

# Tidewater Press

Newsletter of the Tidewater Chapter of the American Fisheries Society

Volume 21 Issue 2

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## **President's Corner**

Greetings to all! The summer is certainly here and I hope that all of the Tidewater members are being safe in the field and productive in the laboratory. The 136<sup>th</sup> meeting of the

American Fisheries Society will be held at Lake Placid, New York from September 10-14<sup>th</sup> (<http://www.afslakeplacid.org/index.htm>). This meeting is in conjunction with the New York Chapter of AFS. The meeting theme is "Fish in the Balance". Along with the presentations there will be many workshops, technical sessions, and symposia for you to attend. Additionally, the 30<sup>th</sup> Annual Larval Fish Conference ([http://www.afslakeplacid.org/Sym\\_Hare.htm](http://www.afslakeplacid.org/Sym_Hare.htm)) will convene as well. I hope to see you there.

**Students!** Please make sure to take advantage of the FREE membership that Equal Opportunities Section of AFS is offering to students. This is a wonderful opportunity to become more involved with AFS. This section offers many travel awards to the annual meeting for students. For more information please visit their website (<http://www.fisheries.org/eos/>).

The Tidewater Chapter EXCOM will hold its Mid-year meeting in late July (Date to be determined). We are trying a new approach to the meeting because our members are now spread out among four states. We will attempt to hold the meeting via video conferencing from the various sites of the EXCOM committee members. (Wish us luck!) If this approach falls through then we will have the meeting via teleconferencing. If you have any items of business that you wish to be added to the agenda please contact me ([Overtona@ecu.edu](mailto:Overtona@ecu.edu) 252-328-4121).

We are in the process of making our two new student subunits University of North Carolina at Wilmington and Duke University official. Their bylaws are being approved by the Parent Chapter. We are in the process

## **2006 Tidewater AFS EXCOM and Ex-Officio Members**

- **President** – Anthony Overton, Phone 252-328-4121; email [Overtona@ecu.edu](mailto:Overtona@ecu.edu)
- **President-Elect** – Dewayne Fox, Phone 302-857-6436; email [dfox@desu.edu](mailto:dfox@desu.edu)
- **Past President** – Hank Brooks, Phone 804-684-7587; email [hbrooks@vims.edu](mailto:hbrooks@vims.edu).
- **Secretary/Treasurer** – Stephanie McNerny, Phone 252-422-5717, email [Stephanie.McInerny@noaa.gov](mailto:Stephanie.McInerny@noaa.gov)
- **MD Member-at-Large** – Bob Murphy, Phone 410-935-099, email [murphy@ecosystemsolutions.org](mailto:murphy@ecosystemsolutions.org)
- **VA Member-at-Large** – James Gartland, Phone 804-684-7546; email [jgartlan@vims.edu](mailto:jgartlan@vims.edu).
- **NC Member-at-Large** – Charlton Godwin, Phone 252-264-3911; email [charlton.godwin@ncmail.net](mailto:charlton.godwin@ncmail.net).
- **ECU Student Subunit – Becky Deehr and Kelly Register**, Phone 252-328-9405; email
- **MD Student Subunit** - Lisa Kerr, Phone 410-326-7225; email [kerr@cbl.umces.edu](mailto:kerr@cbl.umces.edu).
- **UNC-W** – Will Smith, Phone ; email
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- **Historian/Listserv Administrator** – Roger Rulifson.
- **Webmaster** – James Morris.

of amending the Tidewater bylaws to include the new chapters.

Finally, special thanks to Roger Rulifson for making sure that the submissions to the newsletters were submitted in a timely fashion. Roger kept us on our toes via email regarding the content and deadlines for the news letter.

-- Anthony Overton, Tidewater Chapter President 2006



### Secretary/ Treasurer's Report

We should all be proud of the large and growing organization that the Tidewater Chapter represents within the American Fisheries Society.

Official membership remains at 99, which was reported in the previous newsletter. Duke University is in the process of starting a new subunit and those members have not yet been accounted for. As I have already mentioned, members of recognized student subunits are automatically considered members of the TWC and they are not required to pay dues to the Chapter, only to their corresponding subunit. If you are not a member of a student subunit and are not currently a member of the Tidewater Chapter, once you pay dues I will have your name included in the membership list. Simply attending the annual meeting does not automatically make you a member. I may try to organize another membership drive in the near future to make the membership renewal process a little easier, so be on the look out. Again, please check the list of current members for your name (see the TAFS newsletter, Vol. 21, Issue 1). If you believe you should be a member of the TWC and are not on the list or would like to pay dues, please contact me at 252-422-5717 or at [Stephanie.McInerny@noaa.gov](mailto:Stephanie.McInerny@noaa.gov).

### Treasurer's Report:

Checking:	\$ 2,188.91
CD:	\$ 3,016.27
Mutual Fund:	\$ 1,000.00
Total:	\$ 6,205.18

Getting reimbursement from the annual meeting in January has proved to be a difficult task but the process

is underway and funds should hopefully be in our possession sooner than later.

The mutual funds are up and down monthly but we are optimistic that they will lend a positive result in the long run. After only a month, funds were up 5.1% overall with a gained interest of about \$52.

Sincerely,

--Stephanie McNerny, Tidewater Secretary/Treasurer



### Update on the 21<sup>st</sup> Annual Meeting of the Tidewater Chapter

We hope this update finds everyone's summer going well. We have set the dates for the 2007 Annual Meeting of the Tidewater

Chapter for February 1<sup>st</sup>-3<sup>rd</sup>. This will avoid the Striped Bass Cooperative Tagging trip and the Southern Division Meeting. We have also made some informal inquiries to the Mid-Atlantic Chapter regarding the possibility of the 2007 meeting being a joint meeting with the Mid-Atlantic Chapter.

The University of Delaware's John Penrose Virden Residence and Conference Center <http://www.ocean.udel.edu/ships&facilities/virden.html> has been selected as the meeting site. This is a great central location, and the facility provides a theater-style meeting room to accommodate 100-120 people as well as a 23 room housing facility with double occupancy@\$63 per night per room.



The Univ. Delaware Conference Center.

