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President's Comments

Well, the big news at AFS is that we have a new Executive Director. Following an intensive search, several excellent candidates were identified. Ultimately, the search committee offered the position to Gus Rassam, whose biographical sketch appears in this newsletter. We should all take the opportunity to meet our new Executive Director at the annual meeting in Charlotte.

Unfortunately, I was unable to attend the mid-year Governing Board meeting, but President Elect, Anne Richards graciously agreed to represent the section, and her report appears in this newsletter. Thanks Anne.

Now down to business. It appears to me that the Marine Fisheries Section is suffering from terminal ennui. I base this on the following observations: (1) I set up an email list serve for the section last winter, to make communication more efficient, but only 87 of 379 total section members have so far joined the list (23%). I have yet to receive an incoming message sent to this list. Okay, maybe it takes a while. (2) Following last year's business meeting, we agreed to award up to four grants of \$500 apiece, to allow students to attend the annual AFS meeting. Only one student applied. (3) Our section membership has dropped from 399 in 1998 to 379 in 1999. So what does all this mean? Is AFS irrelevant? Is the Marine Fisheries Section irrelevant? I don't know the answer to these questions, but I think we should do some serious soul searching. Since the Marine Fisheries Section is pretty much what we, the members want it to be, if it isn't what you would like it to be, then let's change it. But, it is up to you to provide me with feedback. Use the list serve, or email me directly (steve.berkeley@hmsc.orst.edu).

Currently the MFS newsletter is published on an irregular basis, usually twice yearly. Mostly it contains a bland commentary from the president, notification of upcoming events of interest, and possibly a summary of a meeting or symposium. Not exactly the stuff you held your breath in anticipation of. So, in an effort to at least make the newsletter more relevant, I will assume that most of you are less interested in AFS business, per se, and more interested in marine fisheries research and management issues. So, unless I hear otherwise, I suggest that we use the newsletter as a spring board for the development of MFS position statements, AFS resolutions, letters to agencies, letters to congress, white papers, or any other actions that might improve marine fisheries research and management. I would also encourage anyone to use the newsletter as a forum to discuss ideas, proposals, alternative management schemes, or editorials on any topic pertinent to our profession. Just contact either me or Jane DiCosimo, the newsletter editor, if you would like to contribute an article or editorial.

So, with that in mind, I will start the ball rolling with an action recommendation for the section.

As most of you know, the Marine Fisheries Section has developed several position statements on west Atlantic bluefin tuna and North Atlantic swordfish over the years in response to the continued overfishing of these stocks and failure of ICCAT to make significant progress in reversing these trends. While these two stocks are probably the most publicized examples of the failure of this management body, the list is actually considerably more extensive: blue marlin, white marlin, bigeye tuna, South Atlantic swordfish, east Atlantic bluefin tuna, South Atlantic albacore, and several species of shark, are all overexploited according to the Standing Committee on Research and Statistics of ICCAT. In fact, there is not a single stock whose condition has improved significantly as a result of ICCAT management measures. Despite continued urging by the MFS and others, there is not a single rebuilding plan in place. Even the most ardent defenders of ICCAT must concede that the organization's track record is less

than stellar. Having been involved with ICCAT and the management of highly migratory species for almost 20 years, I believe it is time for an independent review or audit of ICCAT's operating procedures, activities, and effectiveness. The purpose of the review would be to recommend ways of improving ICCAT's effectiveness in achieving its own mandate, which is to maintain stocks at MSY. The intention is not to point fingers or place blame, but to make a sincere effort to improve the management of these shared resources. While I expect very strong opposition to this recommendation from ICCAT and perhaps from our own US and Canadian ICCAT commissioners and scientists, I strongly believe that it is in ICCAT's best interests to have such a review. Many of the resources under ICCAT's jurisdiction are seriously overfished and highly publicized by the news media. Continued failure to manage these resources effectively will ultimately bring the relevance of this management body into question. And, beyond that, continued failure to maintain the productivity of fishery resources, of which these are among the most highly visible, no matter whose responsibility, cannot help but weaken our profession. Hiding behind the mantra that we are scientists, not managers, will do little to convince the public of the relevance of our profession. The public is interested in maintaining the productivity of our fishery resources. The details of how that gets accomplished are of interest only to us. Remember, science is not exempt from the laws of economics. If we cannot supply the public with a product it wants, it will shop elsewhere. This is why I believe that all of us should be concerned about the failures of our management institutions even if these issues seem distant from our particular research activities.

So, with that in mind, I offer the following draft resolution to be discussed at our annual business meeting in August. Should this be approved by the MFS, our intention would be to reword it as a resolution for adoption by the society. This is a draft, and I am requesting comments, suggestions, and changes. Please mail or email your comments to me before the AFS business meeting if possible.

Resolution Recommending an

WHEREAS the International Commission for the Conservation of Atlantic Tunas (ICCAT) has responsibility for the management of all Atlantic highly migratory species of tunas and tuna-like fishes, and

CONSIDERING that ICCAT has been in existence for 30 years and has never undergone an independent performance review, and

RECOGNIZING that most of the stocks under ICCAT's purview are seriously overfished and have been for many years, and

RECOGNIZING that none of the ICCAT management regimes has resulted in significant rebuilding of overfished stocks, and

RECOGNIZING that these stock conditions suggest that ICCAT may not be functioning as efficiently and effectively as possible, and

Marine Fisheries Section Treasurer's Report 17 August 1998 - 17 August 1999

Balance of 17 August, 1998	\$18,403.69
Receipts	
Members' Dues	255.00
Sales: Beverton Notes	330.00
Total Receipts/Credits	\$585.00
Disbursements	
Newsletter: 1 issue	587.88
Sette Award, reimbursement for expenses	778.62
Student Travel Award	500.00
Contribution to Mote Symposium on Marine Reserves	500.00
Total Disbursements	\$2,366.50
Balance on 17 August 1999	\$16,622.19

Members: 379 as of July 1999

- Anne Marie Eklund, Treasurer

Independent Review of ICCAT

NOTING that the Marine Fisheries Section of AFS believes that responsible stewardship of these important resources is of great concern to all fisheries professionals.

