



TIDEWATER CHAPTER

Southern Division - American Fisheries Society

VOLUME 4, NUMBER 2

NEWSLETTER

APRIL-JUNE 1989

PRESIDENT'S MESSAGE

Greetings to all Tidewater Chapter Members. Although we are one of the youngest Chapters of the American Fisheries Society (AFS), we are recognized by the AFS Executive Committee as being one of the most active Chapters of AFS, due mainly to the efforts of past Presidents Roger Rulifson and John Cooper. Our Chapter Newsletter is recognized as one of the best Chapter Newsletters in AFS, thanks to the efforts of former editor Chris Bonzek and current editor John Cooper. However, we need new members and more active participation by current Tidewater Chapter Members. Who are we? I quote from our Bylaws: Section 2 - Membership. "*The membership of the Chapter shall be made up of persons having an interest in the estuarine and coastal fisheries of the Commonwealth of Virginia and States of Maryland and North Carolina, and having paid their current Chapter dues.*" We are research professors and graduate students, fisheries biologists and resource managers for local, state and federal agencies, fisheries consultants, and environmental biologists and managers for non-profit foundations and various industries and public utilities. We enjoy meeting and sharing ideas with other fisheries professionals on an informal basis. We are interested in fisheries research and management in the Tidewater area, and in expanding our horizons beyond our current research or management objectives and environmental problems. Most of all we enjoy the camaraderie of other fisheries professionals and we relish the cross-fertilization of ideas, be it from informal discussions during coffee breaks at our annual meetings or over a beer or soda at the annual socials.

As an organization of fisheries professionals, we are asked to utilize our expertise in commenting on various projects which may impact our fisheries resources. You, as an active Chapter Member, have an opportunity to advise Chapter officers, and especially your respective At-Large Member of concerns which the Chapter should address, and to offer your ideas and expertise in responding to these concerns.

Surely you must know other fisheries professionals who would enjoy and benefit from active involvement in the Tidewater Chapter. Invite them to join us! Sites of our annual meetings rotate among the three States to encourage maximum participation with minimal travel time. Regis-

tration costs of these meetings are minimal, again in an attempt to encourage active participation in the Chapter by students and junior-level fisheries professionals. I challenge each Chapter Member to recruit at least one new member for our Tidewater Chapter.

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As President of Tidewater Chapter, I attended the spring EXCOM meeting of AFS in Corpus Christi on 9-12 March. The warmth and sunshine of the south Texas coast was welcome relief from the icy roads of Maryland. Chapter Presidents are non-voting members of the AFS Executive Committee. The freshman orientation, for those of us who are new to the workings of the AFS EXCOM, was a great introduction to our professional society. Perhaps the best aspect of the entire meeting was the opportunity to meet other EXCOM Members who attended from the United States and Canada.

While I was in Corpus Christi, AFS Deputy Executive Director Paul Brouha raised the question of formation of an Estuarine Section of AFS. An Estuarine Section of AFS could serve as a forum for fisheries professionals working in estuarine and coastal waters throughout the United States and Canada. An advantage of an Estuarine Section, provided membership exceeded 200, would be voting status on the AFS EXCOM. Is there a need for an AFS Section to specifically address current research and management of estuarine fisheries? If such a need exists, would you be willing to actively participate in the Section? What will be the future of the Tidewater Chapter if an Estuarine Section of AFS is established? Would the formation of an Estuarine Section dilute current participation in other Sections; i.e., Early Life History Section or Marine Section? Would Tidewater Chapter Members be willing to attend meetings outside the geographical range of our Chapter? Please give these questions some serious thought and write or call me at the following address with your comments and suggestions.

Dr. Eileen M. Setzler-Hamilton
The University of Maryland System
Center for Environmental & Estuarine Studies
Chesapeake Biological Laboratory
Solomons, MD 20688-0038
301-326-4281

UPDATE ON ESTUARINE SECTION

On 12 June 1989, I received a letter from Paul Brouha regarding the creation of an Estuarine Fisheries Section of AFS. I was asked to be part of a steering committee to examine this matter. Thus, I really need your thoughts and suggestions on the advisability of creating an Estuarine Section of AFS. Now is your opportunity to be heard on this topic.