The Beacon, which is approximately 1 mile from the conference site is also available at the same rate (<http://www.lewestoday.com/beacon/main.html>). We are currently exploring possibilities for the Friday evening social at local establishments in hopes of maximizing

foraging and grazing success at the upcoming meeting. Have a great summer and best of luck with the field season!

-- Dewayne Fox and Tim Targett, Co-organizers

## Communications Committee

**Website Reminder** – don't forget to update your expertise database on the Tidewater website, [www.sdafs.org/tidewater](http://www.sdafs.org/tidewater).

**Tidewater Chapter ListServ** - The Tidewater Chapter ListServ is up and running through East Carolina University. Here is the brief set of controls needed to subscribe or modify your subscription to TAFS ListServ:

- **To subscribe** -- E-mail to: [listserv@ecumail7.ecu.edu](mailto:listserv@ecumail7.ecu.edu) and enter SUBSCRIBE TIDEWAFS in the body of the e-mail.
- **To send a message** -- E-mail to: [tidewafs@ecumail7.ecu.edu](mailto:tidewafs@ecumail7.ecu.edu).
- **To unsubscribe** -- E-mail to: [listserv@ecumail7.ecu.edu](mailto:listserv@ecumail7.ecu.edu) and enter UNSUBSCRIBE TIDEWAFS in the body of the e-mail.

## Student Subunit News



### University of Maryland by Lisa Kerr

The University of Maryland AFS Student Subunit has had a productive spring semester and enjoyed interacting with the distinguished speakers in our spring seminar series. On April 13<sup>th</sup>, the UMAFS student subunit hosted a seminar by Dr. Rob Latour of the Virginia Institute of Marine Science (VIMS) at the Chesapeake Biological Laboratory (CBL) in Solomons, MD. The seminar focused on the trophic dynamics of striped bass (*Morone saxatilis*) and weakfish (*Cynoscion regalis*), two of Chesapeake Bay's commercially and recreationally important species. A current diet analysis of individuals collected during the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) was placed in the context of historical diet analyses conducted in the Bay. A detailed comparison highlighted an apparent shift in the trophic dynamics of both species in recent decades. In the second portion of the talk, Dr. Latour presented the results of a physiological study of visual reception across two light

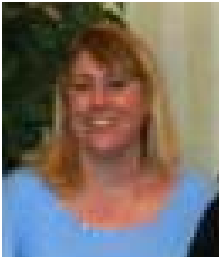
spectra for each species. Differential reception of various wavelengths of light under different intensities was posed as a possible explanatory factor of diet variability. In the final portion of the presentation, Dr. Latour provided some intriguing initial evidence that may indicate decreased foraging ability among Chesapeake Bay striped bass infected with Mycobacteriosis; again, a possible causal link to shifting diet. Prior to the seminar, fisheries students and CBL faculty attended an informal question-answer and conversational luncheon with Dr. Latour. (Contribution by Ryan Woodland)

On May 18, Dr. Al Place, Professor of Biochemistry at the University of Maryland's Center of Marine Biotechnology (COMB) presented results from COMB's Blue Crab Stock Enhancement Program. He impressed many by the vast amount of information discovered about the life history and biology of this species that was previously unknown prior to successful culturing in their laboratories. He also focused on their effort to understand the population genetic structure of the blue crab in the Chesapeake Bay and the Gulf of Mexico and the potential to identify hatchery reared crabs in the field. At present, the blue crab populations in the Bay and Gulf appear to show incredible genetic diversity and although hatchery reared crabs have been identified in the field, recaptures have been difficult to locate. (Contribution by Adam Peer)

We are looking forward to the upcoming Annual BYOS (bring your own species) cookout this summer. We wish to congratulate our former secretary Susan Flanders Cushman for the successful defense of her dissertation work on "Habitat complexity, patch selection, and movement of fish in small urban streams"-good luck in your future endeavors Susan!

If you are interested in getting involved in the subunit, or for those of you who missed out on purchasing a T-shirt from this year's Tidewater Chapter Meeting (Medium & Large sizes still available and run \$16), please contact me.

-- Lisa A. Kerr  
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### East Carolina University by Becky Deehr

Overall, it has been an award-winning year for ECU-AFS! Our first honor came in late January when Jason Clermont took third place for his poster at the Tidewater Meeting. In February, we were notified that we were selected Student Subunit of the Year in the Southern Division! In April, both our organization and presidential leadership were recognized by ECU during the Recognition of Outstanding Leadership and Service Awards ceremony. ECU-AFS took the award for Organization of the Year, and President Dee Dee Barry won the Perseverance Award for Adult Student Leadership. We hope to add one more honor to our trophy case, the Outstanding Student Chapter Award, which will be given by the AFS parent society at the annual meeting in Lake Placid, NY this September.

We thank our out-going officers for their dedication throughout the year: President Dee Dee Barry, Vice-President Eric Fitzpatrick (also SGA Representative), Treasurer David Gentry, Secretary Jenny Woodroffe (also SGA Representative) and Historian/Webmaster Chad Smith. Unfortunately, every one of our officers walked in the Spring graduation, so we will miss them next year. Congratulations to our new officers, who obviously have some big shoes to fill: Co-Presidents Becky Deehr and Kelly Register, Vice-President Garry Wright, Treasurer and SGA Representative Brandon Hendricks, Secretary Jason Clermont and Historian/Webmaster Andrew Gross.

ECU-AFS celebrated the end of the year with good food, friends and families. Spring graduates and past and present officers were honored. A particular treat was having Bob Curry present to award our subunit with the Student Subunit of the Year (Southern Division) plaque. We offer our congratulations and best wishes to our graduates:

B.S. in Biology: Leigh Barnett, Heather Drucker, Kathryn Sugg and Jenny Woodroffe



(L-R): Dee Dee Barry, Chad Smith, Leigh Barnett, Eric Fitzpatrick, Heather Drucker, Jennifer Woodroffe, Dr. Gerhard Kalmus, ?, David Gentry, and Nick Jones.