The Marine Fisheries Section of AFS recommends:

First: That the American Fisheries Society adopt a resolution requesting in the strongest possible language that ICCAT voluntarily undergo an independent performance review.

Second: That the review panel should at a minimum include scientists, academics, and representatives of NGO's, none of whom are affiliated with ICCAT, to ensure balance and objectivity.

Third: That a report be prepared by this panel within one year of adoption of this recommendation.

-Steve Berkeley, President

MEMORANDUM

TO: Robert F. Carline, President AFS

March 1999

FROM: Steven A. Berkeley
President, Marine Fisheries Section

SUBJECT: Mid-Year Report to the AFS Governing Board

Action requested: None

Recommended motion: None

1. Marine fish stocks at risk in North America

Section member Jack Musick is heading up an AFS initiative on marine fish stocks at risk. Jack has scheduled a workshop on March 11-12, to begin the difficult task of defining quantitative criteria that can be used to estimate the probable threat of extinction of marine fish stocks for classification as endangered, threatened, etc. This project is part of an American Fisheries Society initiative that is sponsored in part by the Packard Foundation, the Pew Charitable Trusts, and the National Marine Fisheries Service.

2. Bycatch

The book resulting from the MFS co-sponsored symposium on bycatch in Dearborn, "Fisheries Bycatch: Consequences and Management" is now available from the Alaska Sea Grant Program. In addition, further work on the bycatch issue appeared in the June, 1998 issue of *Fisheries*, with an article written by L.B. Crowder and S.A. Murawski, entitled, "Fisheries bycatch: Implications for management" and a Guest President's Hook column on, "The role of AFS in bycatch issues," authored by MFS past-president, John Boreman.

3. Long-lived marine fish species

The MFS provided financial support to publish the proceedings from the symposium on long-lived species, held at the 1997 Annual Meeting in Monterey. The proceedings will contain 22 papers.

4. Mote International Symposium

The MFS provided funds to sponsor the poster session of the Second Mote International Symposium on essential fish habitat and marine reserves. The symposium was held in Sarasota, November 4-6, 1998.

5. MFS student travel scholarship

The MFS recently established a travel scholarship for students presenting either a paper or poster at the annual AFS meeting. Up to four awards of \$500 each will be given to students for travel to this year's meeting in Charlotte.

6. Annual meeting symposia

The section sponsored four symposia at the 1998 annual meeting:

"New quantitative methods in fisheries stock assessment" organized by John Hoenig, Doug Vaughn, and Michael Prager

"Overfishing" organized by John Hoenig, Doug Vaughn, and Michael Prager

"Stock Identification - its role in stock assessment and fisheries management," organized by Gavin Begg and Kevin Friedland

"Biological Integrity of Fish Habitat: a key tool for ecosystem management?" co-sponsored with the Estuarine Fisheries Section and organized by Ian Hartwell, Stephen Waste, and Anne-Marie Eklund.

The section has submitted four symposia for the 1999 annual meeting:

“New quantitative methods in fisheries stock assessments” organized by Doug Vaughn.

“Overfishing, depletion, endangerment, and recovery” organized by Mike Prager.

“Mark-recapture” organized by John Hoenig.

“Precautionary management and uncertainty: can the old methods fit the new mandates?” organized by Steve Berkeley and Hal Weeks.

7. Other symposia

The MFS co-sponsored a symposium at the Oregon AFS chapter meeting in Sun River, OR, February 11. The symposium was titled: “Groundfish management under the Sustainable Fisheries Act: alternative management strategies to restore healthy fisheries and ecosystems”

8. MFS email list serve

The MFS recently established an email list serve to allow the section to communicate more quickly and efficiently.

9. Reauthorization of the MSFCMA

The MFS will provide comments for consideration by Congress during reauthorization and amendment of the Magnuson-Stevens Fishery Conservation and Management Act during the 106th Congress (1999-2000).

10. Oscar E. Sette Award

The Oscar E. Sette Award for 1998 was presented to Dr. Ed Houde at the 1998 Annual Meeting. Ed Houde, an outstanding fisheries scientist of international reputation, is a professor at the Chesapeake Biological Laboratory of the University of Maryland.

11. Newsletter

Newsletter editor Jane DiCosimo produced a winter 1998-99 section newsletter.

12. Membership

The section has 381 members as of December 1998. As of August 16, 1998, there was \$18,403.69 in the section account.

THIRD WORLD FISHERIES CONGRESS TO BE HELD IN BEIJING

Close to 1,000 fisheries professionals from around the world are expected to attend the Third World Fisheries Congress, scheduled for October 31-November 3, 2000, at the International Convention Center in Beijing, China. Attendees will explore the theme, “Feeding the World with Fish in the Next Millennium: The Balance between Production and Environment.” The event is cosponsored by the American Fisheries Society, Asian Fisheries Society, World Aquaculture Society and Australian Society for Fish Biology.

Potential presenters are invited to visit the meeting web site (www.fisheries.moa.gov.cn) for details about abstract and paper submissions. Papers on the following three topics are especially sought: “Fish Farming: Past, Present, and Future;” “Aquafood: Advances in Seafood Technology;” and “Contributions of Information Technology to Fisheries Sustainability.”