ANNUAL MEETING

The fourth annual meeting will be held at the Virginia Beach Marine Science Museum. Tentative dates are 11-13 January 1990. The theme will be **Fisheries Research in the Virginia-North Carolina-Maryland Tidewater Area: Who, What, When and Where**. This will serve as a first call for papers, abstracts of which can be sent to:

Ron Southwick
Virginia Dept. of Game and Inland Fisheries
500 Hinton Ave.
Chesapeake, Virginia 23323

Further details of the meeting costs and arrangements will be in the next newsletter.

ENVIRONMENTAL ACTIVITIES

(Ed. note: This comes from President Eileen Setzler-Hamilton)

AFS was asked to comment on the U.S. Army Corps of Engineers application for proposed maintenance dredging of the navigation channel at the mouth of Greenvale Creek, a tributary of the mesohaline portion of the Rappahannock River in Lancaster County, VA. Paul Brouha, Deputy Executive Director, AFS, forwarded the request to the Tidewater Chapter for a reply. I contacted biologists from VIMS who are familiar with the proposed dredging site and Mr. Lewis Gillingham, Virginia At-Large Member, before drafting a reply. The main concern was that the placing of dredge materials, mostly sand, would interfere with the intermittent tidal access to the approximately 1/2 acre cove marsh located behind the beach berm on the shoreline north of the mouth of Greenvale Creek. Also dredging activities must not interfere with the nesting activities of ospreys in the area.-EH

(Ed. note: This comes from Past-President John Cooper)

The Tidewater Chapter provided written support for the Pamlico-Tar River Foundation's petition to the North Carolina Environmental Management Commission to declare the Tar-Pamlico River Basin as Nutrient Sensitive Waters. This classification places stricter limits on water use and discharges. The proposed recommendations were presented at a public hearing in Greenville, NC, on 15 June

1989. Over 15 environmental groups, state agencies, and concerned citizen groups voiced their concern that the proposed recommendations were not stringent enough to reverse the nutrient loading of the watershed. Point and non-point source pollution changes produced the greatest debate, primarily over who should be controlled first. The majority of opinions expressed that both should go first if the river basin is to be cleaned up. The Tidewater Chapter supported the intent of the recommendations but stressed that the goal should be to reduce nutrient inputs rather than prevent any additional nutrient inputs, and that developing a land use plan for the river basin would serve as a guide to decreasing other problems such as sedimentation, waste heat, and chemical additions.-JC

NEWS FROM THE STATES

Virginia. The City of Virginia Beach has proposed an addition to the London Bridge Creek canal system that drains the Virginia Beach area west of the Oceana Naval Air Station. The 2.6 mile addition and the improvement of the existing canal will cost \$6.4 million, 75% of this coming from the federal government. Members of the North Carolina Wildlife Resources Commission say they will go to court, if necessary, to stop the canal construction. The Commission believes that the new canal will raise the salinity level of Currituck Sound where North Carolina has been stocking largemouth bass.-JC,RS

North Carolina. The Environmental Management Commission has proposed that six of the eight coastal areas recently studied be classified as Outstanding Resource Waters. These areas are on the inshore side of the outer banks and cover a good proportion of the coastline. Comments were heard at a four-hour public hearing (one of three such hearings) in Morehead City on 7 June. Public opinion was in favor of the proposed classification despite a barrage of inflammatory pamphlets from some developers.-JC

ROANOKE RIVER DIOXIN - The Environmental Protection Agency has listed the Weyerhaeuser paper plant at Plymouth as having some of the highest dioxin concentrations in North Carolina. The report led a local Greenpeace group to put up signs along the Roanoke River proclaiming contaminated fish and that eating these fish would be detrimental to health. The state contends that the fish are safe to eat as does Weyerhaeuser, which has analyzed fish from the Welch Creek discharge area. Weyerhaeuser has stated that all of their plants are changing the chemicals they use in the bleaching process to eliminate the dioxin contamination problem.-JC

STRIPED BASS AND THE RAIN - a flood of spring rain in the Roanoke River Basin made a mess of the attempted flow control that would have provided striped bass with the optimum temperature and flow regimes for successful spawning. Flows were low when they should have been high and remained high when they should have been decreasing. This kept the river water colder than the fish

like and spawning was infrequent. Eggs collected from the spawning grounds were low in number and viability, each about one-third of that found last year. Collections of larvae from the delta concluded on 18 June. Early estimates are that it was not a good spawning year.-JC

TEXAS GULF CHEMICALS - after two years of negotiation with the state's Environmental Management Commission, Texas Gulf has agreed to pay a fine of \$1 million for its repeated air quality violations. The fine was originally set at \$5.7 million. A similar case involving Singer Furniture Company in Chocowinity (near Washington) was recently reported in Currents from the Tar-Pamlico River Foundation: thirty violations of the NPDES permit over a 12-month period resulted in a fine of \$14,578 which was later reduced by the Commission to \$2,987.