M.S. in Biology:

David Chagaris, “Diet analysis of selected fishes in a Belizean coral reef ecosystem and development of an Ecopath food web model”

Deirdre (Dee Dee) Barry, “Using visual censuses to estimate biomass of marine fishes for an Ecopath model of coral reef, seagrass, and mangrove habitats surrounding Calabash Caye, Belize”

Eric Fitzpatrick, “Evaluation and status of the estuarine yellow perch (*Perca flavescens*) in eastern North Carolina”

David Gentry, “Evaluation of striped bass, *Morone saxatilis*, condition in coastal North Carolina using physiological and condition indices”

Nick Jones, “An analysis of the abundance, composition, and diversity of larval fishes in the lower Tar River, NC”

Chad Smith, “Critical habitat assessment of anadromous fish spawning in the lower Tar River, North Carolina”

We are looking forward to another great year for ECU-AFS. We have five members presenting at the 136<sup>th</sup> Annual AFS Meeting in Lake Placid meeting in September to get our activities started, and hopefully they’ll be bringing home an award or two. If you or someone that you know is interested in learning more about our “little engine that could,” please send an email to Becky Deehr at [rad0708@ecu.edu](mailto:rad0708@ecu.edu), and don’t forget to visit our great website at [www.ecu.edu/org/afs](http://www.ecu.edu/org/afs). Keep an eye out for us!

-- Becky Deehr, ECU-AFS Co-President



Chad Smith, Dee Dee Barry and Jenny Woodroffe attended the ROLS awards in April and accepted the Outstanding Student Organization Award and the Perseverance Award for Adult Student Leadership.



ECU-AFS at the Tidewater Chapter Meeting in Atlantic Beach: Chad Smith, Garry Wright, Dee Dee Barry, David Gentry, Eric Fitzpatrick, Becky Deehr, Nick Jones and Jenny Woodroffe.

*The 5th Annual*  
**STUDENT COLLOQUIUM**



**EAST CAROLINA UNIVERSITY**  
NOVEMBER 4-6, 2005

Our Student Colloquium emblem



Nick Jones catches a big one at the Beer on the Pier event at Tidewater Meeting.



ECU-AFS was the university contact for Clean Sweep, the annual river clean-up project. More than 70 volunteers came out to remove 21000+ trash items from our local waterways!



Young anglers in the making at the Grifton Shad Festival!



## UNC-Wilmington by Will Smith

The inaugural year for the UNCW Subunit of the AFS was a huge success. An encouraging number of students joined the subunit in its initial semester: eight graduate students and approximately twelve undergraduate students. The group was organized into an “official” student organization. Students attended several professional conferences, and the Subunit held a fundraiser. At the monthly seminar series, UNCW students heard presentations by Fritz Rhode of the NC Division of Marine Fisheries, Jay Rogers from Cape Fear Community College’s Marine



March meeting of the UNCW Subunit

Technology program, and Fred Scharf, a fisheries biologist and professor at UNCW. UNCW Subunit members were present at several fisheries meetings including: the Tidewater Chapter meeting last February, the Southern Division AFS meeting in San Antonio, and the South Carolina Chapter AFS/South Carolina Fish and Wildlife meeting in Charleston. Some members will be attending the American Society of Ichthyologist and Herpetologists meeting in New Orleans and the AFS meeting in Lake Placid. A fundraiser held during the final weeks of the spring semester earned the Subunit its first operating budget, which will be used to partially sponsor student members to attend the AFS meeting in Lake Placid and to support the monthly seminar series.

Congratulations to the recent Masters, Chris Stewart and Jason Lanier, and the recent Bachelors, Andy Ostrowski and Kyle Rommel. Chris Stewart recently defended his thesis, Spatial and temporal variability in recruitment timing, relative abundance, and mortality of juvenile red

drum (*Sciaenops ocellatus*) in Southeastern North Carolina.



UNCW Subunit members engage in barely-legal advertising for the Subunit.

Chris completed his undergraduate education at East Carolina University in Greenville, NC. While there, his coursework focused on a traditional curriculum in biology with particular attention to marine organisms and systems. He also got the chance to work with Dr. Joe Luczhovich on several occasions while completing his undergraduate research at East Carolina.

Shortly after receiving a B.S. in Biology from East Carolina Chris began working at the Institute of Marine Sciences –UNC for Dr. Charles Peterson and Monica Dozier as a research technician on several of their projects including red drum recruit and adult sampling surveys. Chris also got the chance to work as a research technician for Dr. Sean Powers on several of his projects. While working with Dr. Powers, he helped to assess the impact of cownose ray migration on adult scallop populations and assisted with oyster disease assessment.

While attending the University of North Carolina at Wilmington, Chris’s Master’s work focused on assessing the relative abundance and recruitment timing of larval and juvenile red drum in the Cape Fear and New River estuaries. He conducted extensive beach seining and gill-netting over the course of two years (2003-04) in these two rivers, and he determined otolith-derived daily ages to examine the interannual variation in hatch date distributions, as well as assess cohort-specific mortality for red drum in each estuary. Chris is currently working with Teresa Thorpe on a project that will assess the effectiveness of a terrapin-exclusion device for crab pots: Evaluation of terrapin excluder devices on blue

crab (*Callinectes sapidus*) pots; Effects on diamondback terrapin (*Malaclemys terrapin*) bycatch and target catch efficiency.

### Graduate Students and Their Research

- Chris Bentley: The effects of dietary lipid on reproductive performance and egg quality of black sea bass (*Centropristis striata*).
- Adam Branson: Recruitment and habitat utilization by YOY bluefish (*Pomatomus saltatrix*) in the estuary versus the surf zone.
- Joe Carrier: The effects of dietary arachidonic acid on growth, survival and Na, K, ATPase expression in larval black sea bass (*Centropristis striata*).
- Chip Collier: Fisheries biology of *Menticirrhus* species .
- Johanna Imhoff: Evaluation of lemon shark movement patterns and foraging behavior near Bimini Island.
- Cassie Martin: Factors determining early juvenile mortality of red drum.
- Stephanie McNerny: Age and growth of red snapper from the southeastern United States.
- Will Smith: Harvest mortality and population demographics of southern flounder based on a tag-return study in the New River, North Carolina.
- Kim Sutton: Bluefish ecology.



