer/Student Status:
Institute for Ocean Conservation Science, School of Marine and Atmospheric Sciences, Stony Brook University

Current Position: Senior Postdoctoral Associate

Please describe how you have been involved with AFS in general and with the Estuaries Section in particular:
My involvement in the AFS began during my PhD work at Stony Brook University. In 2011, I was invited to give a presentation on my research at the national meeting in Seattle. Since then, I have been fortunate to be able to attend and present at every national meeting (i.e., Twin Cities, Little Rock, and Québec) and become an active member of several AFS sections (e.g. Estuaries Section, Marine Fisheries Section, and the New York State Chapter of AFS). I have been fortunate to acquire several travel grants from AFS and AFS sections in order to do this. My first introduction to the Estuaries Section came in 2012 at the section business meeting. I was immediately drawn to this section because of its professional aims and friendly community. In 2013, I attended the business meeting again, this time to accept the Estuaries Section travel award. I was happily surprised that people remembered me from the previous meeting in 2012.

As a member of the Estuaries Section, I created and currently maintain the section's official professional networking group on LinkedIn, which now has almost half of our membership participating on it. At the 2014 meeting in Québec, I volunteered and was appointed to fill the vacancy for the Treasurer position for the remainder of the year. As the acting Estuaries Section treasurer, I have established a bank account for the section and look forward to serving the section for many years to come if elected.

What goals do you have for the Estuaries Section in the next two years?
My two goals for the Estuaries Section are to (1) increase and maintain our membership of young professionals, and (2) further develop our section's role in supporting and developing interesting symposia, workshops, and online courses for AFS members. In particular, I would like to try and establish a special issue of Fisheries each year that is guest-edited by the Estuaries Section.

MONSTERS OF STOCK ASSESSMENT!!!

The AFS Estuaries and Marine Fisheries Sections are organizing a “Monsters of Stock Assessment” workshop at the 2015 AFS annual meeting in Portland. This workshop will bring together top professors from around the country to provide short lectures on critical aspects of stock assessment science. The workshop may serve to "de-mystify" stock assessment science, which should allow the workshop to appeal to scientists as well as a more general audience.

The workshop name is a play on the 1980s “Monsters of Rock” rock band tour that brought together the most awesome heavy metal bands in the world to play together in one concert. We are planning for this workshop to take place the afternoon of Sunday, August 16. The workshop will consist of 10 talks lasting from 20 to 30 minutes each and will be a fund-raiser to benefit Section student travel awards for the AFS annual meeting.

We may even have items for sale (mugs, t-shirts?) featuring the exclusive logo created by graphic designer Avi Litwack especially for this workshop.

Current List of Participants (More Names to Come)
Mary Fabrizio, Virginia Institute of Marine Science
Terry Quinn, University of Alaska Fairbanks
John Hoenig, Virginia Institute of Marine Science
Steve Cadrin, University of Massachusetts Dartmouth
Patrick Sullivan, Cornell University

For more information, or if you have comments, suggestions, or would like to help in organizing, please email Lee Benaka (lee.benaka@noaa.gov) or Lynn Waterhouse (lwaterho@ucsd.edu).
--Lynn Waterhouse, Secretary, Estuaries Section

IMPACTS OF THE PIKE KILLIFISH

Impacts of a Non-native Piscivore, the Pike Killifish, on Juvenile Common Snook

Geoffrey Smith, University of Florida

My dissertation research focuses on the potential negative impacts of Pike Killifish *Belonesox belizanus*, a non-native piscivore, on juvenile Common Snook *Centropomus undecimalis*, a native estuarine dependent fish. Common Snook is an important fish, both ecologically and economically, in estuarine waters of Florida. It is a top predator in the habitats where it is found and is one of the most targeted inshore fish species by recreational anglers. Snook numbers in Florida have seen declines due to a number of factors including fishing, juvenile habitat loss, and large natural mortality events (e.g., red tide and cold kills). Currently the Gulf coast population of snook appears to be in a phase of recovery following a prolonged closure of the fishery after a large cold kill in January 2010; however, added stressors, especially to juvenile stages, have a potential to slow recovery or lead to further population declines.

Pike killifish is an established non-native fish species in Florida that was first documented in south Florida in 1957 and secondarily in the Tampa Bay area in 1994. Decreases in small-bodied fish abundances have been linked to the introduction of pike killifish in both of these regions. Increases in the range and abundance of pike killifish in Tampa Bay and overlap in distribution and habitat usage with early-juvenile snook (≤100 mm SL) has led to concerns about potential competition with, and predation on, early-juvenile common snook in this region. If there are negative impacts of pike killifish on early-juvenile snook, they could play an important role in the future management of snook in the Tampa Bay area and other areas where the two species co-occur in Florida. A number of different techniques are being employed to determine if there are negative impacts of pike killifish on early-juvenile snook including: analysis of pike killifish stomach contents for snook remains; predation trials to determine the size of snook susceptible to predation by pike killifish; mesocosm studies to examine space utilization and interactions between the two species; enclosure studies measuring growth of snook with and without pike killifish present; dietary overlap of these two species; and comparison of snook growth, snook diet, and relative prey availability from locations with and without pike killifish co-occurring with snook. The data from these studies will be incorporated into population models to estimate the potential decrease in the number of early-juvenile snook that survive to become late stage juveniles as a result of pike killifish.

