Minutes approved! 9/26/94
Joe O'Hop

SOUTHEAST COOPERATIVE STATISTICS
COMMITTEE MINUTES
Tuesday, February 1, 1994
Jacksonville, Florida

The meeting was called to order by Ron Lukens at 8:35 a.m. The following people were present:

Steve Brown, FMRI, St. Petersburg, FL
Mary Anne Camp, NMFS, Miami, FL
Jane DiCosimo, SAFMC, Charleston, SC
David Donaldson, GSMFC, Ocean Springs, MS
Lee Green, TPWD, Rockport, TX
Tami Hunter, GDNR, Brunswick, GA
Lisa Kline, ASMFC, Washington, D.C.
Skip Lazauski, ADCNR, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Anna McCormick, GDNR, Brunswick, GA
Joe Moran, SCWMRD, Charleston, SC
John Poffenberger, NMFS, Miami, FL
Gina Rogers, GDNR, Brunswick, GA
Tom Schmidt, USNPS, Homestead, FL
Tom Van Devender, BMR, Biloxi, MS

Adoption of Agenda

The agenda was approved with the following changes:

* Adding Status of IT-95 before Completion of Framework Plan of the Cooperative Statistics Program;
* Adding Discussion of NMFS Logbook Report under Other Business.

Approval of Minutes

The minutes from the CSP meeting held on September 15, 1993 in Jacksonville, Florida were approved as written.

Update on NMFS Fisheries Statistics Strategic Plan

J. Poffenberger stated that there were two workshops conducted in early December 1993 in which the red team consisting of senior managers, the blue team consisting of middle managers, and the green team which consisted of technical personnel met to discuss the NMFS plan. These sessions were brain storming meetings. The results from these meetings are available and the intent is to compile all of the results from these sessions and have senior management review, understand and approve the results. He stated that the NMFS is still dedicated to this process and will continue to proceed with the development of a comprehensive planning document. The next step is to meet with each Regional and Center Director

to make sure all of the ideas addressed at the workshops are in line with the direction they want NMFS to proceed.

Status of IT95

M. Camp stated that the IT-95 was accepted in December 31, 1993. The machine is running fine but there are still some software and hardware needs. NMFS has done some benchmarking on the machine, and the new machine is running approximately 5 to 8 times faster than the old machine. There are some concerns regarding the new machine. The old machine is going to be out of the building by the end of 1994, thus data from this machine needs to be preserved. She stated she hoped to purchase a small Unisys (Burroughs) computer system (Micro-A or A-7) that will allow NMFS to read and maintain Burroughs data until this data can be converted into the new format.

SEFIN is the result of two years of effort. It is the data management system of the new system which will dovetail with ComFIN. This effort will redesign all the fishery statistics programs into an Oracle data base. This is just the first copy and may be revised. If any of the members need copies of this document, copies can be mailed to them. The prototype should be up and running by the end of April 1994. Once it is operational, access will be granted to fisheries statistics personnel who will provide feedback concerning its usefulness. M. Camp stated that NMFS needs the hardware/software that each state is currently using in their agency. R. Lukens stated that RecFIN is in the process of completing a equipment/software questionnaire. This questionnaire provides a detailed inventory of various computer capabilities and needs. It was suggested that this questionnaire be modified for the commercial fisheries programs and distributed to the SCSC members for completion. This information will be compiled and provided to NMFS. L. Green stated that M. Camp should review the questionnaire before it is distributed to the Committee to ensure the questions being asked are pertinent.

Completion of Framework Plan for the Cooperative Statistics Program

* R. Lukens stated that this is the final iteration of the Framework Plan. All members have had time to comment and provide input into the plan. The purpose of the plan is to establish an organizational structure and administrative framework to address statistics issues. He stated that the group is moving forward with CSP which will eventually expand into the ComFIN initiative. Once ComFIN is

established, the CSP would become part of the ComFIN. The Committee agreed that this was the way to proceed. J. Moran moved to accept the Framework Plan as written. The motion was seconded and passed unanimously. Next, the Committee discussed publishing the document. After some discussion, the group decided to publish the Framework Plan with a basic cover and binding.

Status of CSP Memorandum of Understanding (MOU)

R. Lukens stated that all the states, Puerto Rico and the U.S. Virgin Islands have signed the MOU of the CSP. The next step is to send the MOU with all the signatures to Drs. Kemmerer and Brown with a letter explaining what the SCSC is doing and asking for their signatures. Once it is signed by them, the CSP will be formally operating under an established new organizational and administrative structure. The Committee wanted to be copied with the letter to NMFS.

Operations Plan

a. Review of Categorization of Problems and Issues Under Goals and Objectives

D. Donaldson stated that the list of problems and issues that were created from the brain storming session from the last meeting has been mailed to the committee and the group needs to review this list. After some discussion, a final list (attached) was approved by the committee.

b. Development of 1994 Operations Plan

The committee discussed the development of an operations plan for CSP. R. Lukens noted that this is a committee operations plan and will not affect the operational components of the program at this point. At present, the Committee is not able to recommend changes to the operational aspects of the program. The following tasks were identified as items to be addressed during 1994:

Task 1: Equipment and Software Needs (Goal 3, Objective 3)

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| Objective: | Evaluate current hardware, software, and communication capabilities of program partners and make recommendations for support and upgrades. |
| Team Members: | Southeast Cooperative Statistics Committee. |
| Approach: | Send hardware/software capability questionnaire to appropriate agencies and compile results. Accomplished by conference calls, mail and telephone. |
| Resources: | Mail costs, telephone costs, conference call costs, report costs, and inkind (time) and staff time. |

Product: Equipment and software inventory for CSP participants.
Schedule: Work has begun on this task and will continue. Once the questionnaire is reviewed, it will be distributed and completed by Committee members. CSP administrative staff will compile a final inventory which will be presented at the fall 1994 meeting.

Task 2: Commercially-related sampling programs in the Region (Goal 2, Objective 2)

Objective: Document all commercially-related sampling programs in the Region.
Team Members: Southeast Cooperative Statistics Committee.
Approach: Each member will provide a listing of all ongoing commercially-related data collection programs that are not currently documented as part of the CSP which are conducted in their area. The listings from all the participants will be compiled by the CSP administrative staff and formatted into a report. Accomplished by mail and conference call, if needed.
Resources: Mail costs, conference call costs, report costs, and inkind (time) and staff time.
Product: Report describing commercially-related sampling activities in the Region.
Schedule: Work has begun on this task and will continue. The report detailing the activities in the Region will be presented to the Committee at the fall 1994 meeting.

Task 3: Current and Future Data Needs (Goal 2, Objective 1)

Objective: Compile a listing of current and future data needs for fisheries management.
Team Members: South Atlantic Fishery Management Council Representative.
Approach: Begin collecting information concerning data needs through telephone contact and existing documentation. Accomplished by telephone and mail.
Resources: Report costs, inkind support and staff time.
Product: A report which lists the current and future data needs necessary for fisheries management.
Schedule: The report will be presented at the fall 1994 meeting.

Task 4: Documentation of Data Elements (Goal 3, Objective 4)
Objective: Review the data elements description document in regards to sufficient documentation of the elements.
Team Members: Southeast Cooperative Statistics Committee.
Approach: Each member will review their section of this document and provide further clarification of data elements that are collected during CSP sampling activities. The reason for this is to provide enough description of the elements for people not directly involved in the program. Accomplished by mail and telephone.

Resources: Mail costs, telephone costs, report costs, and inkind (time) and staff time.
Product: Updating of data elements description document.
Schedule: Work has begun on this task and will continue. Each member will provide their comments to the NMFS representative on the Committee and copy the staff by the end of February 1994. A updated report will be presented to the Committee at the fall 1994 meeting.

Task 5: Stock Assessment Scientists and Fisheries Managers Review (Goal 3, Objective 4)

Objective: Review of products from Tasks 2 and 4 by stock assessment scientists and fisheries managers for recommendations.
Team Members: CSP Administrative Staff.
Approach: Initially, the staff will contact stock assessment scientists and fisheries managers and inform them of the planned activities. Once Tasks 7 and 12 are complete, the staff will send the products from these tasks to stock assessment scientists and fisheries managers for their review and recommendations. Accomplished by mail and telephone.
Resources: Mail costs, telephone costs, and inkind (time) and staff time.
Product: Recommendations.
Schedule: The initial phase of this activity will be conducted and completed by the end of 1994. Once the tasks are completed and the information has been sent to the scientists and managers, a list of final recommendations will be compiled and presented to the Committee during the spring 1995 meeting.

Task 6: Non-reported Sources of Landing (Goal 2, Objective 3)

Objective: Identification of non-reported sources of landings in the Region.
Team Members: Southeast Cooperative Statistics Committee.
Approach: This will be an independent activity conducted by the Committee. As sources are identified, members will compile a listing and periodically mail the listings to CSP staff members. Accomplished by mail, conference calls, and meetings, if necessary.
Resources: Mail costs, conference calls costs, report costs, and inkind (time) and staff time.
Product: Report which lists sources of non-reported landings.
Schedule: This is an ongoing task. A preliminary draft will be presented to the committee in spring 1995.