Advisor, Dr. Fred Scharf, Chris Stewart, and Brad Tayloe pull a beach seine in the New River.

-- Will Smith, President, UNCW Subunit

### Carteret Community College, Division of Marine Science, Aquaculture Technology Program by Skip Kemp

Various fish and projects are on display through the CCC AQU Clam Cam, a webcam that we have set up on a rotation among the various projects in our lab. The URL is: <http://198.86.121.230/view/index.shtml> (daylight hours) the image has a bad reflection that we have not yet had time to fix.

Many students are pursuing independent studies this summer semester; some of the topics are alligator feed making, shark husbandry, native coral husbandry, mass culture of microalgae, bay scallop spawning and nursery culture.



Students observe feeding of the alligators at CCC.

AQU students heard a guest lecture from Jackie Williams about biotechnology of horseshoe crab blood and participated in a hands-on experience with the actual drawing of blood from these animals. An extract from horseshoe crab blood is marketed to the pharmaceutical industry. We will pursue industrial contacts to facilitate this project.

Projects in various stages of operation / completion:

- Donax clam aquaculture enhancement project
- Oyster shell recycling project
- Oyster hatchery initiative with NC Aquarium-Roanoke Island
- Marine aquaculture biotechnology lab
- Horseshoe crab bleeding
- Blood ark culture
- Bryozoan mass culture
- Recirculation/quarantine aquarium system setup

Held two lectures on GPS:

Basics by Wes Daniels, CCC Boat Program and Advanced uses of Garmin GPS units by Steve Hamber, West Marine.



CCC students participate in a microscope study.

We are recruiting new students so if you know anyone who is interested in learning some great skills for applied marine biology, please send them our way.

Philip S. Kemp Jr.

Division of Marine Sciences, Aquaculture Technology Program, Carteret Community College, 301 College Circle, Morehead City, NC 28557

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<http://main2.carteret.edu/~kemps>

<http://www.carteret.edu/education/academicprograms/AQUA/aquacultmain.htm>

### **Duke University, Nicholas School of the Environment and Earth Sciences**

I hope summer is treating you all well. Anthony Overton just contacted me about moving forward with the establishment of the Duke University Student Subunit. The last thing I need to make this happen is a petition signed by an on-campus faculty advisor (hopefully Dr. Larry Crowder) and 6 active members of the Tidewater Chapter. The petition simply calls for names, addresses, phone numbers and signatures...

I'm writing you all for your assistance in helping me procure these signatures. Thanks in advance for your help!

-- Aja Peters-Mason

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**Delaware News from  
Damian Brady (University of Delaware) and Kevin Neves (Delaware State University)**



The University of Delaware's College of Marine & Earth

Studies (CMES) Graduate Student Symposium was held the weekend of May 6<sup>th</sup>-7<sup>th</sup>. Held every 18 months at the CMES campus in Lewes, DE, this year's event was particularly noteworthy. With the addition of

the Geology Department to the CMES program, many students from various programs at the main campus in Newark made the trek downstate. It was also the first time that Delaware State University (DSU) was asked to participate in the festivities, making the event truly representative of the entire state.

Throughout the weekend, 23 papers and 8 posters were presented. Making the most of the opportunity to share their work, nine DSU students and two faculty members traveled to Lewes for the weekend. There were four oral and four poster presentations. The oral presenters included Colette Cairns, who is investigating the population ecology of yellow-phase American eel, Kevin Neves, who is looking into the determination of optimal protein to energy ratios of artificial diets in juvenile weakfish, Phil Simpson, who is examining habitat utilization patterns of Atlantic sturgeon in the Delaware River/Bay and Naeem Willett, who is looking at site fidelity and habitat utilization of sandbar sharks in Delaware Bay. Jessie Thomas recently defended her thesis and has just accepted a position as the Habitat Coordinator at the Atlantic States Marine Fisheries Commission.

In addition to the presentations which covered topics such as coastal and estuarine biology, marine biochemistry, marine policy, geology, oceanography, deep sea biology and aquaculture, there were plenty of activities planned for the weekend. A round table discussion led by Dr. Nancy Targett, the Dean of CMES, and Gerhard Kuska of the Council on Environmental



Quality, co-chair of the US Subcommittee on Integrated Management of Ocean Resources, took place during the first day of presentations. The originally scheduled speaker, Admiral James D. Watkins, Chairman of the United States Commission on Ocean Policy was not able to attend and his replacements filled in admirably. Saturday night was highlighted by a barbecue and auction at the Daiber Housing complex. All items were donated by local businesses and many of the items consisted of various activities with CMES students/faculty such as golf lessons, a kayak trip, sewing lessons and even a dinner for 20 hosted by Drs. Nancy and Tim Targett, which sold for \$720! The auction raised \$2300 for the CMES Student Association which funds various activities for the school throughout the year.

The symposium wrapped up the following morning with the last of the talks. After lunch and a short break, the new research vessel, the R/V Hugh R. Sharp was commissioned. The R/V Hugh R. Sharp is the university's new \$18.6 million state of the art vessel. The vessel will operate primarily in the mid-Atlantic coastal region. Hallmarks of the new ship will be its clean, quiet operation, which will be particularly advantageous in studies of fish and marine mammals, as well as pollution research. The weekend was definitely a success with students from both schools learning about the projects each are involved in.

In other news, students in Dr. Tim Targett's lab are working on a variety of projects throughout Delaware Bay and the Delaware Coastal Bays. Damian Brady and Danielle Tuzzolino are working on a NOAA funded grant to examine fish movement and prey dynamics in relation to diel-cycling hypoxia the Delaware Coastal Bays. Michael Rhode will be working on a project comparing the timing and abundance of shelf-spawned ichthyoplankton that ingress into Delaware Bay and the Delaware Coastal Bays. Benjamin Ciotti is working on a collaborative project with Dr. Tim Targett and Dr. Tom Miller (Chesapeake Biological Laboratory) examining fine-scale spatial and temporal dynamics of juvenile striped bass growth in Delaware and Chesapeake Bay. Brian Boutin, a National Estuarine Reserve Fellow, will be continuing his studies of the functional role of fringing tidal creek systems vs. the Delaware Estuary mainstem as essential fish habitat for young estuary-dependent fishes.