For more information contact the American Fisheries Society at 301/897-8616, ext. 212, or the China Society of Fisheries, Bldg. 22, Maizidian Street, Chaoyang District 100026, Beijing, P. R. China; cnsfish@public.bta.net.cn.

MEETING ON TAUTOG AND CUNNER IN CONNECTICUT

The First Biennial Meeting on the Biology of Tautog and Cunner is scheduled for November 30 and December 1, 1999. This meeting will be held at the Best Western Sovereign Hotel in Mystic, CT. Presentations will focus on the population biology, ecology, physiology, aquaculture, and fishery issues of tautog and cunner. We invite researchers with interests in any of these general topics to participate. This workshop is jointly sponsored by the Connecticut Department of Environmental Protection, Northeast Fisheries Science Center of the National Marine Fisheries Service, Northeast Utilities, and the University of Connecticut Department of Ecology and Evolutionary Biology. If you are interested in presenting a paper, a poster, or receiving more information about the workshop, please contact Anne Studholme at (732) 872-3001 or Anne.Studholme@noaa.gov to be put on the mailing list. Further details are posted at www.eeb.uconn.edu/tautog/announcement.html.



NMFS Issues First Comprehensive Fishing Rules for Atlantic Migratory Fish Fishermen & Conservationists Request Many of the Changes to Rebuild Billfish, Shark, Swordfish and Tuna

After six months of highly charged public debate about saving Atlantic stocks of migratory fish, the Commerce Department's National Marine Fisheries Service has issued a set of plans to rebuild these highly migratory species, and at the same time give fishermen the chance to make a living or pursue their passion for sport.

The two documents started as draft plans in October 1998 and have been modified to reflect updated scientific analyses as well as input from commercial fishermen, recreational anglers, and environmental organizations. The proposals faced significant public scrutiny during 27 public hearings and caused more than 5,000 people and organizations to submit suggested changes to current fishing practices or protection measures. The fisheries service has modified the final plans to reflect much of the public input.

"In an atmosphere of intensely competing interests, we have crafted what we think is a fair reflection of the public's wishes, while at the same time never losing sight of our goal to rebuild these species," said Terry D. Garcia, the Commerce Department's assistant secretary of commerce for oceans and atmosphere.

Garcia emphasized that domestic measures alone cannot save these species, and that U.S. fishermen are often responsible for only a small share of the fishing mortality. He placed importance on international cooperation when trying to achieve sustainable fishing practices around the globe. "The United States must work together in the international forum with the 25 other countries that also harvest these stocks. Last year we fought for and won a strong international rebuilding plan for Atlantic bluefin tuna, and we expect to do the same thing this year with swordfish to rebuild these stocks in ten years."

Atlantic highly migratory species of tunas, swordfish and billfish are managed through the International Commission for the Conservation of Atlantic Tunas, a group of 25 member countries that meets annually in Spain to exchange science, determine stock status, and set quotas.

Garcia said that one issue remains to be addressed, to protect juvenile swordfish through closed fishing areas at certain times of the year. "We will establish a closed area to protect juvenile swordfish later this year, after we consult further with constituent groups and independent advisors

who have asked us to expand the size of the protected area the agency had initially proposed."

"Fishermen and others asked for more effective regulations, and we've delivered by adjusting the rules to better meet the needs of recreational fishermen, and placing restrictions on some previously open commercial tuna fisheries," said Penny Dalton, director of NOAA's National Marine Fisheries Service. "We can achieve more robust migratory fish stocks through these plans. These regulations are designed to improve conservation measures and make commercial harvest more efficient."

The plans look to reduce bycatch, or the incidental catch of one migratory species when fishermen are targeting another. Largely a problem in commercial longlining fisheries, the agency is reducing bycatch through temporary closed areas, changes to fishing gear, education, and limited access which caps the number of fishermen to those who have recently landed fish. Commercial longlining targets certain species of swordfish, tuna, and shark using baited, evenly spaced hooks attached to fishing line that runs five to 40 miles long.

For the recreational billfish fishery, the agency has responded to anglers' concerns and dropped the proposed one-fish-per-vessel-per-trip catch limit, and will use a minimum size limit to meet stock rebuilding requirements. Anglers typically release more than 90 percent of the billfish they catch.

"The change from bag limits to a minimum size should be just as effective, but if our data show stock levels continuing to decline, we will raise the minimum size requirement to meet conservation objectives," said Dalton.

Considerable attention has been placed on whether to allow the use of spotter planes in the commercial bluefin tuna fishery. The independent panel that advises the fisheries service on the management plans has recommended that their use be limited to the Atlantic bluefin tuna purse seine fishery. The agency is currently conducting a study of this practice and will propose regulations in the near future.

For the first time, yellowfin tuna will be closely monitored in both the commercial and recreational fisheries because agency managers consider the resource is fully fished and want to protect it from further fishing pressure. The number of commercial longliners allowed to harvest Atlantic yellowfin

tuna will be capped to current permit holders. A bag limit of three fish per person per day was set for recreational anglers as a pro-active measure to reduce the likelihood of overharvest. Fisheries estimates indicate that average recreational fisherman catches less than three yellowfin a day.

To protect and aid in rebuilding Atlantic bluefin tuna, managers also have adopted a time and area closure for the month of June in federal waters off the coast of New Jersey that will cut in half the number of undersized bluefin tuna that longline fishermen must discard. The 21,600 square mile area was modified to reflect fishermen's concerns about safety and economic impact. The agency chose to temporarily postpone establishing a similar closed area to protect juvenile swordfish in order to consider additional scientific data and public comments, and consider a larger, more effective area.

"Time is of the essence when it comes to protecting overfished swordfish, but we feel a short delay to consider updated analyses and public comments will give us an area that, in the end, is more effective at protecting small swordfish until they have a chance to mature and spawn," said Dalton. "With input from our advisory panel, we expect to have the larger area in place by Sept. 1."