Task 7: TIP Sampling Protocols (Goal 2, Objective 2)

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| Objective: | Review and make recommendations on TIP sampling protocols regarding target sampling levels by species. |
| Team Members: | Data Collection Work Group. |
| Approach: | Via the mail, the work group will review current protocols and make recommendations to the Committee. These recommendations will be forwarded to stock assessment panels and TIP coordinators with a request that any reports developed by the groups include a section concerning data needs. |
| Resources: | Mail costs, conference call costs, report costs, and inkind (time) and staff time. |
| Product: | Report. |
| Schedule: | Work will begin this year and periodic progress reports will be presented to the Committee. The final report will be ready for the fall 1995 meeting. |

Task 8: Compilation of Identified Commercial Data Needs (Goal 2, Objective 2)

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| Objective: | Annually compile a list of identified data needs which have been listed in stock assessment reports from the Region. |
| Team Members: | Data Collection Work Group. |
| Approach: | To be determined. |
| Resources: | Telephone costs, mail costs, report costs, possible travel/meeting costs, inkind (time) and staff time. |
| Product: | Listing of data needs with recommendations. |
| Schedule: | This task is an ongoing activity. |

Task 9: Data Collection and Management Quality Control/Quality Assurance Measures (Goal 2, Objective 3)

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| Objective: | Compile a listing of data collection and management quality control/quality assurance measures for commercially-related sampling programs in the Region. |
| Team Members: | Southeast Cooperative Statistics Committee. |
| Approach: | Each member will describe the QC/QA measures used for each data collection program conducted in their jurisdiction. This information will be sent to the CSP administrative staff and formatted into a report. Accomplished by mail and telephone. |
| Resources: | Mail costs, telephone costs, report costs, and inkind (time) and staff time. |
| Product: | Compilation report. |
| Schedule: | Work has begun on this task and will continue. The report detailing the activities in the Region will be presented to the Committee at the fall 1994 meeting. |

R. Lukens stated that the administrative staff will compile these tasks with some narrative about the program and distribute it to the Committee for review.

Once the Committee has reviewed the document, it will be sent out for final approval, via mail ballot, from the Committee.

Discussion of ComFIN Proceedings

R. Lukens stated that except for some comments concerning Florida's section, the proceedings are completed. The next step is to present it to the Data Management Subcommittee at the upcoming GSMFC meeting for approval. Once it is approved, the Committee will have an opportunity to review and discuss the ideas and concepts of the document. The Committee reviewed the recommendations and agreed that these were the recommendations from the workshop. It is envisioned that this white paper would be used as a guidance document for the development of ComFIN and some mechanism for approval of ComFIN.

Time Schedule for Next Meeting

R. Lukens stated that it is necessary to continue piggybacking the RecFIN(SE) and CSP meetings. It may not be necessary to conduct three meetings per year and possibly extend the CSP meeting from a one to one and a half day meeting. G. Gore suggested that the Committee meet twice a year, a late winter/early spring and an early fall meeting and if more meetings are needed, each area would handle the load by convening working group-type meetings. The next RecFIN(SE) meeting will probably convene in September 1994. The Committee decided to continue piggybacking with the RecFIN(SE) and will meet during the upcoming RecFIN(SE) meeting.

Other Business

J. DiCosimo distributed two reports regarding log books, quota monitoring, and general canvass. The first report was distributed to the South Atlantic Council and the reason was because the Council was considering imposing quotas for specific snapper/grouper species. In Table 11, there was an analysis of 1992 landings as reported by general canvass and log book estimates. The table shows the difference between general canvass and log book estimates. From this, the Council has to decide on which estimates to base the TAC and which method to monitor the quota. The Council decided to use the log book estimates for both setting TAC and monitoring the quota.

**There being no further business, the meeting was adjourned at 5:30 p.m.**

RECFIN(SE) COMMITTEE MINUTES
February 2-3, 1994
Jacksonville, Florida

Chairman Skip Lazauski called the meeting to order at 8:35 a.m. The following people were present:

Steve Brown, FMRI, St. Petersburg, FL
Jane DiCosimo, SAFMC, Charleston, SC
David Donaldson, GSMFC, Ocean Springs, MS
Lee Green, TPWD, Rockport, TX
Albert Jones, NMFS, Miami, FL
Lisa Kline, ASMFC, Washington, D.C.
Skip Lazauski, ADCNR, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Joe Moran, SCWMRD, Charleston, SC
Nick Nicholson, GDNR, Brunswick, GA
Maury Osborn, NMFS, Washington, D.C.
Tom Schmidt, USNPS, Homestead, FL
Ron Schmied, NMFS, St. Petersburg, FL
Tom Van Devender, BMR, Biloxi, MS

Approval of Agenda

The agenda was approved with the following changes:

* Deleting Discussion of Supplementing MRFSS Sampling to Obtain Age Composition Data;
* Adding Update of the National Fisheries Statistics Strategic Plan before Status of Administrative Proposal;
* Adding Status of the MRFSS under Other Business.

Approval of Minutes

* The minutes from the meeting held on September 16-17, 1993 in Jacksonville, Florida were approved with minor editorial changes.

Update of National Fisheries Statistics Strategic Plan

M. Osborn stated that all of the participants (the three teams) have met and the feedback from these meetings has been positive. The next step will be to approve a draft strategic plan (May 1994) and send the plan out for comment by other interested people in the Southeast Region. The strategic plan identifies both general and specific items. There is still much work to be completed for the plan. R. Lukens asked if the constituents will have a good opportunity to feed information

into these activities and M. Osborn stated that all interested groups will have plenty of opportunities to provide information during this process.

Status of Administrative Proposal

R. Lukens reported that it has been difficult to put this proposal into a MARFIN format since the proposed work does not really fit into any of MARFIN's specified areas of interest. The Gulf States Marine Fisheries Commission's (GSMFC) staff met with Andy Kemmerer who gave his full support of RecFIN and ComFIN and is working with the GSMFC to provide funding to support these activities. There are plans to meet with the head of NMFS, Rolland Schmitten, to talk about RecFIN and ComFIN. The draft proposal incorporates both RecFIN and ComFIN activities. The majority of funding will be used to pay for travel of committee and work group members and other expenses include staff and publication costs. The time frame for receiving funding to administer these programs is uncertain at this time. The Fish and Wildlife Service (FWS) is also interested in providing money for these activities but would only cover travel costs. There is a tentative agreement with the Atlantic States Marine Fisheries Commission (ASMFC) that the GSMFC will take the lead since the ASMFC is currently not able to provide staff for these functions. M. Osborn stated that another funding possibility is for the states to use Wallop/Breaux (W/B) funds to pay for travel. R. Lukens stated that this issue has been briefly examined in the Gulf region and if the states were willing to do this, it would be more beneficial for the states to enter into a joint agreement with the GSMFC since the GSMFC is able to bypass travel and other restrictions imposed by the states.

Report from Administrative Subcommittee concerning 1995 Program Review

R. Lukens reported that the Administrative Subcommittee met on December 3 via conference call. The main topic was the development of a program evaluation. The Subcommittee decided that the program should consist of an panel of 3 to 5 people who have no affiliation with the RecFIN(SE). There were two approaches for conducting the program review. The first was using the FWS management assistance team (MAT). This group assists offices with administrative management activities. Initially, the possibility of FWS helping with the review was good; however, from a fax received from Wilson Laney, the MAT currently has insufficient personnel to assist in this activity. The MAT is willing to seek someone else to assist RecFIN(SE) in doing the evaluation. There is still a chance that the MAT may assist in setting

up the program review. T. Schmidt mentioned that another possibility could be the National Biological Survey and R. Lukens stated that the Subcommittee will pursue this possibility. The other option was using the American Fisheries Society (AFS). M. Osborn stated that she had talked with Paul Brouha of the AFS and he believed conducting the RecFIN(SE) review would be a great idea. The AFS is willing to help pursue grant money to pay for the review. She stated that P. Brouha would write a letter to Churchill Grimes, president of the Southern Division, and have him address this issue. In addition, M. Osborn will prepare an outline of the process for the program review which will be included with the letter to Churchill Grimes. The Committee believed the AFS was a good candidate for conducting the program review and the Subcommittee will continue to work on this issue.

Data Base Work Group Report

D. Donaldson reported that the Data Base Work Group met via conference call on November 30, 1993. The main topic of discussion was the prioritization of existing historical data bases for integration into the RecFIN centralized data base. Initially, the Work Group was charged with completing this task. The Data Base Work Group decided that the Biological/Environmental and Social/Economic Work Groups should also be involved. The Biological/Environmental and Social/Economic Work Groups have completed a prioritization list in relation to the group's field of expertise. The Data Base Work Group was charged with compiling a final priority list and presenting it to the RecFIN(SE) Committee. The final list was compiled by the group and after some discussion and modification, the list (attached) was approved by the Committee.