To date, the data that have been analyzed do not appear to point to any noticeable negative impacts of pike killifish on early-juvenile snook, although a number of analyses still need to be completed. The enclosure study did not reveal any significant differences in the growth of snook with and without pike killifish present and there was no significant difference in the percentage of snook containing stomach contents upon removal from the enclosures. Analysis of stomach contents collected from early-juvenile snook and pike killifish indicates that there is some overlap in the diet of pike killifish and early-juvenile snook, nearly every prey type consumed by pike killifish was also consumed by early-juvenile snook. However, early-juvenile snook have a wider diet breadth and consume a number of

organisms that are not consumed by pike killifish. There also does not appear to be a significant difference in the diet of early-juvenile snook from locations with and without pike killifish co-occurring. Based on the prey sampling conducted, there does appear to be a decrease in the abundance of small poeciliids (livebearers) in locations where pike killifish occur and this is reflected in the diet of early-juvenile snook (i.e., snook from locations without pike killifish regularly consumed poeciliids while those from locations with pike killifish co-occuring did not). Whether or not this small shift in diet will have an impact on the snook should be revealed upon completion of the growth analysis of snook from locations with and without pike killifish co-occurring. Predation trials have revealed that large adult pike killifish (≥90 mm SL) are capable of consuming snook up to approximately 50 mm SL, however no snook remains have been found in the stomach contents of pike killifish (over 130 stomachs examined to date).

Pike Killifish

Early-juvenile Common Snook

EUTROPHICATION SYMPOSIUM UPDATE

As many of you have heard from our LinkedIN site, our symposium titled, "Resolving the Multiple Impacts of Anthropogenic Eutrophication on Coastal Fish and Fisheries" has been approved for a ¾-day session at AFS 2015. This symposium is co-sponsored by the Estuaries Section, Marine Fisheries Section, and Fish Habitat Sections, and has been co-organized by Abigail Archer, Howard Townsend (NOAA), and myself. This symposium will bring together experts and students from around the country whose research focuses on the effects of eutrophication, hypoxia, and harmful algal blooms on fish populations and ecosystems. In addition, students presenting in this symposium will be eligible for TWO Best Presentation Awards! (one sponsored by the Fish Habitat Section and one sponsored by our section).

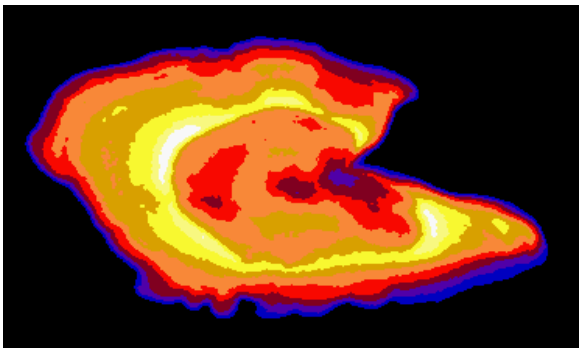
We have an almost complete program. However, we are still accepting "at large" abstracts as some of our speakers may have difficulties getting travel approval. All abstracts are due by March 13th if you are interested. We are currently exploring journals that may be interested in publishing a special issue based on

our symposium. Any ideas or suggestions from you would be greatly appreciated. We would like to thank our members who have already volunteered to moderate, and we will be looking for volunteers to help score student presentations at the meeting. Our goal is to make this one of the most interesting and highly attended symposia at the 2015 meeting!

--Onward and upward
Konstantine Rountos, Treasurer, Estuaries Section, and Symposium Chair

ARE YOU "OTO-CURIOUS"?

Estuaries Section Co-Sponsors Otolith Chemistry Symposium



2-dimensional map of strontium in an anadromous blueback herring otolith. The yellow-whitish band is elevated Sr acquired when this fish emigrated from the freshwater Hudson River to the sea. Then it moved back into brackish, then fresh water.

As many members know, otoliths have become important resources in the fisheries management toolkit, primarily used for determining age and growth. However, beyond these routine applications, studies of chemical constituents in otoliths have opened up new insights into "the secret lives of fishes." By combining scientific method with sometimes exotic technologies, researchers in this field have explored the processes and mechanisms that lead to incorporation of trace elements and isotopes in these aragonitic structures.

Constraining the chemistry by chronometric properties of otoliths enables us to interpret events in the life histories of increasing numbers of fishes, and to explore ecological phenomena at multiple scales from individuals to regions.

"Frontiers in Otolith Chemistry: Insights, Advances and Future Directions" is jointly sponsored by the Estuaries and Marine sections, and is organized by Benjamin Walther, Cynthia Jones, Jason Schlaffer, Abigail Archer, and yours truly. An exciting lineup of speakers will cover a breadth of topics and case studies; but please submit your "frontier research" to this symposium!

--Karin Limburg, Estuaries Section president-elect and symposium co-chair

MEETING NEWS

New England Estuarine Research Society and The Coastal Society
April 16-18, 2015, in Bristol, RI.
http://neers.org/MEETINGS/NEERSmeeting/MeetingOverview.html

American Fisheries Society
145th Annual Meeting
August 16-20, 2015, Portland, OR
http://2015.fisheries.org/

Estuarine Coastal Sciences Association Conference
September 6-9 2015, London
http://www.estuarinecoastalconference.com/index.html