Among the other improvements...

1. To comply with reduced billfish catch limits, recreational anglers asked the agency to adjust the minimum size limits rather than limiting the number of billfish that can be kept; and implement a voluntary charter vessel observer program rather than a mandatory program. The fisheries service adopted these changes and will be able to switch to a mandatory observer program if needed data cannot be collected voluntarily. Managers will assess the effectiveness of the voluntary program in the annual report that will be completed by January 2000.

2. Fisheries managers acted on the request of recreational anglers to adjust limits on retention of coastal sharks. Fishermen are prohibited from retaining 19 shark species, because they are considered overfished. The agency set the recreational catch limit to one shark per vessel per trip with a minimum size of 4.5 feet for any species not on the prohibited list. In addition, it allowed a provision for one Atlantic sharpnose shark per person per trip. The agency has also established species-specific commercial quotas for porbeagle sharks and blue sharks. Consistent with requests from both commercial and recreational fishermen, the agency has dropped its proposal to place blue sharks on the prohibited list.

3. The independent advisory panel had requested agency managers establish a basis under ICCAT (International

Commission for the Conservation of Atlantic Tunas) for negotiating fish stock rebuilding programs for Atlantic swordfish, bluefin tuna, bigeye tuna and billfish, and counting bycatch that is discarded dead against the total allowable catch quota. These proposals are formalized under this plan.

4. In order to prevent the development of a pelagic driftnet fishery, the agency will ban the use of driftnets to catch tuna. A similar ban for swordfish has been in place since January 1999.

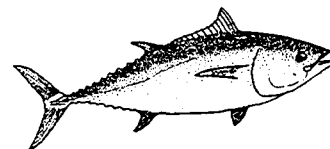
5. For all highly migratory species, managers adopted voluntary rather than mandatory educational workshops for both recreational and commercial fishermen, and voluntary observer programs for charter boats.

The final rules also reflect public support for dozens of other unchanged elements of the two proposals.

The species managed by these plans include Atlantic bluefin, bigeye, yellowfin, albacore, and skipjack tunas, Atlantic swordfish and 72 species of sharks. The billfish include blue marlin, white marlin, sailfish and longbill spearfish.

Western Atlantic bluefin tuna, Atlantic bigeye tuna, Atlantic albacore tuna, North Atlantic swordfish, Atlantic blue and white marlins, and the 19 species that comprise the large coastal shark management group have been identified as overfished. Overfishing is exacerbated by the fact that the United States harvests most of these stocks with some 25 other fishing countries and is often responsible for only a small share of the Atlantic wide fishing mortality for these species. Quotas for many of these species are established by ICCAT, which meets annually in Spain.

For a complete list of the rules, the interim changes to the rules, and a fact sheet outlining those changes, view the agency's Web site at <http://www.nmfs.gov/sfa/hmspg.html> interested in presenting a paper, a poster, or receiving more information about the workshop, please contact Anne Studholme at (732) 872-3001 or Anne.Studholme@noaa.gov to be put on the mailing list. Further details are posted at www.eeb.uconn.edu/tautog/announcement.html.



COMMENTS ON THE FINAL FISHERY MANAGEMENT PLAN FOR ATLANTIC TUNAS, SWORDFISH AND SHARKS

Richard B. Stone

On April 26, 1999, the National Marine Fisheries Service (NMFS) published its Final Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks. These Atlantic, mostly pelagic, resources are, for the most part, wide ranging and highly migratory. This highly migratory species (HMS) complex (tuna, swordfish, shark, billfish) is harvested by both U.S. and international commercial fishing fleets and millions of recreational anglers. Fisheries for these species range throughout the Atlantic Ocean, Gulf of Mexico, Caribbean, and Mediterranean Seas. Nearly all of the species within the HMS complex are either over exploited or fully exploited, and as a result, competition for these limited resources between and among domestic and international fisheries often leads to controversy. HMS science and management issues are complex, multi-disciplinary, and both national and international in scope making management of these resources exceptionally difficult.

The international dimension of HMS fisheries requires negotiation of multinational agreements for conservation of some of these resources through the International Commission for the Conservation of Atlantic Tunas (ICCAT). These agreements are negotiated among nations, each with different values and potentially competing objectives. Similarly, domestic management decisions regarding the allocation of the limited HMS resources among the various user groups require a difficult interactive process. Management of HMS at the international and domestic level should be facilitated by research and data collection that focuses on the issues critical to effective management decisions. For these management decisions to be effective, it is very important that research and data collection programs accurately provide status of the stocks and equitably reflect the magnitude and value of recreational and commercial fisheries. Unfortunately, there is still much uncertainty about the status of some of the stocks and adequate fiscal and personnel resources do not appear to be available to solve this problem in the near term.

With those caveats, we need to look at what has been done and what remains to be done. No question this HMS Plan development was a major undertaking by the HMS Management Division of NMFS and the Southeast Fisheries Science Center with no respite from the day-to-day requirements of fisheries research and management. It was an interactive process with input from an Advisory Panel and 27 public hearings. From a resource standpoint, the biggest winners appears to be Large Coastal Sharks (LCS) where maintaining a 620 mt dw quota for ridgeback LCS with a 4.5 foot minimum size and a reduced quota of 196 mt dw for non-ridgeback LCS but no minimum size, appears to meet long-term, maximum sustainable yield objectives. Now with the Atlantic States Marine Fisheries Commission's (ASMFC) vote to begin development of a plan to complement the Federal Plan, there is even a better chance for stocks to rebuild. There is hope by many that this ASMFC Plan will include protection of juvenile sharks in pupping grounds where they are most vulnerable.