-- Damian Brady (University of Delaware) and Kevin Neves (Delaware State University)



## Maryland News from Bob Murphy

Tumors found in brown bullheads in the South River. When survey crews tossed their nets into Maryland's South River looking for fish last year, what they pulled up was a bit of an ecological

mystery. The crew from the U.S. Fish and Wildlife Service, who were conducting a survey for yellow perch, noticed strange pink bumps on the lips of bullheads found in their nets. Follow-up sampling revealed the river had the highest rate of skin tumors, and the second highest rate of liver tumors, that biologists had seen in any catfish including the Anacostia River. This was a surprising find given the lack of industry, and associated pollutants, on the river. The South River watershed covers about 66 square miles south and west of Annapolis. About half of the watershed is still forested, although other areas have been rapidly developing in recent years. The samples were taken in the river near the Route 50 bridge, which is roughly in the middle of the watershed (and about one mile from the head of tide).

Out of a random sample of 30 brown bullheads pulled out of the river, 16 had raised, pinkish red lesions around the mouth, which were confirmed to be tumors. Pathologists found that 13 of the 16 fish had invasive cancers, and the remaining three had noninvasive skin tumors—an overall tumor rate of 53 percent. In addition to the skin cancers, six of the 30 fish—or 20 percent—had liver tumors. According to the USF&WS, scientists consider an area to be highly contaminated when skin tumor rates are higher than 12 percent and liver tumor rates are more than about 5 percent. A USF&WS fact sheet called the South River rate “alarming.” In studies in the Great Lakes and in the Anacostia River in the District of Columbia, elevated tumor rates were associated with high concentrations of polycyclic aromatic hydrocarbons (PAHs). Sediment samples from the mid-1990's did not have particularly high concentrations of PAH's, although runoff characteristics may have changed since these samples were taken. Stormwater is considered a major source of PAHs

entering waterways, because roadways and parking lots collect vehicle exhaust, oil dripping from cars, and even tiny particles rubbing off tires—all of which may contain PAHs, which can be flushed into streams during rainstorms. Once in the water, they can accumulate in the sediment. Additional studies are ongoing to determine the causative agents.

Spring Striped Bass Spawning. Biologists with Maryland DNR completed the spring spawning biomass sampling for 2006. Preliminary assessments indicate that the 2006 spawning stock was a “typical” year, neither low nor high. The warm spring and low precipitation, on the other hand, may produce a habitat squeeze for juveniles. The juvenile index seine sampling program begins this summer.

State Record Striper Caught on Assateague. On Saturday, May 6, Gary Smith of Keedysville, MD caught a state record striped bass weighing 57 lbs 6 oz. The catch set a new Atlantic record, surpassing the old record by over four pounds. Smith was surf fishing on Assateague Island using cut bunker (Atlantic menhaden) on a handmade rod with 17 lb test when he caught the 53-inch long striper with a 30-inch girth. There is a possibility that the fish recently left the Chesapeake Bay after spawning in one of its many tributaries. Maryland maintains three separate state record categories for striped bass - Chesapeake, Freshwater and Atlantic. The Chesapeake record is the largest of the three at 67 pounds 8 ounces.

-- Bob Murphy, MD Member –at-Large



*Challenges for Diadromous Fishes in a Dynamic Global Environment, Halifax, Nova Scotia, June 17-24, 2007.*  
*Second International Symposium on Diadromous Fishes*

[www.anacat.ca](http://www.anacat.ca)

## Virginia News from Jim Gartland

### VMRC / VIMS – Economic Impact of Virginia’s Commercial and Recreational Fisheries Reevaluated



It is generally believed that Virginia’s commercial and recreational fisheries are important components of the Commonwealth’s economy and, in 1994, the Virginia Marine Resources Commission (VMRC) supported two large-scale studies at the Virginia Institute of Marine Science (VIMS) aimed at delineating the contributions of each of these fisheries. The VMRC, some members of the commercial industry, and some

recreational fishing organizations recently requested that the 1994 studies be updated, and VIMS completed this reassessment in April.

This latest report showed that these two fisheries contributed a total of \$1.23 billion in output or sales (commercial – \$407.9 million; recreational - \$823.7 million), \$717.4 million in value-added or income (commercial – \$239 million; recreational - \$478.4 million), and 13,015 full and part-time jobs (commercial – 3,923; recreational – 9,092) to the Virginia economy in 2004 (i.e., the year modeled for this study).

With respect to the commercial industry, although the ex-vessel value of all species landed commercially in Virginia increased since 1994, the economic contribution (i.e., sales, income, and jobs) of the commercial fishery declined. Further, the diversity of the commercial industry decreased since 1994, meaning that fewer species were generating large sales contributions. All values used in comparisons were adjusted to 2005 constant dollars. Sea scallops (*Placopecten magellanicus*) accounted for 71% of the sales of Virginia’s commercial industry in 2004. Blue crabs (*Callinectes sapidus*) were ranked second, while Atlantic menhaden (*Brevoortia tyrannus*) were ranked third.

For the recreational fishery, trips for which anglers indicated no particular target species generated the highest levels of economic activity, while those in which

spot (*Leiostomus xanthurus*) and Atlantic croaker (*Micropogonias undulatus*) were the target species produced the second largest economic contributions. Trips made for striped bass (*Morone saxatilis*) and summer flounder (*Paralichthys dentatus*) generated the third and fourth highest levels of economic activity, respectively. These results differed from those reported in 1994, where the Gulf Stream fishery accounted for the greatest economic contribution by the recreational fishery.

Besides providing an update of the economic contributions of Virginia's commercial and recreational fisheries, this latest report also included a User's Manual which outlined methods that can be used to estimate the economic impacts of these fisheries. This manual is meant to enable fishery managers to assess the probable effects of regulations as well as to allow the public to evaluate the importance of these fisheries in Virginia.