M. Osborn said that the ESDIM proposal, which will hire personnel to migrate the MRFSS data base onto the mainframe and provide money for needed computer work, has received high marks from the ESDIM reviewers. Currently, the proposal is being reviewed and evaluated by NMFS personnel in Washington, D.C. All personnel involved in the MRFSS need to compile a "wish list" of the types of information they want to be able to access on the new system. If the ESDIM proposal is not funded, there is money in the CDC contract (the IT-95 contract) which will provide money for migration of the MRFSS data base to the IT-95. Also, John Witzig will no longer be on the Data Base Work Group, and NMFS will leave the spot vacant for now.

Completion of 1994 Operations Plan

* The draft 1994 Operations Plan was distributed to the Committee. After some discussion and minor changes, R. Schmied moved to accept the 1994 Operations Plan. The motion was seconded and passed unanimously. Next, the Committee reviewed the identified tasks to be addressed during this year and their status. Task 2 is being addressed and S. Lazauski stated he would develop a RecFIN(SE) data sheet for the AFS newsletter. This is an ongoing task. Task 3 is currently being addressed, and the next step is to determine who will conduct the program review, how much it will cost and who will pay for the review. A. Jones will send some information concerning other program reviews conducted in the Southeast to the Administrative Subcommittee for their information. A conference call of the Subcommittee will be set up for the week of March 21st to address these issues. This task will be completed by the fall 1994 meeting. Tasks 4 and 5 pertain to biological/environmental issues which are being addressed and a conference call may be needed to ascertain their status. Tasks 6 and 7 refer to items the Social/Economic Work Group need to address and a conference call will be scheduled to examine these items. Task 8 will be addressed later in the current meeting. The Committee identified some actions to address Task 9, an ongoing activity, such as routine presentation to the RecFIN(SE) Committee concerning new and upcoming state MRF data collection programs. Task 10 is an ongoing activity, and the Committee identified several actions to address this task, such as presentation to the RecFIN(SE) Committee regarding pen-based and EPIRB technologies, computer-based data base regulation in the Southeast, and GIS symposium. Work on Task 11 is presently being conducted and a report will be presented at the 1994 fall meeting. Work on Task 12 is beginning now and information concerning design, implementation and maintenance of the data management system will be sent to the Committee and work groups for their review. Task 13 is directly linked to Task 12 and will be affected by the results of that task. Task 14 has been accomplished and was presented at the current meeting. Task 15 is an ongoing activity, and the Committee identified some actions to address this task, such as a presentation concerning IT-95 and Oracle. Task 16 and 17 are ongoing activities, and the Committee identified some actions to address this task, such as participation in the RecFIN-Pacific meeting by GSMFC, ASMFC and MRFSS staff members.

Discussion of the Annual Report for RecFIN(SE)

* The Annual Report was distributed to the Committee. J. Moran noted that the minutes and 1993 Operations Plan for RecFIN(SE) were not included in the copies distributed. D. Donaldson stated that although they are not included in these copies, they will be included in the final document. The Committee suggested that work group reports be included in Appendix C and the Goals and Objectives in Appendix D. After some discussion and other minor editorial changes, R. Schmied moved to approve the 1993 Annual Report of RecFIN(SE). The motion was seconded and passed unanimously.

Time Schedule for Next Meeting

R. Lukens reported that at the CSP meeting held yesterday, the group agreed to continue piggybacking with the RecFIN(SE) meeting and decided to have the next meeting in September 1994. After discussing several possibilities, the group decided to continue piggybacking the meetings and to have the meetings during the week of September 26th in either New Orleans, Jacksonville, Tampa/St. Petersburg, or Pensacola. The GSMFC staff will determine the best location, handle the arrangements and contact the Committee with the hotel and meeting information later in the year.

Evaluation of Adequacy of Current MRF Programs for RecFIN(SE)

At the last meeting, the Committee developed seven items to evaluate MRF programs in the Southeast. The criteria were: statistical validity, which refers to the accuracy of the survey and if bias is present; noting the biases that are present; statistical precision, which refers to the coefficient of variance (CV) ranges associated with the mean; data accessibility, which refers to how easy it is to access and use the data; timeliness of data, which refers to how quickly the data are available to the user; compatibility and comparability, which refers to the consistency of design through time and use the data for time trend analyses; spatial scope, which refers to the geographic area covered by the project; and temporal scope, which refers to the length of time the project has been operating. Based on these criteria, the Committee reviewed and evaluated MRFSS, NMFS Headboat and Charterboat, and Billfish Tournament and Non-tournament surveys. The following is a result of the discussion conducted regarding the evaluation of the adequacy of current MRF programs for RecFIN(SE).

MRFSS

Statistical validity: Overall, the MRFSS is valid and accurate. There are some areas which need improvement. One of those areas is cluster sampling, however, this affects precision more than accuracy. The allocation of the telephone sample is based on the square root of the county population. This was done to ensure that small, rural counties received some sampling activity. However, when the estimates are being calculated, the estimates need to be reweighted based on this sampling allocation, which has not been done. Beginning in 1993, the estimation program has been modified to take this into account. MRFSS staff is in the process of recalculating the old estimates. Another issue is the gaps in sampling of charter and head boats. Because of these gaps, MRFSS estimates of charter and head boat trips suffer.

Statistical precision: There is a pilot study in Florida where all of the information from fishing trips is collected. Currently, there are only estimates made for the number of in-state trips. At a low cost, information on all trips can be collected which will increase precision. If the results from this study prove positive, it could be implemented throughout the entire survey. M. Osborn stated that she will develop a table of precision measures for this task which will include all of the surveys. Another pilot study was conducted using fishing licenses as a sampling frame instead of a random telephone survey. The information from this study and the random telephone survey will be compared to see if using licenses is a viable option. The results from this study should be available by the end of 1994. R. Lukens asked that when the results of this study are available, the Committee have an opportunity to discuss them. Gerry Gray has developed several SAS programs which determine how to divide sampling between intercept, telephone and between waves to maximize the precision for particular species, gear, area, etc. The states can use these programs to maximize their effort to get the most out of the increased sampling.

Data accessibility: Accessibility of data before 1993 is good; however, 1993 data are not so accessible due to the problems discussed earlier. MRFSS staff is developing documentation of historical intercept databases which will be in a standard ASCII format. Hopefully, this activity will be accomplished by the end of April 1994. The documentation for the estimate surveys is pretty good, and the work on the telephone survey documentation has begun and should be finished by mid-1995. There are some concerns regarding using the random dialing telephone survey for the effort estimate.

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| Timeliness of data: | The timeliness will improve with the migration to the IT-95 although it is already good. Usually, an user can access the raw intercept data within three weeks of the completion of a particular wave. The time scope is bimonthly. |
| Compat. & compar: | Overall, the MRFSS estimates are compatible and comparable. The new estimates from 1993 are more accurate. |
| Spat. & temp scope: | MRFSS has operated in the Atlantic and Gulf of Mexico since 1979 with 2.5 times the sampling for the last three years; the Pacific from 1979-1989 and 1993-1994; Hawaii, Samoa, and Guam from 1979-1980; and the Caribbean from 1979-1981. |

The Committee then discussed the **Issues and Recommendations for Future Action** section of the Marine Recreational Fishery Data Collection and Management Programs in the Gulf of Mexico Region document. The following issues were discussed:

**(1) Site selection**

(a) There are inaccuracies in the site inventory which is sent to the states. M. Osborn noted that the MRFSS staff has asked the states to provide updates for the site register but they have not yet received any comments. In addition, several quality control measures have been implemented to ensure that sites are operational and are valid sampling locations. The Committee agrees that this problem could be resolved through constant communication between the states and the MRFSS staff. R. Lukens suggested that the Data Management Subcommittee and the other geographic subcommittees address this issue on an annual basis to help facilitate this communication.

(b) The states are not receiving the site inventory on a regular basis. M. Osborn stated that the list is updated periodically through the year and the final list is produced at the end of the year. She stated that she will send a final list to all of the states.

(c) Inadequate procedures, documentation and specified time frames for updating inventories.

M. Osborn stated that the current MRFSS manual outlines the procedures and documentation for updating the inventory. The two

recommendations from the document were yo use historical intercept data to set sampling probabilities, rather than relying on hearsay information from access operators, fishermen, or subjective interviewer opinion. Current thinking is that using historical intercept data which may be flawed due to past site selection procedures may result in erroneous site data. The other recommendation was to schedule regular rather than opportunistic site inventory updates. While this is thought to be a continuous process, there is no single factor that will automatically trigger a review of the site inventory and any necessary updates. The Committee believed that these issues should still be investigated and thoroughly reviewed.

(d) Inadequate sampling of some fish species due to seasonality.
Due to limited sample sizes, seasonality of some fish species may cause some problems. R. Lukens stated that this issue has never been fully explored and it may be something that cannot be changed. M. Osborn stated that one of the RecFIN(SE) work groups could investigate the seasonality of fish by access sites.