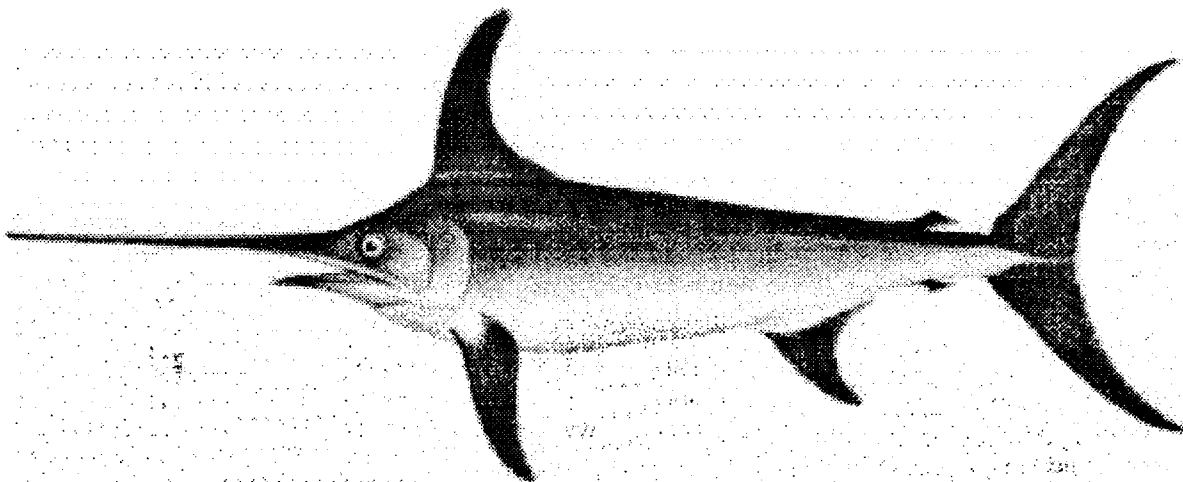
For swordfish, the HMS Plan defers largely to ICCAT but sets the stage for complying with an international 10 year rebuilding program for North Atlantic Swordfish if a Recommendation to that effect comes out of the 1999 ICCAT Meeting. If this occurs, it would bring catches down below replacement yield and meet the standards that The Marine Fisheries Section suggested in its 1998 Statement on Swordfish. The Plan also establishes the foundation to count dead discards against the swordfish quota. The biggest disappoint to me on swordfish was the failure to follow through on proposed closed areas to protect juvenile swordfish. Even the single, small proposed area in the Florida Straights, that did not go nearly far enough for real conservation benefits, was removed in the Final Plan. For NMFS to comply with the Magnuson Act Standard 9 to "minimize bycatch," it should have responded to data that show the South Atlantic Bight and the West Coast of Florida have similar high rates of dead discards and included greatly expanded closed areas. The time/area closures discussed in earlier drafts included the Charleston Bump and the West Coast of Florida along with the Florida Straits. NMFS has said they will look at these areas in more detail and prepare a proposed rule in the near future that would implement a more effective closure area to protect small swordfish. If these areas are adequate, this could be a big step forward in terms of bycatch reduction not only for juvenile swordfish, but for billfish as well.

For bluefin tuna, the HMS Plan adopts the ICCAT rebuilding plan agreed to at the 1998 ICCAT Meeting. This provides, under a two-line stock recruitment relationship, a 50-percent chance of reaching biomass levels that support maximum sustainable yield in 20 years. This scenario sets the annual TAC at 2,500 mt ww for the western Atlantic. This results in a 3.2-percent increase in the U.S. landings quota from 1998 levels and a status quo on percentages that were used in 1997/1998 domestic allocations with the purse seine fishery capped at 250 mt ww. There still is a lot of controversy over domestic and international management of Atlantic bluefin tuna. Since the Beverton-Holt model produced a very different estimate of maximum

sustainable yield (approximately 7,700 mt ww versus 2,800 mt ww under the two-line), many of the conservation groups believe the current rebuilding program is inadequate. I think that for the short term that using the two-line approach is acceptable. We have seen signs of improvement in the last few assessments for the western Atlantic stock and I think that management in the eastern Atlantic may play a much bigger role in abundance in the western Atlantic than current models show. Hopefully, we will have information during the next 5 years from ongoing studies to answer this question. Improved tagging technology (archival, pop-off, and archival pop-off tags) is showing that the exchange rate between the west and east Atlantic is probably much higher than thought in the past or that has been used in assessment models. It will take a few more years of these studies to get a data base adequate to answer questions on stock structure, spawning fidelity, and exchange rates. I hope that these tagging efforts, ongoing genetic studies and expanded microconstituent analyses will continue to be supported. This may be an area that we would want to make a statement. Also, I think there needs to be more emphasis on fishery independent data collection ocean wide. ICCAT has finally addressed the eastern Atlantic stock and has imposed Country quotas. It also has taken steps to implement conditions for penalties if eastern Atlantic Countries do not comply. Time will tell if this is adequate for eastern Atlantic stock recovery and what effect this will have on the western Atlantic stock. Also, with the additional tagging data that will, hopefully, be coming in over the next few years, we may find that there is only one stock. The information on spawning fidelity will be very important as this question is addressed.