FISH NOTES

The Tidewater Chapter and the Marine and Estuarine Resources Committee of the Southern Division are co-sponsoring an informal, technical meeting at the Southeastern Association of Fish and Wildlife Agencies and AFS Southern Division annual meeting in St. Louis, Missouri, in October. The goal is to encourage paper presentation of marine fisheries subjects. More information is enclosed in this newsletter.

A copy of the last Chapter newsletter was sent to each of the Chapters in the Southern Division along with a request to exchange newsletters on a frequent basis. There are 13 other Chapters and I have received four replies so far: Georgia; Mississippi; Texas; and Virginia Tech. Not all Chapters have frequent newsletters, so I am still hoping to hear from the others. Here is a sampling of Chapter activities elsewhere: Virginia Tech -- monthly meetings, publishing the Southern Division newsletter, mudbass fishing tournaments, recycling aluminum for the petty cash fund; Mississippi -- published agenda and abstracts of annual meeting; Texas -- fishing trips at annual meeting.

Chris Bonzek (Chapter Secretary/Treasurer) has recently left the MD Dept. of Natural Resources and is now with Virginia Institute of Marine Science. Chris had been responsible for fishery statistics and data base management for the Fisheries Division of Maryland DNR. Chris will now be responsible for improving data retrieval and analytical capabilities for VIMS. Correspondence should be addressed to VIMS, Gloucester Pt., VA 23062, telephone (804) 642-7000.

Carl Sullivan, Executive Director of AFS, has started a continuous infusion chemotherapy treatment program and will remain on extended sick leave. He will continue to work on AFS activities from his home.

This note is from a recent DIARY: the upcoming conference of "Drug Delivery of Proteins" in Boston, MA has an on-site registration of \$880 and the accompanying

764-page report is being offered for \$3,495. Call quickly to reserve your copy (203)-786-5445.

The revised edition of Coastal Louisiana, Here Today and Gone Tomorrow? is available for \$8 from the Coalition to Restore Coastal Louisiana, 5551 Corporate Blvd., Suite 3-E, Baton Rouge, LA 70808.

Computers are creeping up on us at an alarming pace. Maryland Sea Grant College Director Chris D'Elia recently hosted a conference on high-speed networking, a system to link laboratories and libraries together through computer networks throughout the country. The biggest problem, as always, is the cost.

The next newsletter is scheduled to come out in September, after the annual AFS meeting in Alaska. Send your news items to John Cooper, ICMR-ECU, Greenville, NC 27858-4353.

THESES ABSTRACTS

Susan H. McLeod. VARIATIONS IN FATTY ACID COMPOSITION AND TOTAL LIPID OF FILLETS OF STRIPED BASS (*Morone saxatilis*) RELATED TO SEX, LENGTH, AND SEASON. East Carolina University, Dept. of Food, Nutrition, and Institution Management.

Striped bass sampled by commercial weir catch in Minas Basin, Nova Scotia were used for this study. Fifty-one fish were analyzed for total lipid, using Soxhlet extraction. Twenty-six fish were subsampled for fatty acid analyses, using capillary gas-liquid chromatography. There were no significant differences in total lipid between sexes. However, total lipid was significantly influenced by size in both fillet and rest samples. Generally, total lipid increased with size. There were no significant differences in total lipid content due to month. However, there was an increasing trend from summer to fall months.

Effects of season on fatty acid content were unclear. Saturated fatty acids decreased from August to September. Polyunsaturates decreased from June to October. This decrease was supported by the literature. However, these comparisons were influenced by size and therefore were not conclusive. Differences in total lipid and fatty acid profiles in this study were influenced by size more than other variables tested.

Marie L. Harrell. SEASONAL VARIATIONS IN LIPID AND FATTY ACID CONTENT OF THREE NORTH CAROLINA FISH SPECIES. East Carolina University, Dept. of Food, Nutrition, and Institution Management.

The potential health benefits of fish oils have generated much interest. Therefore, the purpose of this study was to determine the lipid and fatty acid composition of some fishes important to North Carolina.