(e) The MRFSS does not rely on pure probabilities for site selection.
M. Osborn stated that NMFS has been examining this issue. The method used which did not rely on pure probability is that NMFS got estimates of activity for sites and the sites are then coded and the total sample is allocated based on these codes. The problem with this method is that it is not adjusted by the number of sites in a particular state. The result of this is an oversampling of some of the lower-use sites. The MRFSS staff is currently working on this issue.

**(2) Residential waterfront sites**

This issue is still a problem, and currently there is no solution. M. Osborn stated that North Carolina conducted a survey of waterfront property and found that catch rates were different for these fishermen. The Committee requested that the RecFIN(SE) staff ask M. Street to provide the findings from this study to the group. Currently, it is assumed that catch rates for all groups are equal.

**(3) MRFSS telephone survey methodology**

(a) Freshwater/saltwater issue

R. Lukens stated that the question allowing both telephone and on-site respondents to identify themselves as freshwater or saltwater results in corresponding data for both components, but it causes underestimation of saltwater fish landed by fishermen who fish in brackish water areas but consider themselves freshwater fishermen. There is confusion between saltwater and freshwater areas. Several states have expressed an interest in adding on to the MRFSS to include freshwater sites to address this issue. The Committee believes that perhaps a special study could resolve the issue.

(b) Telephone trip estimates

Expansion of coastal telephone trip estimates by observed, on-site ratios of coastal/non-coastal residents is a cause for concern with small sample sizes. Some adjustments are made to ratios by pooling historical data when small sample sizes cause extreme estimates of non-coastal resident and non-resident trips. It may be appropriate for the telephone survey to be conducted in a stratified fashion to allow for sampling for inland and coastal areas which was discussed earlier. The MRFSS staff will address this issue and there is a possibility of convening workshops.

**(4) Subsampling procedures**

The MRFSS procedure for subsampling stipulates that when an interviewer finishes an interview and sees that too many fishermen remain for all to be interviewed, the interviewer should estimate how many can be interviewed, count all remaining fishermen, and then pick the $n^{th}$ fisherman to obtain the number of anticipated interviews. Pragmatically, interviewers most likely move on to the next closest fisherman as they finish an interview. M. Osborn stated that beginning in 1993, interviewers began collecting the total count of all the fishermen at the site. This figure can be compared to the total number of interviews conducted which can be tracked. This is not an extremely contentious issue, at the present time.

**(5) Time of day for sampling**

(a) Rules for specifying time of day to conduct interviews are not specific enough.

Interviewing procedures specify that at least one interview per hour should be collected. If activity is too low, the interviewer moves to an alternate site. There is concern about the potential for the introduction of interviewer bias through individual selection of times to begin and end interviewing. M. Osborn stated that there is much more control on what site an interviewer goes to, how many times an interviewer goes to a particular site, selection of an alternate site, etc. and the chance for bias has been reduced. The quality control measures have addressed this issue and it appears to no longer be a problem.

(b) There are no rules or procedures to specify or eliminate night sampling. The telephone survey estimates include night trips, yet they cannot be identified. The telephone survey should distinguish night and day trips. Night sampling in the on-site survey needs to be addressed when developing time of day sampling procedures. It is now possible to identify night sampling but further investigation on this issue needs to be conducted.

**(6) Combining telephone and on-site data**

The NMFS assumes that within the MRFSS, catch rates are similar between complete and incomplete trips. Studies on freshwater surveys have found no differences between the two, yet there still remains a degree of uncertainty regarding the reliance on incomplete trip interviews. M. Osborn stated that only 1/3 of the trips by the shore mode are allowed to be incomplete trips. The Committee believed that this issue should be investigated further and resolved.

**(7) Cluster sampling, variance estimates, and unequal sampling probability**

M. Osborn stated that cluster sampling is being addressed and she would provide information to the Committee concerning this issue. R. Lukens asked if periodic statistical reviews regarding this issue was needed. The Committee decided the issue had been addressed thoroughly and there was no need for further review.

(8) **Trips by mode at state level**

It is not clear why state level estimates by mode are not included in annual publications, since such estimates are produced and used by managers. The MRFSS was designed for regional estimates, and that state estimates by mode may be misleading or inaccurate due to limited sample sizes. The only agreed upon resolution to this issue is to provide for increased sample sizes through state/federal cooperation. Sample size has been increased 2.5 times throughout the Southeast Region, and this issue is being addressed.

(9) **Validity of self-reported data**

The accuracy of self-reported data, such as catch not available for examination and length of fishing time are of concern. Self-reported data should be validated where possible through special studies. L. Green reported that Texas has conducted a by-catch study. This study examined the difference in self-reported data which was collected from recall versus data that is collected by filling out cards which are distributed to the fishermen prior to their trip. The data is currently being analyzed and preliminary analyses shows that there is a higher estimate of by-catch from fishermen using only recall. M. Osborn stated that there are inaccuracies in self-reported data and for that reason, it is identified as self-reputed data in the database. The Committee stated that the Texas' study might be an interesting agenda item for an upcoming meeting.

(10) **Publication of Texas data**

M. Osborn stated that the Texas survey data has been included in the Fisheries of the U.S. document. R. Lukens and R. Schmied pointed out there are still two issues to be resolved before the publication of Texas data becomes routine. M. Osborn stated that although that is true, the answer to these issues will not be solved through the Fisheries of the U.S. document. The answer is developing user-friendly data bases where there is easy access, summarization, etc. This is an issue which is being addressed and will continue to be examined by all involved in the process.

(11) **Long term improvements in collection of recreational fishery statistics**

Future improvements and modifications to the MRFSS and other recreational fishery statistics programs were discussed and the following objectives established: a) increase cost effectiveness and efficiency, b) collect all data vital for effective management, c) assure accuracy of estimates for all states,

and d) provide for cooperative estimates. The following long-term issues were identified as items that need to be examined:

(a) The NMFS should explore evaluation of the MRFSS and other MRF survey estimates to compare for possible bias in estimation procedures. After some discussion, the Committee believed that this issue should be tabled at the present time. Some of the activities being conducted by the MRFSS staff and the Committee are exploring components of this issue and it would be premature to address it at this time.

(b) The MRFSS should incorporate screening procedures in the on-site survey to record recreational shellfish activity for future use in incorporating shellfish estimates. Estimation of recreational shellfish statistics in the MRFSS or associated programs should be addressed. M. Osborn stated that this procedure can be accomplished but it will increase the costs of conducting the MRFSS. The bottom line is that if personnel want to add more procedures, money needs to be found to fund this activity. R. Schmied stated that this is still an important issue and should not be forgotten because there is not enough manpower and funding.

(c) Investigations into alternate techniques for estimating pressure and participation to increase cost effectiveness and precision should be pursued. After some discussion, the Committee believed that this issue should be tabled at the present time. Some of the activities being conducted by the MRFSS staff and the Committee are exploring components of this issue and it would be premature to address it at this time.

(d) Publication of trend data and analyses of recreational fisheries data should be improved and increased. This issue will be addressed by some of the present and future activities of this Committee and the MRFSS staff.

**The meeting recessed at 5:05 p.m.**

**February 3, 1994**

The meeting reconvened at 8:05 a.m.

Evaluation of Adequacy of Current MRF Programs for RecFIN (continued)

NMFS Headboat

A. Jones reported that the documents, Workshop on Marine "For Hire" Recreational Fisheries Survey Methodology and Marine Recreational Fisheries Data Collection Project Summaries are good references for the NMFS Headboat program. The survey was started in 1972 in North Carolina, and was expanded in 1976 to include South Carolina, Georgia and the eastern shore of Florida down to Cape Canaveral. In 1980, it was expanded again to cover the entire eastern coast of Florida. Initially, the objective was to obtain an index of stock abundance. Later in the survey, a secondary objective to obtain an estimate of total landings and fishing pressure was added. The headboat population is defined as boats which carry 15 or more people and charge per person. The number of headboats has been decreasing since 1985. The data are collected by census. It is not a sample survey, but attempts to cover all headboats and collect data such as catch by species, number of anglers, hours fished, area fished, size distribution, weight, sex determination, etc. In respect to results from the survey, the time series has shown that there has been a change in species and size composition over the years.

Statistical validity: Since it is not a statistical sample survey, all one can say is that the survey attempts to cover all boats. There are some non-reporting problems but the seriousness of this problem is not known. The accuracy of the data collected (number of trips, species caught, etc.) is a matter of judgement. The samplers believe they can determine when the boats are not reporting correctly. For verification, some samplers will ride on the vessels that are being surveyed in an effort to check the data.