**VMRC - State Record Atlantic Spadefish Landed**

Virginia recreational anglers continue to set new state records in 2006, as Michael K. Hanhart of Huddleston, Virginia landed a 13 lb., 5 oz. Atlantic spadefish (*Chaetodipterus faber*) on May 29. The Virginia Saltwater Fishing Tournament has certified this fish as the new state record. Mr. Hanhart caught the 23 3/4" fish at Wolf Trap Light in Chesapeake Bay using a piece of clam fished under a cork float. This spadefish edged out the previous record, a 13 lb. fish, captured by Mr. Otis Tribble on September 19, 1988. Mr. Tribble caught this fish at the Cell in Chesapeake Bay.

For more information, contact Claude Bain, mrcswt@visi.net, the Director of the Virginia Saltwater Fishing Tournament.



Mr. Hanhart weighs in his 13 lb., 5 oz., state record spadefish.

--Jim Gartland, Virginia Member-At-Large



**North Carolina News from Charlton H. Godwin**

**Annual Stock Status Reports**

The North Carolina Division of Marine Fisheries has just updated its annual Stock Status Reports (SSRs) on some of

the important coastal fisheries in North Carolina. The annual report is designed to serve as a general barometer of the overall health of our fishery resources and is used to help prioritize the development of Fishery Management Plans (FMPs) and updates to those plans. The annual SSRs also serve as a great source of information to the public, and are posted on the Division's website. Just click on the finfish link to be directed to the 2006 SSR. [www.ncfisheries.net](http://www.ncfisheries.net)

The SSR covers 40 stocks of commercially and recreationally important finfish and crustacean. Several stocks listed in the report include numerous species, such as catfishes (5 spp), Kingfishes (3 spp), reef fish (75 spp) sharks (40 spp), and shrimp (3 spp). Each stock is assigned one of five stock designations: Viable, Recovering, Concern, Overfished, and Unknown. Thirteen stocks were listed as Viable this year, and include black sea bass north of Hatteras (considered a separate stock vs. black sea bass south of Hatteras), striped bass stocks in the Atlantic Ocean and the Albemarle/Roanoke Management Area, Atlantic croaker, dolphin, gag grouper, king and Spanish mackerel, striped mullet, spot, spotted seatrout, and shrimp.

Reviewing the other designations, five stocks are listed as Recovering, eight are listed as Concerned, seven are listed as Overfished, and seven are listed as Unknown. Many of the Unknown species are either in the FMP development process (hard clam and kingfishes) or are in the data collection stage of the FMP process (white perch, yellow perch, and catfishes).

Each stock status listing also includes a short blurb, letting interested parties know how the designating may have changed since last year, management concerns relating to the stock, as well as some biological information about the stock. Please check out the

NCDMF website for a complete detail of all the stocks listed in the annual SSR.

On another note, those of you interested in the upcoming striped bass recreational season in the Albemarle Sound Management Area (ASMA) will be glad to know NCDMF will be increasing the daily creel limit from two fish per person to three fish per person. The season will open on 1 October 2006, and harvest will be allowed seven days a week. The current minimum total length of 18 inches will remain in effect. The increase in the daily creel limit is due to the recreational sector in the ASMA falling short of harvesting its yearly total allowable catch TAC (137,500 lb) for the past several years. If you have any questions concerning striped bass in the ASMA, contact Charlton H. Godwin at the NCDMF.

### **Bay Scallop Research Among FRG Projects**

The N.C. Fishery Resource Grant (FRG), funded by the N.C. General Assembly and administered by North Carolina Sea Grant, supports cooperative research based on ideas from the fishing community. Where appropriate, the program helps partner fishers with academic researchers to ensure useful results for both the industry and resource managers. FRG will fund 24 research projects this year that address research questions concerning aquaculture and mariculture, environmental pilot studies, and fisheries equipment and gear.

• *Red Porgy (Pagrus pagrus): Evaluation of a New Candidate Species for Intensive Mariculture in North Carolina:* Frank Montgomery of Wilmington, Wade Watanabe of the University of North Carolina at Wilmington and James Morris of the National Ocean Service, NOAA, Beaufort.

• *An Improved Method to Assess the Health of Oysters:* Dell Newman of Swan Quarter and Edward Noga of North Carolina State University.

• *An Early Warning Strategy to Prevent Winter Kill:* Nancy Sugg of Aurora and Edward Noga of North Carolina State University.

• *Producing Farmed Hybrid Striped Bass for Year-Round Markets:* Ted Davis of Vanceboro.

• *Pilot Project to Investigate the Feasibility of Bay Scallop (Argopectin irradians) Mariculture in Coastal North Carolina:* Mark Hooper of Smyrna.

• *Enhancing Growth Rates and Protein Synthetic Capacity of Hybrid Striped Bass Through Seasonally-Based Compensatory Growth Protocols:* William Watson of Aurora and Russell Borski of North Carolina State University.

• *Winslow in 3D: Tracing Heights of Historic Oyster Habitat in North Carolina:* Eugene Ballance of Ocracoke.

• *Oyster Dispersal and Meta-Population Dynamics in Pamlico Sound: Settlement, Survival and Spawning Potential:* Eugene Ballance of Ocracoke and Dave Eggleston of North Carolina State University.

• *Bay Scallop Restoration Through Protecting Transplants:* David Gaskill of Cedar Island and Charles Peterson of the University of North Carolina at Chapel Hill.

• *Estimating Abundance of Bottlenose Dolphins in North Carolina:* Bill Foster of Hatteras and Andrew Read of Duke University.

• *A Test of Larval Releases for the Restoration of Bay Scallops in Bogue Sound, North Carolina:* Dana Schmidt of Newport and Ami Wilbur of the University of North Carolina at Wilmington.

• *Using the Past to Understand the Present: Linking Historical Changes in Land-Use with Juvenile Finfish Abundance in North Carolina Primary Nursery Areas:* Jason Hassell of Washington; Joseph Luczkovich, Mark Brinson and Terry West of East Carolina University.

• *Feasibility of Stocking Adult River Herring to Restore Spawning Populations in Albemarle Sound, North Carolina:* Terry Pratt of Merry Hill and Roger Rulifson of East Carolina University.