I do have a problem with the three fish bag limit for yellowfin tuna contained in the Plan. Yellowfin tuna are near maximum sustainable yield but not yet overfished and ICCAT has recognized the problem with the exceptionally large take of undersized yellowfin and bigeye tuna around floating objects. Correcting this one problem might be enough to allow for sustainable fisheries for yellowfin for some time and yet the HMS Plan contains a three fish bag limit on yellowfin for recreational fishermen. There is no ecological reason for a bag limit on yellowfin at this time as the Draft Plan pointed out. Also, as noted in the Plan, some areas already have a bag limit policy for charter and party boats. It states in the Plan that a three fish bag limit would likely have little impact on charter operations or revenues, that may not actually be the case. The yellowfin fishery is extremely important to the recreational fishing industry and to recreational fishermen. In some areas of the Country, the yellowfin fisheries sustain the charterboat fleets throughout much of the pelagic fishing season and the recreational industry cannot afford to risk the loss of charterboat revenue that a perception of a restrictive bag limit might cause, particularly when there is no ecological justification for it. This is an example of a provision that has been viewed as a discriminatory action against the recreational fishing sector; a bag limit that has no ecological justification is proposed for recreational fishermen and no comparable limit is placed on commercial fishing. I don't have a problem with the concept of bag limits and think it should be used when possible instead of quotas for recreational fisheries, but there needs to be a justification for it. There isn't in my opinion in this case.

With the HMS Plan, there is a framework for future management actions. I think the Marine Fisheries Section should take time to look carefully at the actions being taken and at the research activities in support of management. As we look at the actions taken, I think we also should consider the research being conducted, what additional efforts could be helpful, and the fiscal and personnel resources available to conduct the science in support of the management decisions. Good science is all important to good management decisions - maybe we could help provide ideas and support for expanded efforts to get some of the answers on a more timely basis.



Marine Fish Stocks at Risk of Extinction

Draft AFS Position Statement

J. A. Musick

12 July 1999

Issue Definition:

Extinction risk in freshwater fishes has received close scrutiny for many years, but the risk for marine fishes has been largely ignored. Many freshwater and anadromous species have limited ranges or specialized habitats that render them obviously vulnerable to anthropogenic environmental alterations (Nehlsen et al. 1991; Warren and Burr 1994). Conversely, most marine fishes occupy broad ranges and habitats that may be buffered from acute human perturbation. Therefore, few fisheries professionals have considered extinction risk in marine fishes until quite recently. The AFS convened workshops in 1990 and 1992 that considered the possibility of endangerment to marine fishes (Anonymous 1991; Huntsman 1994), and certain species were recognized on regional endangered species lists (Gilbert 1992; COSEWIC 1997). In addition, the International Union for the Conservation of Nature (IUCN) convened a 1996 workshop in London to evaluate the risk of extinction for marine fish species using new quantitative criteria for extinction risk that the organization adopted in 1994 (Hudson and Mace 1996; Vincent and Hall 1996). The consensus of AFS and IUCN scientists who studied the issue was that some species had declined sufficiently to be considered at risk.

Recently, Casey and Myers (1998) noted that a large, once plentiful marine fish, the barndoor skate (*Raja laevis*), had been reduced by bycatch overfishing to the point of extirpation in part of its range, and rarity in the remainder. Moreover, the National Marine Fisheries Service (NMFS) recently was petitioned to list barndoor skates and populations of Pacific cod (*Gadus macrocephalus*), Pacific hake (*Merluccius productus*), Pacific herring (*Clupea pallasii*), and several species of rockfishes (*Sebastes* sp.) in Puget Sound under the Endangered Species Act of 1973. The NMFS determined that the information is substantial and that listing may be warranted for several of these species, and that a full review of their status should be pursued (Fed. Reg. 1999 69(118) 33037, 33040). Therefore, the risk of extinction among marine fishes is a real and immediate threat that should be addressed seriously by AFS and the regulatory agencies.

Background:

AFS has developed a list of North American marine fishes at risk (Musick 1998). Marine fish experts, including members of the AFS Marine Fisheries Section and the Environmental Quality Committee of the American Society of Ichthyologists and Herpetologists (ASIH), are reviewing the list currently comprised of 68 species or stocks considered to be at risk because of extremely limited range or habitat, or because of recent precipitous declines in population size associated with life history limitations. In 1997, the Marine Fisheries Section sponsored a symposium, Ecology and Conservation of Long-lived Marine animals, (Musick 1999) which brought together experts working on a diversity of marine taxa (e.g., sharks, whales, sea turtles, sea birds, groupers and other reef fishes). The symposium sought to identify long-lived stocks at risk, to better understand why these species are so vulnerable to human-caused mortality, and to develop strategies for conserving long-lived marine animals (Musick 1999).

The vulnerability of those species at risk because of range or habitat limitations has been more obvious and more easily assessed than that of those that have simply undergone population declines (usually because of overexploitation) (Safina 1995; Musick 1997). A critical question is: What quantitative criteria related to population decline best reflect risk of extinction for marine fishes? In March 1999, the AFS held a workshop to examine and develop quantitative risk criteria at which scientists from the AFS, NMFS, Canadian Department of Fisheries and Oceans, and IUCN Species Survival Commission (SSC) contributed (Musick, in press). Work is in progress to apply these criteria to determine extinction risk for North American marine fishes.

AFS Objectives:

Specific objectives of the AFS Endangered Marine Fishes initiative are:

- (1) To determine what major factors contribute to the loss of marine fish biodiversity.
- (2) To identify marine fish stocks at probable risk of extinction in North American waters.
- (3) To examine and clarify extinction risk criteria and develop risk categories for marine fishes that:
 - a. Will identify species at risk at a sufficiently early stage of decline to avoid listing as threatened or endangered.
 - b. Will minimize the probability of over-exaggerating the risk of extinction.
 - c. Will avoid implying a greater knowledge of stock dynamics at low population levels than actually exists.

(continued on page 10)

- d. Will retain the flexibility to allow experts on individual species to bring to bear all the knowledge about a species conservation status in order to categorize them.
- (4) To provide expert scientific advice pertaining to marine fish stocks at risk to regulatory agencies and other interested parties.