Statistical precision: There are no variance estimates for the data. For the biological data collected, estimates can be determined and should be calculated for this data. M. Osborn pointed out that by not providing variance estimates with the data, it gives the impression that the data for the number of fish for a particular month are exact numbers. R. Lukens noted that the total number of fish for a trip is provided by the mate onboard the vessel. This number is not a statistical measure and therefore cannot have a variance assigned to

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| | it. So, the issue is the accuracy of the estimates which are determined by the mate onboard the vessel. |
| Data accessibility: | In the last two or three years, the data have been published in the MRFSS document and also provided to fishery managers for annual stock assessments which are conducted. In addition, the data will be available on the new NMFS's ORACLE data base when it becomes operational. |
| Timeliness of data: | Two or three years ago, there was quite a backlog of data. Recently, NMFS has stated that they are up-to-date with the data and have improved the amount of time it takes to make the data available. NMFS is capable of providing monthly estimates to those interested personnel. |
| Compat. & compar: | The survey format has remained the same throughout the survey, and the compatibility and comparability is fairly good. There have been some minor changes but these have not impacted the compatibility and comparability. |
| Temporal scope: | The survey began in 1972 and is continuing to date. |
| Spatial scope: | North Carolina to Texas. |

A. Jones stated that there are a couple of questions which need to be asked. The first question deals with perhaps developing a more effective method for collecting these data based on the amount of money available (the survey costs approximately $300,000 per year). The second question relates to the statistical validity of the data. M. Osborn noted that there are several different but related surveys (headboat, charterboat, large pelagic, etc.) being conducted throughout the Gulf and Atlantic coasts. It is a question of possibly integrating all of these programs so that they are working more efficiently. It might be possible to merge the methods to have one large headboat and charterboat survey. A. Jones noted that the RecFIN(SE) Committee was designed to address issues like this and help formulate solutions.

NMFS Charterboat

J. Moran stated that the NMFS Charterboat Survey has been operating since March 1982. It is conducted from North Carolina to Texas and information such as biological data, CPUE, and associated information are collected.

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| Statistical validity: | This survey utilizes a logbook-type system. Charterboats from each state are selected to participate. It does not include all charterboats except for in the State of South Carolina. Of the boats selected, greater than 90 percent sent information for the survey. Also, there may be some bias in the selection process. There is a mandatory requirement to participate, but this regulation has never been enforced. This problem is more an enforcement issue rather than a selection problem. |
| Statistical precision: | There is no analysis of the data. The data collected includes CPUE which is fish by species, per hour fished, by depth, by gear, and no estimates or variances are calculated. M. Osborn stated that there should be some variances associated with the CPUE data. It may not be calculated, but it can be calculated. |
| Data accessibility: | The data (fish per hour, by depth, by gear) is published in a monthly newsletter (Channel 68) which is distributed to interested personnel. Any data requests have a fairly rapid turn around time. The documentation for the data elements is readily available and very descriptive. |
| Timeliness of data: | The data are available on a monthly basis. They provide a postage-paid envelop to the captains so they will send in their data. |
| Compat. & compar: | The same problem which occurs with the Headboat survey is present in this survey. The format has essentially been the same throughout the survey. The data uses its own species, depth, gear, etc. codes which can cause some problems. |
| Temporal scope: | March 1982 to present. |
| Spatial scope: | North Carolina to Texas. In 1983, the survey included the Caribbean. |

Billfish Tournament

R. Schmied stated that the Recreational Billfish Tournament Sampling Program has been conducted since 1971. The information collected is obtained from billfish, wahoo, tunas and other big game fish and includes hook per unit effort (HPUE), catch per unit effort (CPUE), biological data including hard parts for age and growth analysis, and some environmental and metadata. The purpose of the survey is to determine the abundance and monitor the trends in stocks.

Statistical validity: The survey does not cover all tournaments and only surveys selected tournaments. To a certain extent, the tournaments which are selected are determined by the availability of personnel, travel funds, etc. The methodology needs to sample more thoroughly. The tournaments to be sampled are not selected in a statistical manner. The selection process is essentially opportunistic.

Statistical precision: There are no estimates for total effort or harvest and there are no variances associated with the HPUE and CPUE.

Data accessibility: The data are stored on the A10 computer in Miami, Florida and are available in annual reports.

Timeliness of data: The data are published on an annual basis and are probably accessible through the A10 computer to users rather quickly after it is collected.

Compat. & compar: The survey has been operating for a long time and provides a good time series. The methods have been fairly consistent throughout the survey.

Temporal scope: January 1971 to present, surveyed year around.

Spatial scope: Maine to Key West, Florida and Clearwater, Florida to the Texas/Mexican border. There is an area where no surveying occurs in central Florida in the Gulf of Mexico. Also, there is some sampling conducted in the Caribbean.

Billfish Non-tournament

R. Schmied stated that the Recreational Billfish Non-tournament Sampling Program has also been conducted since 1971. The information collected is obtained from billfish, wahoo, tunas and other big game fish and includes HPUE, CPUE, biological data including hard parts for age and growth analysis, and some environmental and metadata. The purpose of the survey is to determine the abundance and monitor the trends in stocks.

Statistical validity: The same problems that are present in the Billfish Tournament Sampling Program are present in this survey. The methodology needs to be altered for more thorough sampling. The sites to be sampled are not selected in a statistical manner. The selection process is essentially opportunistic.

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| Statistical precision: | The same problems are present that are associated with the tournament program. There are no estimates for total effort or harvest and there are no variances associated with the HPUE and CPUE. |
| Data accessibility: | The data are stored on the A10 computer in Miami, Florida and are available in annual reports. |
| Timeliness of data: | The data are published on an annual basis and are probably accessible through the A10 computer to users rather quickly after it is collected. |
| Compat. & compar: | The survey has been operating for a long time and provides a good time series. The methods have been fairly consistent throughout the survey. |
| Temporal scope: | January 1971 to present, sampling from March to December. |
| Spatial scope: | St. Petersburg, Florida to Port Isabel, Texas. The South Atlantic and Caribbean are not sampled. |

R. Lukens stated that the purpose of this activity is to develop a list of priorities and recommendations. These priorities and recommendations will be presented to the appropriate personnel for their use and information. M. Osborn stated that she will develop a table which outlines the criteria for each of the programs that were discussed by the Committee. In addition, the Committee believed Utility of Data Collected should be added to the list of criteria for each survey the Committee reviews. The end goal of this activity is to develop a product which can be applied towards improving data collection.

Other Business

M. Osborn presented the status of the MRFSS. The MRFSS staff is trying to complete the estimates by the end of February 1994. MRFSS is using a new imputation procedure. In the past, MRFSS has contacted households which indicate that they are saltwater fishing homes, but they are unable to speak with anyone who can relate pertinent information. In addition, MRFSS may contact a fisherman in the household when there are other fishermen in the household. In this case, MRFSS will attempt to obtain proxy information from that person, but only as a last resort. Starting this year, there are improvements on the description, documentation and methods for when and how to get proxy information. However, in the past, there were times when getting proxy information could not be accomplished, and thus there

has been an underestimation for the total number of trips due to these missing data. Imputation programs have been developed which will calculate and adjust for these missing data for the 1993 estimates. In addition, these procedures will be conducted on the historical data. The end result will be an improved data base with more accurate data. The MRFSS is conducting an economic add-on in the Northeast Region. The add-on will be conducted from Maine to Virginia. The questions on the survey were designed by the NMFS-NE Region. The data which will be collected are intended to develop species-specific demand models for seven species which are under management. During the intercept portion, the MRFSS will ask interviewees if they would be willing to participate in the follow-up survey. If they answer "yes", they will be called and asked a series of economic and social questions.

**There being no further business, the meeting was adjourned at 10:30 a.m.**

## FINAL PRIORITY LIST FOR INCLUSION IN RecFIN DATA BASE

| PROJECT TITLE | STAGE |
|---|---|
| Marine Recreational Fishery Statistics Survey (MRFSS) | I |
| Atlantic Bluefin Tuna Recreational Fishery Survey | III |
| Economic Data Collection for the Gulf of Mexico Recreational Reef Fish Fishery | III |
| Headboat Survey | I |
| Southeast Charterboat Survey | III |
| Recreational Billfish Tournament Sampling Program | III |
| Recreational Billfish Non-Tournament Sampling Program | III |
| Creel Survey of Mississippi Sound and Adjacent Waters | III |
| Survey of Louisiana Recreational Anglers, 1990 and 1991 | II |
| Monitoring of Coastal Finfish Resources for Sportfish Management (Boat-based) | I |
| Monitoring of Coastal Finfish Resources for Sportfish Management (Shore-based) | II |
| Attitude and Opinion Surveys | II |
| Marine Sport Fisheries Creel Survey | II |
| Recreational Port Sampling - U.S. Virgin Islands, Mar 1, 1981 - Sept 30, 1985 | III |
| Recreational Port Sampling - St. Croix, USVI, Oct 1, 1985 - Sept 30, 1990 | III |
| Recreational Port Sampling - St. Croix, 1991-1995 | III |
| Recreational Port Sampling - St. Thomas | II |
| A Survey of Recreational Shrimpers in the Bay & Sound Systems of the Gulf Coast | III |

In compiling this final list, the Data Base Work Group considered only the projects which were prioritized H or Y by the other work groups. The group prioritized these projects as either Stage I, II or III. A project categorized as Stage I would be included in the data base within 18 months; Stage II - included between 18 to 30 months; and Stage III - included after 30 months.