• *Enhancing Artificial Reef Fish Populations by Providing a Nursery Refuge for Invertebrate Prey:* Lee Manning of Swansboro and Daniel Rittschof of Duke University.

• *Low-Profile Gillnet Testing in the Deep Water Region of Pamlico Sound, North Carolina:* Charlie Van Salisbury of Engelhard.

• *Characterization of Flounder Gillnet Fishing Techniques and Bycatch in the Pamlico River:* Jason Hassell of Washington.

• *Determination of Catch Rates and Discard Mortality by Pot Type for the Black Sea Bass Commercial Pot Fishery:* Tom Burgess of Sneads Ferry.

• *Health Status, Post-Release Behavior and Survivability of Sea Turtles Incidentally Captured in the Gillnet Fishery of the Lower Cape Fear River:* Jeff Wolfe of Wilmington and Amanda Southwood of the University of North Carolina at Wilmington.

• *Estimating Mortality of Age-0 Red Drum: An Educational Partnership to Examine Factors Affecting Recruitment:* Pat Harrill of Wilmington and Frederick Scharf of the University of North Carolina at Wilmington.

• *Testing the Use of Mediation in Managing User Conflicts in North Carolina Fisheries:* Billy Carl Tillet of Manteo, Bill Hitchcock of Morehead City, Rom Whitaker of Hatteras and Steve Smutko of North Carolina State University.

• *Mapping Undersized Southern Flounder Distribution and Improving Links Between Juvenile Indices and Adult Stock Dynamics:* George Beckwith of Morehead City and J. Christopher Taylor of North Carolina State University.

• *Catch Potential and Condition of Shrimp and Bycatch Associated with a New RCGL Shrimp Trap Design and Evaluation of Commercial Traps in Different Regions of Southeastern North Carolina:* Kenneth Sessions of Topsail Beach.

• *Reforming Smaller Pieces of Crabmeat into More Marketable Larger Grades of Crabmeat:* Doug Cross of Vandemere.

• *Harnessing Consumer Preference to Create New Markets for North Carolina Seafood:* Pam Morris of Harkers Island and Susan Andreatta of the University of North Carolina at Greensboro.

To learn more about the FRG program and funding process, visit North Carolina Sea Grant online at [www.ncseagrant.org](http://www.ncseagrant.org) and look for the FRG link under “Funding Opportunities.” Also, you can Contact: Katie Mosher 919/515-9069 or Erin Seiling 919/515-1092.

### **Blue Crab Research Grants Awarded**

Blue crabs are North Carolina’s most economically valuable fishery, with an average value of \$24.5 million dollars for the previous five years. Declining harvests in recent years have generated concern for the valuable fishery and has motivated managers and researchers to look for new ways to protect the stock. In 2006, the program will provide a total of \$467,191 to fund 15 new research projects related to North Carolina’s blue crabs.

• *Callinectin: A New Pharmaceutical from Blue Crabs:* Edward Noga of North Carolina State University’s College of Veterinary Medicine.

• *Informing Blue Crab Managers: Activity and Fecundity of Crabs from Terminal Molt to Death:* Dan Rittschof of Duke University.

• *Larviculture of Blue Crab (*Callinectes sapidus*):* Ryan Murashige of Raleigh and Harry Daniels of North Carolina State University.

• *Bait Reduction in the Hard Crab Fishery:* Robert Williams of Harbinger.

• *Minimizing Pot Loss and Retrieval of Lost Pots:* Jason Hassell of Washington.

• *Testing a New Technique for Reducing Sea Turtle Damage to Crab Pots:* Ronnie and Virginia Cahoon of Smyrna, Naomi Avissar of Beaufort and Larry Crowder of Duke University.

• *Contamination Risk from Chicken Bait During Normal Crabbing Activities:* Ray Golden of Beaufort and Dan Rittschof of Duke University.

• *Costly Crabbing:* Paul Rose of Moyock.

• *Blue Crab Post-Larval Immigration into an Estuary:* Richard Forward, Jr. of Beaufort.

• *Characterizing the Ocean Population of Blue Crabs and Tracking the Movements of Mature Female Blue Crabs in Central and Southeast North Carolina*: Dan Rimmer of Beaufort, Eustace Wood of Surf City, Tom Likos of Southport, David Beresoff of Bolivia and Elaine Logothetis of the University of North Carolina at Wilmington.

• *Blue Crab Sampling in the Vicinity of Oregon, Drum and Barden's Inlet Spawning Sanctuaries Using Crab Pots*: Eugene Ballance of Ocracoke.

• *Evaluation of Terrapin Excluder Devices on Blue Crab (*Callinectes sapidus*) Pots, Effects on Diamondback Terrapin (*Malaclemys terrapin*) Bycatch and Target Catch Efficiency*: Tom Likos of Southport and Teresa Thorpe of Wilmington.

• *Cold Banking Peeler Crabs to Spread the Shed — A Research and Demonstration Project*: Willy Phillips of Columbia.

• *Testing an Excluder Device to Keep Sponge Crabs out of Pots*: Paul Rudershausen of North Carolina State University.

• *Comparing Cull Ring Size and Number on Catch Rates of Blue Crabs*: Graham Harrison of Hatteras, Phil Smith of Carolina Beach, Jason Hassell of Washington, H.L. Bond of Edenton, Ted Willis of Salter Path, Bob Austin of Williston, Mark Hooper of Smyrna, Paul Rose of Moyock and Paul Rudershausen of North Carolina State University.

To learn more about the Blue Crab program and funding process, visit North Carolina Sea Grant online at [www.ncseagrant.org](http://www.ncseagrant.org) and click on "Research Areas." Also, you can Contact: Katie Mosher 919/515-9069 or Erin Seiling 919/515-1092.