Recommendations:

AFS recommends that regulatory agencies give close scrutiny to both marine fish and invertebrate stocks or conservation units that may be at risk of extirpation. Furthermore, conservation units should be defined as Evolutionarily Significant Units (ESU) or Distinct Population Segments (DPS) as recognized currently for Pacific salmon conservation (Waples 1995): a population or group of populations that is substantially isolated from other conspecific units, and that represents an important component in the evolutionary legacy of the species.

AFS also recommends that regulatory agencies take a more precautionary approach to managing ESU's potentially at risk by affording protection before populations are reduced to the point of being Threatened or Endangered. Consequently, AFS recommends that the NMFS allocates more funding and effort to review species placed on the Candidate Species List, and affords protection to those species through regional cooperative conservation plans with the States, the Fishery Management Councils, or the Regional Marine Fisheries Commissions. Fishery management plans (FMP's) may prove to be effective vehicles for protecting some species.

AFS notes that analysis of stocks at risk recognized by AFS scientists (Musick 1998) shows that there are four primary "hot spots" that seem to have many ESU's at risk and are therefore, of particular concern. These are:

1. The Florida Keys.
2. The Indian River Lagoon area in Florida.
3. Puget Sound.
4. The Gulf of California.

AFS urges the State of Florida to protect those species and their habitats already recognized to be at risk in Gilbert (1992), and that the State of Washington and NMFS to move to assess, protect and restore those stocks of marine fishes recognized to be at risk in Puget Sound. AFS also recommends that the Mexican Government, through their Fisheries Agency (PESCA), moves to assess and protect vulnerable fish stocks in the Gulf of California, particularly the endemic groupers.

Analysis of the AFS List of Marine Fish Stocks at Risk also shows that certain groups of fishes are particularly vulnerable because they have slow growth and late maturity (Musick 1999). Severe population declines have been documented for several groupers (Serranidae) in the Atlantic, and several rockfish species (Sebastinae) in the Pacific, as well as for some sharks (Selachei), skates (Rajidae) and sawfishes (Pristidae). Regulatory agencies should be apprised that these groups are extraordinarily vulnerable to population decline because of their demographics and thus should be given priority recognition for timely management. The most effective management strategy for the deeper water groupers, Pacific rockfishes and some other fishes may be establishment of large marine reserves, protected from fish harvest. The efficacy of large marine reserve systems should be assessed as soon as possible and implemented where judged to be appropriate by the Fishery Management Council and NMFS.

The greatest threat to many long-lived species is bycatch in fisheries that are targeting more productive species. In some cases, the long-lived, late maturing species can be driven to extirpation while the fisheries thrive (Musick 1995, 1999). Regulatory agencies should be more aware of and monitor bycatch of long-lived species, and move to implement conservation actions if population declines are recorded.

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IN MEMORIUM

This note is about our good friend and colleague **Ron Schmied** and is directed to those of you who may have worked with Ron over the years prior to his passing in 1996. We have already made an effort to contact his Aggie colleagues and have heard from some of his colleagues in the National Marine Fisheries Service.

Ron was an early convert to the important role of human dimensions in the management of recreational fisheries and left a legacy of writings on the subject. He was also a popular speaker at countless seminars and meetings in the southeast region. He was a biologist but was as concerned about people and their fishing experiences as he was fish populations. Many of his innovations in support of fisheries management have been reproduced elsewhere in the U.S.

We have established a scholarship in his name through the Gulf and Caribbean Fisheries Institute (GCFI). It is their only scholarship and it seeks to help the next generation of students with an interest in marine recreational fisheries to attend the annual meeting of the GCFI throughout the Caribbean basin. For more information about the Schmied Scholarship, please check the following web page:

<http://lutra.tamu.edu/rbd/schmied.htm>

We need your help to make this scholarship a success. Please check out the page and let me hear from you.

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Meritorious Service Award

Recipient: Dr. John G. Boreman, Jr.

Dr. John G. Boreman, Jr., is Deputy Director of the National Marine Fisheries Service, Northeast Fisheries Science Center, Woods Hole, Massachusetts. John received his B.S. degree from the State University of New York College of Environmental Science and Forestry at Syracuse University and M.S. and Ph.D. in Fishery Science from Cornell University. John has had a long and distinguished career with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, including assignments as power plant evaluation biologist, stock assessment scientist, research planner and evaluator, and Director, University of Massachusetts/NOAA Cooperative Marine Education and Research Program. He has been appointed to many national and regional expert panels and advisory groups, authored over 50 publications and reports on fishery biology and management, and served as chair and committee member for many graduate students, and taught both graduate and undergraduate courses in fishery science, ecology, biometrics and population dynamics.



John has been a member of AFS since 1971, and served the Society in many and varied capacities since that time. He served as an Associate Editor for *Transactions* from 1984-86, chaired the Northeastern Division (NED) Newsletter Committee from 1985-88, and has evaluated student presentations and posters at the annual meeting as a member of the Student Paper and Poster Awards Committee for many years (1986, 1994, 1995, and 1996). In 1990-92, he served as chair of the NED Symposium Program Committee, and in 1997 as a member of the NED Audit Committee.

In addition to these many appointed positions, John has served well in several elected offices of AFS. In 1992-93, he served as Secretary-Treasurer of NED, and in 1992 was elected to the Office of President-Elect of the Marine Fisheries Section (MFS). His leadership in the MFS as President and Past-President continued through 1997. In 1995-96, he was elected as a member of the AFS Special Management Committee.

John's contributions to AFS while serving as a leader of the MFS were particularly noteworthy. As President-Elect, John chaired a special committee to develop recommendations for AFS on the reauthorization of the Magnuson Act. Being the principal legislation affecting the conservation and management of marine fisheries in the United States, this was a very important job. Under John's leadership, the committee developed a very clear and informed set of recommendations that were presented as testimony and as written recommendations before the U. S. Congress.