Jerald K Waller

**LAW ENFORCEMENT COMMITTEE (LEC)**
**MINUTES**
**March 14, 1994**
**Gulf Shores, Alabama**

Jerry Waller, Chairman, called the meeting to order at 9:00 a.m. The following were in attendance:

Members
Terry Bakker, BMR, Biloxi, MS
Tommy Candies, LDWF, Baton Rouge, LA
Suzanne Horn, NMFS, St. Petersburg, FL
Bill Robinson, TPWD, Austin, TX
Lewis Shelfer, FMP, Tallahassee, FL
Jerry Waller, ADCNR/MRD, Dauphin Island, AL

Others
Dr. Lewis Byrd, ADPH, Mobile, AL
Charles R. Hastings, ADCNR/MRD, Gulf Shores, AL
Daniel F. Hughes, ADCNR/MRD, Gulf Shores, AL
John T. Jenkins, ADCNR/MRD, Dauphin Island, AL
David Rose, BMR, Biloxi, MS
Tom Shuler, NMFS, Carriere, MS

Adoption of Agenda

The minutes of the meeting held October 20, 1993 in San Antonio, Texas were adopted as written.

Adoption of Minutes

The minutes of the meeting held October 20, 1993 in San Antonio, Texas were adopted as written.

Finfish Tracking System in Texas

B. Robinson discussed Texas' system used in tracking finfish exports and imports. A Texas Finfish Import License is required of any person handling commercially processed species for (1) importing for sale; or (2) selling for resale. The requirement for the Finfish Import License is in addition to requirements for fish dealer licenses to include the following: (1) Wholesale Fish Dealer's License, (2) Wholesale Fish Dealer's Truck License, (3) Retail Fish Dealer's License, and (4) Retail Fish Dealer's Truck License. All commercial shipment of commercially protected finfish must be accompanied by a Commercially Protected Finfish Shipping invoice. This includes import shipments, intrastate shipments, and export shipments. A copy of each commercially protected finfish shipping invoice must be submitted to the Department Regional Law Enforcement Office by both the shipper and receiver of each shipment by the 10th day of the month following the month of shipment. A copy must be retained by both the shipper and receiver for a period of one year from the date of shipment. The shipments also have specific packaging and labeling requirements. In 1993, the Department of Parks and Wildlife received 20,568 shippers/receivers invoices. The system is working well but will continue to be improved.

TCC Mullet Task Force

T. Bakker stated there had been no task force activity. Discussion ensued regarding the various state laws and problems relating to the roe mullet fishery.

Interstate Transport of Shellfish/Crabs

J. Waller and J. Jenkins discussed problems with shipments of crabs from Louisiana. T. Candies and Waller have discussed the problem of undersize crabs being shipped from Louisiana into Alabama. The language of the laws/regulations in both states make enforcement difficult on the state and federal level. A recent 2500 pound (28 boxes) shipment of crabs checked by Alabama officers contained 37% undersized crabs. Nine boxes were saturated with maggots and 50% of the entire load appeared to be dead. T. Shuler, NMFS, reviewed the findings with Candies and Waller and it was decided the Louisiana law could not be used effectively with the Lacey Act. The crux of the issue was that the law protects the dealer from prosecution by placing the full responsibility for the size limit on the crab fishermen. This is true even after the crabs are purchased by the dealer. There were at least eight fishermen involved in the taking of these crabs according to the tags on the boxes. The fishermen sold the crabs to the dealer in Louisiana so they cannot be held accountable for the Interstate Commerce (shipping them to Alabama). The crabs were seized and destroyed by the Alabama Department of Public Health. No charges were filed.

T. Bakker advised that oysters harvested in Mississippi were being transported into Alabama in unrefrigerated trucks. Louisiana oysters are also being transported into Mississippi and Alabama in unrefrigerated trucks. This is a violation of the National Shellfish Sanitation Program Manual of Operations which has been adopted by all three states. A discussion ensued as to Lacey Act application and the conduct of joint enforcement operations.

ISSC Issues

The Gulf-South Atlantic States Shellfish Sanitation Conference will be held during the week of June 20 in Gulf Shores, Alabama. Issues relating to enforcement will be discussed at this meeting.

Texas Coast Watchers Program

B. Robinson presented an update on the Texas Coast Watchers Program. In 1987, TPWD law enforcement personnel and the GCCA executive committee discussed how GCCA might be of assistance to TPWD in combating the illegal commercial fishing activity on the Texas coast. A program named Coast Watchers was developed to train selected members of GCCA chapters in how to recognize and report violations of regulations protecting coastal marine resources. The Coast Watchers Program was originally designed to concentrate on commercial fishing but the emphasis has changed from commercial fishing violations to sport fishing violations. The program has been an asset to the enforcement efforts of TPWD.

NMFS Report

S. Horn advised that Morris Pallozzi is no longer Director of Law Enforcement. An acting director has been appointed. No changes are expected in the cooperative enforcement programs with the states.

Other Business

J. Waller, J. Jenkins, and D. Hughes discussed Alabama's artificial reef program.

The LEC agreed by consensus to recommend to the GSMFC that uniform commercial size regulations be adopted for the target species of amberjack, cobia, flounder, king and Spanish mackerel, snappers, speckled trout, black drum, and pompano.

**There being no further business the meeting was adjourned at 12:30 p.m.**

Ronald R. Lukens
9-28-94

**MINUTES**
Recreational Fisheries Information Network
Administrative Subcommittee
Conference Call
March 24, 1994

**Members**
Skip Lazauski, ADCNR/MRD, Gulf Shores, AL
Walter Padilla, PRDNR, Mayaguez, PR
Carole Goodyear, NMFS/SEFSC, Miami, FL
Dave Van Vorhees, NMFS/HQ, Silver Spring, MD
Ron Lukens, Chairman, GSMFC, Ocean Springs, MS
Lisa Kline, ASMFC, Washington, DC

**Others**
Ron Salz, NMFS/HQ, Silver Spring, MD

**Staff**
Dave Donaldson, GSMFC, Ocean Springs, MS

## Opening Remarks and Agenda

Chairman Lukens opened the meeting by outlining the items on the agenda and asking for additions from the Subcommittee. He indicated that the items were:

1) RecFIN Program Evaluation
2) RecFIN Administrative Funding
3) Discussion of September Meeting

No other items were added, and the agenda was accepted as offered.

## 1995 RecFIN Program Evaluation

At the February meeting of the RecFIN Committee, information was provided that Lukens was working through the U.S. Fish and Wildlife Service (FWS) to see if some group could be identified to conduct the program review. Maury Osborn was pursuing an opportunity to conduct the evaluation through the American Fisheries Society (AFS). At the last meeting, the FWS avenue was not a likely choice; however, M. Osborn indicated that the AFS avenue appeared to have a great deal of promise, even to the point of assisting in finding funds to carry out the evaluation.

In continuing to pursue the FWS angle, Lukens found that the FWS indicated that the Organization of Wildlife Planners (OWP) would be willing to look into the request. The OWP is a group of state and federal planning professionals within fish and wildlife agencies. Lukens contacted the President of the OWP, who expressed an interest in conducting the evaluation. Following the discussion with the OWP

President, Lukens indicated that he spoke with M. Osborn regarding her progress with the AFS. Osborn had not yet had a chance to talk further with the AFS, and it was agreed that Lukens would follow up on the AFS angle by calling Churchill Grimes, President of the AFS Marine Fish Section.

Lukens indicated that he had had a meeting with Grimes in Panama City, Florida, and he was extremely excited about the prospect of the Marine Fish Section being involved in the RecFIN Program Evaluation, saying that he believed that the evaluation is the kind of activity that the AFS sections should be doing. Lukens and Osborn had discussed the idea of having both the OWP and the AFS Marine Fish Section conduct the evaluation; however, all involved agreed that the AFS Marine Fish Section would be a more appropriate group to conduct the evaluation because of their obvious background in marine fisheries issues. Lukens stated that Grimes would lead the Section in selecting the review panel members, and guide the development of the evaluation process with input from the RecFIN Committee. **Lukens then made a recommendation to ask the AFS Marine Fish Section, through Churchill Grimes, to conduct the evaluation.** W. Padilla asked about costs of the evaluation. Lukens indicated that he told Grimes that the RecFIN Committee did not want to pay for honoraria or salaries for panel review members. Grimes agreed that that would not be necessary. Lukens felt that the only costs would be the travel expenses in conducting the evaluation and perhaps a conference call if necessary, which would amount to approximately $5,000. Grimes agreed that that figure would probably be sufficient. Lazauski asked how committed Paul Brouha, Executive Director of AFS, is to assisting in funding the evaluation. Lukens indicated that he is not sure how far that commitment goes, but that Brouha is very committed conceptually. Lazauski gave a summary of some internal policy issues within the AFS as they may relate to the issue of receiving funding to conduct the evaluation. Two of the issues are commitment of AFS funding and advocacy. Lukens pointed out that he did not expect AFS to fund the evaluation internally, but rather seek a grant from some organization, such as the National Fish and Wildlife Foundation. He also pointed out that the advocacy issue probably does not relate to the RecFIN evaluation since the evaluation is a technical issue related to the conduct of a professional program. Lukens reiterated his recommendation, and there was concurrence from the Subcommittee to ask the AFS Marine Fish Section to conduct

the evaluation. W. Padilla asked about any follow-up with Nikki Bane regarding funding of the evaluation, since she had tentatively agreed to assist if necessary. Lukens stated that he had not contacted Bane regarding this issue; however, Bane did indicate that she would prefer that we think of that avenue as a last resort, and even then it would be contingent on the situation at that time.