## Announcements

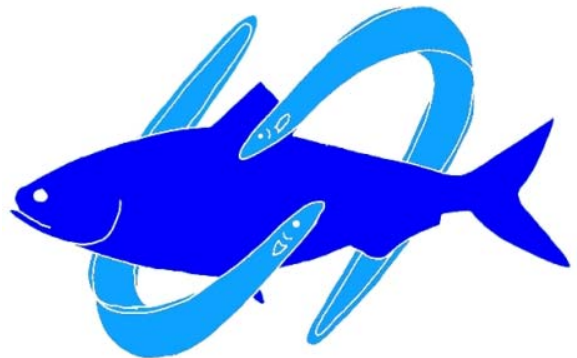
**60th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies, Marriott Waterside Hotel in Norfolk, Virginia, November 5-8, 2006**



More information at [SEAFWA2006.org](http://SEAFWA2006.org)

Hosted by the Virginia Department of Game and Inland Fisheries

## ***Challenges for Diadromous Fishes in a Dynamic Global Environment***



**June 17-24, 2007, Halifax, Nova Scotia**

**Call for oral and poster presentations**

[www.anacat.ca](http://www.anacat.ca)

*This second international symposium on diadromy* will review the current state of scientific knowledge with respect to biology, ecology, and conservation of diadromous fishes (including anadromous, catadromous, potamodromous, and amphidromous species). The symposium theme will build upon that of the very successful 1986 American Fisheries Society symposium, **Common Strategies of Anadromous and Catadromous Fishes** (Dadswell et al. 1987. *Am. Fish. Soc. Symp. 1*). However, emphasis will be shifted to address how recent alterations to the environment and human activity has affected diadromous fishes with

respect to their sustainability and role in aquatic ecosystems.

Papers will be organized into the following topic areas:

- **Dynamic Nature of Diadromy**
- **Climate Change & Anthropogenic Influences**
- **Ocean Environment & Migration**
- **Contribution of Diadromy to Ecosystem Energetics**
- **Population and Habitat Restoration**
- **Socio-Economic and Bio-Political Linkages in**

## **7th Coastal & Estuarine Shallow Water Science & Management Conference**

Join us in Atlantic City **September 25-27, 2006**, for the Seventh Coastal & Estuarine Shallow Water Science & Management Conference. Based on the abstracts submitted the conference theme will be the interrelationship between shallow water habitats, water quality and adjacent land use. Although presentations in these areas will predominate, there are a host of other interesting topics. Please join us at the Holiday Inn-Boardwalk in Atlantic City, New Jersey.

The first three Shallow Water Conferences focused on defining the gathering's namesake, the very thing that the participants were determined to protect. The shallow water zone is defined as the zone of maximum interaction between humans and critical biological resources - the intertidal zone to four meters below Mean Low Water. Shallow Water meetings since then have dealt with specific issues in this important resource area. It has been five years since the last Shallow Water Meeting, and a number of factors have indicated to the organizers that the time has come for another gathering.

Abstracts are still being accepted. The Program has been set, and the sessions finalized, however there is still room for a few more presentations that fit within the sessions, or to be presented as poster presentations. Please feel free to contact us about joining the slate of presenters.

<http://www.wetlandsworkgroup.org/shallowwater.htm>

## **Management**

### ➤ **Ecosystem Management Approaches for the Future**

A peer-reviewed symposium Proceedings will be published through the American Fisheries Society, including full papers of the presentations and abstracts of the posters. **For more information, contact** Alex Haro email: [Alex\\_Haro@usgs.gov](mailto:Alex_Haro@usgs.gov) or visit the website at [www.anacat.ca](http://www.anacat.ca).

## **Wetlands & Watersheds Workshop #8**

**October 24-28, 2005, Holiday Inn on the Boardwalk, Atlantic City, NJ**

The Wetlands & Watersheds Work Group holds annual Workshops in Atlantic City to promote the communication among the public, scientists, regulators, resource managers and academicians. These Workshops have attracted more than 2000 attendees over the brief 7 years since their inception. The next Workshop is scheduled for the week of October 24 - 28 in Atlantic City. Check back here for more information or contact Frank Reilly

(Executive [Director@wetlandsworkgroup.org](mailto:Director@wetlandsworkgroup.org)) to join our mailing list or become a member of the Wetlands & Watersheds Work Group.

Wetlands & Watersheds Workshop #8 will be a joint meeting with the Mid-Atlantic Chapter of the Society of Wetland Scientists, and is co-sponsored by the Water Resources Association of the Delaware River Basin.



Coastal Zone 07 will be held in Portland, Oregon, July 22 to 26, 2007. The overall conference theme, "*Brewing Local Solutions to Your Coastal Issues*," will be highlighted in oral and poster presentations that use case studies, lessons learned, and success stories.

The Coastal Zone conference, now in its 15th year, is the largest international gathering of ocean and coastal management professionals in the world. Nearly 1,000 people attend, representing federal, state, and local governments, academia, nonprofit organizations, and

private industry. The conference gives these attendees a platform to discuss the issues facing our world's coasts and oceans and a forum for discovering new strategies and solutions. For more information visit the website

<http://www.csc.noaa.gov/cz/index.html>

### **Books of Interest to Chapter Members**

Bergstrom, P. W., R. F. Murphy, M. Naylor, R. C. Davis and J. T. Reel, Eds. (2006). Underwater grasses in Chesapeake Bay & Mid-Atlantic coastal waters: Guide to identifying submerged aquatic vegetation. College Park, MD, Maryland Sea Grant College.

"To help citizen volunteers, students, and others interested in learning more about these plants, Maryland Sea Grant has produced a new guide to underwater grasses in collaboration with the National Oceanic and Atmospheric Administration's Chesapeake Bay Office, the Alliance for the Chesapeake Bay, and the Maryland Department of Natural Resources.

Underwater Grasses in Chesapeake Bay & the Mid-Atlantic Coastal Waters features color photographs, line drawings and helpful descriptions of 16 of the most common SAV species, along with other aquatic species you might see. The spiral-bound book is water resistant and printed on heavy stock, similar to the marine mammal guides published by Alaska Sea Grant and Rhode Island Sea Grant. The guide also includes ways to distinguish between similar plants, as well as additional information about floating aquatic vegetation and algae, including algal blooms that can impact water quality. Charts and maps detail the salinity range of each SAV species, including expected salinity ranges in Chesapeake Bay during wet and dry years. Especially useful is an identification key with details about leaves, stems, and other characteristics to help the user identify the plant in hand. "

Buy it at: <http://www.mdsg.umd.edu/store/SAV/>