In 1992-94, he represented MFS as a member of the Bycatch Symposium Steering Committee which organized an important meeting at which many valuable contributions were put forward on this critical problem impeding the conservation of marine fishery resources. From 1994-present, he has chaired the Groundfish Steering Committee, providing invaluable leadership to AFS in developing its policy and recommendations on the collapse and recovery of New England's valuable groundfish resources. His service to the MFS also included developing Section and Society policy on many other thorny issues, such as several AFS position statements on International Convention on Conservation of Atlanta Tunas stewardship of bluefin tuna resources.

- Churchill Grimes

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~Vacant~

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NEXT MARINE FISHERIES SECTION BUSINESS MEETING

Due to a change in scheduling, we have had to change the time of the MFS business meeting from 5:00 pm (Monday, Aug 30) to 7:00 pm (Monday, Aug 30) at the Annual AFS Meeting in Charlotte. We were originally told that the trade show social would start at 7pm, but were recently informed that it would really start at 5.

Hope y'all can stay up that late.

Future Relevance and the Millenium Bug

One of the myths of fisheries management, particularly marine fisheries, is that we actually manage fish. In practice, that's not what we do at all. Read the legislative history of the original Magnuson Fishery Conservation and Management Act. The clear emphasis in 1976 was on developing the U.S. fishing industry to harvest the abundant marine resources off our coasts. The original national standards emphasized optimum yield to the nation, and fairness in allocation. It says very little about conservation. More importantly, it said nothing of what the desired future condition of the fishery was to be—that task was left to the eight regional fishery management councils.

The Councils, to their credit, "Americanized" the fisheries. Allocations to foreign flag vessels and joint ventures were phased out, and the American fleet developed strongly. Yet, just like a deer population, our fishing fleets have over-shot sustainable levels and are now competing strongly amongst themselves for allocational shares of the allowable harvest. And the Councils did not decide in advance what they wanted their fisheries to look like when fully developed, when there was no further room for expansion. Combine this situation with more stringent conservation mandates incorporated into the amended Magnuson-Stevens Act, and we have a combination of bitter allocation battles among over-capitalized participants, a stressed fishing industry, and public mandates for more conservative and risk-averse management. A narrow focus on the public benefits from marine fisheries has left us ill prepared to address unforeseen allocational and ecological questions and problems.

What is the lesson for fishery managers and those of us in the Marine Fisheries Section? We need to drop the pretense. Fisheries management does not manage the fish; we manage the harvesters. It's a predator-prey problem. The public mandate is to manage the fisheries for a healthy predator population. That a healthy prey base is necessary is indisputable. But how we manage fisheries involves much more than just having a healthy prey base. It is critical that we look at how management measures affect the fishing fleets, and how the fishing fleets respond behaviorally to management measures.

Consider the groundfish fisheries of New England, the Pacific Northwest, and Alaska. Alaska has traditionally managed its fisheries on a total quota system. Fisheries open on a set date, and close when the quota is taken. This leads to an Olympic race for fish, and a set of incentives emphasizing speed. This reduces the incentives to fish slowly to utilize all the harvest, or to avoid prohibited species bycatch. Groundfish fisheries off the Pacific Northwest are managed through monthly landing limits. While this is structured to allow for a year-round fishery, it sets the stage for regulatory-induced discards whenever the ratio of allowed species landing limits does not correspond tightly to the ratio of encounter with those species in the fishery. New England presents a different system yet again. Management based on closed areas, minimum trawl mesh sizes, and minimum fish sizes (now combined with days-at-sea limits) created incentives to harvest and discard large numbers of fish so that the shrinking numbers of legal-sized fish could be obtained.

I have grossly simplified the relationships of management measures to fleet behavior in the above paragraph, but I believe the core point holds. Fisheries management is people (predator) management. And if we want a fair and equitable management system that is ecologically sustainable, we must ask ourselves how management affects the managed, and how fishing fleets will respond to the incentives presented by management decisions. Our professional millennium bug is that society and the fishing fleets are asking scientists and managers different questions. If we wish to remain relevant to recovering and conserving 21st century fisheries, we need to structure our actions so they respond to these changing questions. Our biggest challenge, if we are to learn from the past, is to not allow ourselves be blinded by what we want to happen. We must learn to expect the unanticipated, and to be sure that the management measures put into place avoid what we know we don't want to happen.

-Steve Berkeley
H&L Weeks

1999 AFS MEETING
NOT TO MISS SYMPOSIA
CHARLOTTE, NORTH CAROLINA

The Marine Fisheries Section is sponsoring the following symposia:

Monday: *Overfishing, depletion, endangerment, and recovery. Part 1.*
1:30 pm - 5 pm, Organizers: Mike Prager, Doug Vaughn, and John Hoenig

Tuesday: *Overfishing, depletion, endangerment, and recovery. Part 2.*
8:20 - 12:00; 1:00 - 2:40 same organizers as part 1.

Tuesday: *Precautionary management and uncertainty: can the old methods fit the new mandates?*
10:20 - 2:40, Organizers: Steve Berkeley and Hal Weeks

Wednesday: *New Quantitative Methods in Fisheries Stock Assessments*
8:20 - 3 pm, Organizers: Douglas S. Vaughan, John M. Hoenig, and Michael Prager

Thursday: *Development of New Tagging Models*
8:20 - 12 pm, Organizers: John M. Hoenig, Michael Prager, and Douglas S. Vaughan

AND NOTE: MFS business meeting 7-9 pm Monday in Adams Mark Cardinal 3 -
Be there or get elected to a committee. You were warned.

Marine Fisheries Section Newsletter

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