Lukens indicated that Al Jones had provided the Subcommittee with a package of several program evaluations for guidance in determining how we would like to see the evaluation conducted. Lukens suggested that the information be provided to Churchill Grimes for his use in planning the evaluation. He also suggested that the discussion at the September meeting could further clarify the wishes of the RecFIN Committee. The Subcommittee agreed with those points.

**RecFIN Administrative Funding**

Lukens indicated that he has continued to pursue administrative funding for the RecFIN activities including funds to defray travel by the state Committee and work group members. He also indicated that they are approaching the funding situation for both the RecFIN and the ComFIN, since there is so much overlap in committee members, and since the two committees usually meet during the same time frame. Lukens described a recent meeting with Dr. Andy Kemmerer and Dr. Brad Brown regarding funding, stating that that meeting was particularly positive, showing both Kemmerer's and Brown's conceptual and on the ground support for funding of the RecFIN and the ComFIN. It was concluded that the request for funding would be contingent on the NMFS getting increased appropriations from Congress in the 1995 budget cycle. If that happens, and funds trickle down to the Southeast Region, they believe that it will be possible to fund the administrative activities of both groups. At the present time, there is optimism for receiving increased funding. Lazauski indicated that the next step is to get increases in operational funds to allow the states to become more involved in recreational fisheries data collection activities.

L. Kline indicated that the Atlantic States Marine Fisheries Commission (ASMFC) had held a statistics policy meeting during which the South Atlantic Statistics Committee discussed the GSMFC RecFIN Administrative Proposal. She indicated that there is some concern within the ASMFC that funding would be

provided under the proposal to the GSMFC to administer activities of the South Atlantic states, who are members of the ASMFC. Lukens pointed out that he had brought the issue up before the entire RecFIN Committee and there was unanimous agreement that the GSMFC should take the lead in coordinating and administering the RecFIN, and that a proposal for administrative funding should be developed. Lukens indicated that he would talk to Jack Dunnigan and determine if there are potential problems, and, if so, how to overcome them.

**Meeting with Director Schmitten**

Lukens informed the Subcommittee that the GSMFC will be holding their Annual Spring Meeting the week of April 4, 1994, in Biloxi, Mississippi. He indicated that during that meeting, NOAA Assistant Administrator for Fisheries, Rollie Schmitten, will be participating in that meeting. A separate meeting is being planned with Mr. Schmitten, Andy Kemmerer, Brad Brown, Dan Furlong, all representing the NMFS, and Larry Simpson, Ron Lukens, and Dave Donaldson representing the GSMFC and RecFIN. Lukens pointed out that he intends to present Mr. Schmitten with a full overview of the activities and accomplishments of both the RecFIN(SE) and the ComFIN during the meeting, and discuss the possibility of administrative funding from the NMFS for these activities.

**Next RecFIN Committee Meeting**

Lukens and D. Donaldson suggested to the Subcommittee that the next meeting of the RecFIN Committee, slated for the week of September 26, 1994, should be held in St. Petersburg, Florida. The Subcommittee agreed with that location and indicated that Donaldson should proceed with making the appropriate arrangements.

There being no further business, the conference call was adjourned.

Tom Wagner
10-18-94

**TCC CRAB SUBCOMMITTEE**
**Minutes**
**April 4, 1994**
**Biloxi, Mississippi**

Tom Wagner, Chairman, called the meeting to order at 8:20 a.m. The following were in attendance:

Members
Vince Guillory, LDWF, Bourg, LA
Tom Wagner, TPWD, Rockport, TX
Harriet Perry, GCRL, Ocean Springs, MS
Steve Heath, AMRD, Dauphin Island, AL
Phil Steele, FMRI, St. Petersburg, FL

Staff
Rick Leard, IJF Program Coordinator
Cindy Bosworth, IJF Staff Assistant

Others
Charles Moss, Marine Advisory Service, Angleton, TX

Adoption of Agenda

Agenda item 4 (state reports) was rearranged so that Florida and Mississippi would report last. The remainder of the agenda was adopted as presented.

Adoption of Minutes and Meeting Summary

The minutes of the meeting held March 16, 1993, in Palm Beach, Florida, were adopted as presented. The meeting summary from the meeting held October 19, 1993, in San Antonio, Texas, was reviewed and accepted as an official record of the meeting.

State Reports

**Alabama** - Steve Heath reported for the state of Alabama. Preliminary landings data are not available. He noted that complaints on undersized crabs continue. A main problem in the fishery continues to be user conflict. A conflict moderator, Steve Thomas from the University of South Alabama, has been brought in to help facilitate a series of workshops. These workshops are being held to help alleviate user conflicts.

**Louisiana** - Vince Guillory reported that preliminary landings for 1993 are 45 million pounds which is down from a record in 1989 of 53.4 million pounds. License sales have stabilized since the rapid increase in the 1980s. Conflict problems continue between crab fishermen and shrimp fishermen in Sabine Lake. The Louisiana Crab Task Force continues to be active, meeting four to five times a year. Several research projects are underway including a project which looks at long-term trends of juvenile recruitment and an escapement project which determined escapement by size of ring. A future project may be crab trap color, and it was noted that crab fishermen prefer red. Several handouts were distributed including "A Biological and Fisheries Profile of the Blue Crab, *Callinectes sapidus*," "An Evaluation of Different Escape Vents in Blue Crab (*Callinectes sapidus*) Traps," "Effects of Escape Vents on Catch Rates of Premolt Blue

Crabs (*Callinectes sapidus*)," "An Evaluation of Escape Rings in Blue Crab Traps," and "Ghost Fishing by Blue Crab Traps."

**Texas** - Tom Wagner reported on five new regulations pertinent to the blue crab fishery. These include a rule change to reduce the number of crab traps a person may use for commercial (300 to 200) and non-commercial (300 to 3) purposes, a rule addition designed to stipulate minimum spacing of 100 feet for crab traps fished in public waters except for traps attached to a pier or dock, a rule change to clarify definition of buoy and to disallow the use of plastic bottles of any size as crab trap buoys, a rule addition which will prohibit fishing for crabs with more than three crab traps in a portion of the San Bernard River north of the boat ramp at Bernard Acres, and a rule change which will omit the previously repealed Parks and Wildlife Code chapter designation and which will clarify and simplify the Proclamation. T. Wagner reported that preliminary landings for 1993 were 5.7 million pounds down from a peak of 11 million pounds in 1987. Noted projects include fishery-independent monitoring trends and an industry salt-box catch separation procedure effect on bycatch survival.

**Mississippi** - Harriet Perry noted that Mississippi's fishery is basically a cottage industry and probably has the lowest landings of the Gulf States. Projects include a three year megalopal settlement that includes daily sampling and effects of calcium concentration in seawater on exoskeletal mineralization in the blue crab.

**Florida** - Phil Steele reported on Florida regulations pertinent to the blue crab fishery. These included the use of three escape rings (2 3/8"), degradable escape panels, and in 1995 licensing only of fishermen who make 25% of their income or at least $5,000 from the fishery. Gear conflict continues to be a problem. Zones have been established (e.g., crab fishing is allowed, shrimp fishing is not). Several publications were distributed including "Population of the Blue Crab, *Callinectes sapidus* Rathbun, in a Subtropical Estuary: Population, Structure, Aspects of Reproduction, and Habitat Partitioning" and "Stock Assessment Profile for the Blue Crab Fishery of the Southeastern United States and the Gulf of Mexico."

*Menippe adina* Profile - Update on Funds for Printing

Rick Leard reported that comments on the profile had been received from T. Wagner and V. Guillory. He stated that the profile will be edited and published as soon as funds are available.

Election of Chairman (deferred from 10/19/93)

It was the consensus of the committee that Tom Wagner continue as chairman until the regularly scheduled election to be held in New Orleans at the Fall Meeting.