The crude lipid and fatty acid composition of Atlantic croaker (*Micropogonias undulatus*), striped mullet (*Mugil cephalus*), and summer flounder (*Paralichthys dentatus*) purchased on three different dates were analyzed. Five fish of approximately the same size from each species were analyzed from each of the three purchase dates. Crude lipid was determined from freeze-dried fillet and remaining tissue samples. Fatty acid methyl esters were obtained from fillet lipid samples and analyzed using capillary gas chromatography.

In fish with an average crude lipid content greater than 5%, such as Atlantic croaker and striped mullet, lipids rose to their highest values in late summer. In lower-fat summer flounder, season had no significant effect on crude lipid content. Total crude lipid values of fishes analyzed in the current study were generally higher than those reported in the literature. The higher values for crude lipid were due to the inclusion of skin in the samples from the current study.

In Atlantic croaker, the polyunsaturated fatty acid (PUFA) content was highest in January when the crude lipid content was at its lowest. In striped mullet, the saturated fatty acid content was at its highest in April when the monounsaturated, PUFA, and crude lipid were at their lowest values. As the PUFA content in summer flounder increased, the saturated fatty acid content decreased while the monounsaturated fatty acid and crude lipid contents remained relatively stable.

Results of the study indicated that the lipid content of fatty fish was more variable with respect to season compared to low-fat fish. These variations seemed to correspond with spawning season. The omega-3 fatty acid content of low-fat fish also varied with season, but did not seem to be related to spawning. Therefore, statements regarding the lipid and fatty acid content of marine fish species were difficult to generalize.

Patrick J. Harris. CHARACTERIZATION OF THE STRIPED BASS SPORT FISHERY ON THE ANNAPOLIS RIVER, NOVA SCOTIA. East Carolina University, Dept. of Biology.

One of the best known sport fisheries for striped bass in the Canadian Maritimes is located on the Annapolis River in Nova Scotia. In the mid-1970's, this population exhibited a decline in numbers. Creel and spawning surveys suggest recruitment failure as one cause for this decline. Since the last creel survey conducted in 1978, a tidally-driven electrical generating station was constructed in the Annapolis River estuary.

The study was conducted between 1 June and 22 October 1987. During the creel survey 937 hours were

sampled, for a total of 898 fishermen and 60 fish encounters. Angler number was only 36.6% of that in 1978. Fishing effort was lower compared to 1978, but fishing success was 60% higher (19.8h/fish). Only 5% were residents of other Canadian provinces or the USA, indicating a decline in non-local and tourist participation from that reported in 1978.

A total of 223 striped bass were sampled. Of these, 60.1% were caught on rod and reel and the remainder by gill net. All fish were aged, the length-weight relationships were calculated, and food habits were investigated. The data collected suggested that the recruitment failure reported in the 1970's has ended. Tag returns from this and previous studies, combined with the biological data from this study, suggest that the Annapolis River striped bass population is composed of a mixture of migratory and resident fish.

The creel survey was an effective method of sampling the population to monitor the effects of the tidal power station on the population. Further study is required to identify the nursery area for striped bass spawned in the Annapolis River, and to determine what percentage of the population is migratory.

Meetings and Deadlines

Virginia Environmental Endowment proposal deadlines: September 15, 1989 for consideration in November; 15 January 1990 for consideration in March 1990. For application procedures call 804-644-5000.

Preliminary Notice and Call for Papers

Catch-effort Sampling Techniques and their Application in Freshwater Fisheries Management.

Humberside International Fisheries Institute
University of Hull
England
2-6 April 1990

For further information write to:

Dr. I.G. Cowx
Humberside International Fisheries Institute
University of Hull
Cottingham Road
Hull HU6 7RX
UNITED KINGDOM

Telephone 0482 46311
Telex 592592 KH MAIL G Ref
HULIB 375
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American Fisheries Society

Southern Division

Call For Papers

2nd Notice

The Marine and Estuarine Resources Committee
and
The Tidewater Chapter

will meet on Tuesday, October 31, 1989 at the

1989 Conference
of the
Southeastern Association of Fish and Wildlife Agencies
and
Southern Division Annual Meeting
at the
Sheraton St. Louis Hotel, St. Louis, MO 63101

Only titles and abstracts are required.

Papers concerning any aspects of marine and estuarine fisheries science and/or management are welcome. Progress reports and reviews are also welcome.

All speakers will be treated to a SNOOT SANDWICH by President Gene Huntsman.

Please send all titles and abstracts to:

Rick Monaghan
Division of Marine Fisheries
PO Box 769
Morehead City NC 28557
(919) 726-7021

No later than 6 September 1989