**There being no further business, the meeting was adjourned at 11:05 a.m.**

Gary D. Tilyou
10/17/94

**TCC ANADROMOUS FISH SUBCOMMITTEE**
**MINUTES**
**Monday and Tuesday, April 4-5, 1994**
**Biloxi, Mississippi**

Chairman Gary Tilyou called the meeting to order at 1:07 p.m. The following were in attendance:

Members
Douglas J. Frugé, USFWS, Ocean Springs, MS
J. Alan Huff, FDEP, St. Petersburg, FL
Charles Mesing, FGFFC, Tallahassee, FL
Larry Nicholson, GCRL, Ocean Springs, MS
Tom Serota, USFWS, Corpus Christi, TX
Terry D. Stelly, TPWD, Port Arthur, TX
Gary Tilyou, LDWF, Baton Rouge, LA

Staff
Ron Lukens, Assistant Director
Nancy Marcellus, Administrative Assistant

Others
John Bardwell, USFWS, Washington, DC
John Brown, USFWS, Atlanta, GA
Jerry Mambretti, TPWD, Port Arthur, TX
Larry Shannon, USFWS, Washington, DC
Walter Tatum, ADCNR, Gulf Shores, AL

Adoption of the Agenda

The agenda was adopted as presented.

Approval of Minutes

The minutes of the meeting held October 19, 1993 in San Antonio, Texas were approved as presented.

1994 GSMFC Sport Fish Restoration Administrative Program

R. Lukens reported that funding for the 1994 administrative program was received in January. Focus for 1994 will be on getting 300 additional striped bass samples to Ike Wirgin, New York University Medical Center, for DNA analyses. Sample shipping protocol will remain the same as last year - contact Wirgin before shipping, and use a 6-12 quart cooler with at least 50% dry ice. Lukens also asked that each Subcommittee member let him know how many samples are shipped.

Additional activities for 1994 will be discussed under other agenda items.

Status of Proposed Pearl River Dredging Project

R. Lukens and D. Frugé reviewed various letters commenting on the Environmental Impact Statement (EIS) regarding the West Pearl River Navigation Project as well as the Corps' responses to those letters. Copies of letters and comments were distributed to the Subcommittee.

* After much discussion A. Huff made a motion that the Subcommittee recommend to the TCC that the Commission write another letter stating that the Gulf States Marine Fisheries Commission strongly opposes the implementation of the West Pearl River Navigation Project because of its negative impacts on sturgeon and striped bass. The motion was seconded by T. Serota and passed unanimously.

Gulf Sturgeon Recovery Plan

R. Lukens reported that he had just attended the last Recovery Team meeting last week. Comments from the public review were addressed at that meeting. The primary changes were made in the section containing the short and long-term objectives and the step-down narrative (copy of this section distributed to the Subcommittee). Recommendations resulted in the following changes and language:

* p.10 - add that the Louisiana Department of Wildlife and Fisheries is conducting a radio-tracking project on Gulf sturgeon in the Pearl River
* p.87 - change Bonnie to Veronica
* p.50 - at Eisler, take out comma after R.
* p.51 - at Johnson, take out comma after W.L.

## II. RECOVERY AND FISHERY MANAGEMENT

OBJECTIVES AND CRITERIA

Objectives constitute those results that are desired to be attained through implementation of the Recovery Plan. Criteria are those factors that define how attaining the objective will be pursued, and what will constitute having attained the objective.

1. Short-term Objective: The short-term objective is to prevent further reduction of existing wild populations of Gulf sturgeon within the subspecies' range.

   Criteria:

   A. Management units will be defined on a river drainage basis, but may also incorporate genetic affinities among populations in different river drainages.

   B. A baseline population index for each discrete management unit will be determined by fishery independent catch-per-unit-effort (CPUE) levels.

   C. Change from the baseline level will be determined by fishery independent CPUE over a three to five year period. This timeframe will be sufficient to detect a problem and to provide trend information. The data will be assessed annually.

   D. The short-term objective will be considered achieved for a management unit when the CPUE is not declining (within statistically valid limits) from the baseline level. This objective will apply to all management units

within the range of the subspecies. Ongoing recovery actions will continue and additional actions will be initiated as needed.

2. Long-term Objective A: The long-term recovery objective is to establish population levels that would allow delisting of the Gulf sturgeon in discrete management units. Discrete management units could be delisted by 2023 if the required criteria are met. While this objective will be sought for all management units, it is recognized that it may not be achievable for all management units.

Criteria:

A. The timeframe for delisting is based on known life history characteristics including longevity, late maturation, and spawning periodicity.

B. A self-sustaining population is one in which the average rate of natural recruitment is at least equal to the average mortality rate over a 12 year period (which is the approximate age at maturity for a female sturgeon).

D. This objective will be considered achieved for a management unit when the population is demonstrated to be self-sustaining and efforts are underway to restore lost or degraded habitat.

3. Long-term Objective B: This is a long-term fishery management objective to establish, following delisting, a self-sustaining population that could withstand directed fishing pressure within discrete management units. Note that the objective is not necessarily the opening of a management unit to fishing, but rather, the development of a population that can sustain a fishery. Opening a population to fishing will be at the discretion of a state(s) within whose jurisdiction(s) the management unit occurs. As with Long-term Objective A, this objective may not be achievable for all management units, but will be sought for all units.

Criteria:

A. All criteria for delisting must be met.

B. This objective will be considered attained for a given management unit when a sustainable yield can be achieved while maintaining a stable population through natural recruitment.

C. Particular emphasis will be placed on the management unit that encompasses the Suwannee River, Florida, which historically supported the most recent stable fishery for the subspecies.

These objectives and criteria are preliminary. After better identification of population status and evaluation of the habitat's ability to support self-sustaining populations, these objectives and criteria may be revised. The criteria stated above will be more quantitatively defined through identification of management units and through population assessments in those individual management units.

* A. Huff made a motion to approve the Gulf Sturgeon Recovery Plan with some editorial changes and recommend that the TCC approve it and forward it through the State-Federal Fisheries Management Subcommittee for adoption by the Commission. C. Mesing seconded the motion which passed unanimously.

1994 *Morone* Workshop Discussion

C. Mesing explained that much of the recent workshop was spent on determining the definition of the Gulf striped bass which will be discussed under the next agenda item.

The workshop focused on an agreement among the states of Alabama, Florida, and Georgia to meet during the summer of 1994 to develop goals and objectives for striped bass restoration in the Apalachicola-Chattahoochee-Flint (ACF) river system. Stocking numbers were also developed for the ACF system with the largest request being from Florida for 100,000 Phase 2 fish for Apalachicola Bay.

Mesing also reported that results for year 5 of the Lake Talquin study were not available for the workshop or at this time. Results are expected by June and will be reported at the next meeting in October.

Definition of Gulf Striped Bass

Mesing reported that until preserved fish from 1957-60 are analyzed, the Gulf striped bass will be defined on the basis of restriction enzyme XBa2. After results from Ike Wirgin's DNA work is completed, there will likely be better information on which to base a definition. The Subcommittee elected to table the issue pending completion of Wirgin's work.

USFWS Gulf Striped Bass Funding Initiative and MOU

D. Frugé reviewed a draft funding initiative for developing support for Gulf striped bass restoration. A major focus of the initiative would be expansion of fry and fingerling production, but would also encompass other work by state and federal entities. John Brown pointed out that since the FWS Fiscal Year 1995 budget was probably "locked in" at this point, it was not realistic to expect any results next year. However, Frugé indicated that he would follow through with the effort for subsequent years and solicited comments from the Subcommittee.

Frugé mentioned that he would be working on a cooperative agreement between all of the Gulf States and the U.S. Fish and Wildlife Service. He will contact each individual state Subcommittee member on specific language. It is his hope to have this document done by the end of the year and will aim for completion by the October meeting.

Striped Bass DNA Survey and Database

R. Lukens asked that each state work on getting 60 striped bass samples for DNA analysis so the overall goal of 300 samples is met. He also advised that if one state was unable to meet the 60 samples, to let him know in the event another state could send additional samples.

Lukens asked for the following data elements for each sample that was submitted for DNA analysis:

1) Mitochondrial DNA analysis
2) Nuclear DNA analysis
3) Type of sample (blood, tissue, etc.)

4) Date of collection
5) Location of collection (basin)
6) Total length (mm)
7) Weight (g)
8) Lateral line scale count (left side)
9) Sex
10) Age (otolith)
11) Collected by angler or biologist

Gulf Sturgeon DNA Survey

D. Frugé distributed a handout on sturgeon samples collected and analyzed from various river systems across the Gulf. The strategy behind this survey is to determine how to recover and manage Gulf sturgeon. He discussed the most recent results of the Gulf Sturgeon mitochondrial DNA analyses being done by Dr. Ike Wirgin, which indicated evidence for eastern, central, and western subpopulations of Gulf sturgeon. The subcontract with Ike Wirgin, New York University Medical Center, to analyze these samples will end in September of 1994. Wirgin suggested that additional funds be sought since he feels that the goals may not be achieved by September 1994.

Allocation of Gulf Race Striped Bass

D. Frugé reported on the rationale used in developing 1994 Gulf striped bass fry allocation priorities (beyond the needs for the ACF system). Frugé also volunteered to develop a more objective method for determining these priorities next year for consideration by the Subcommittee at the Fall 1994 meeting.

T. Stelly stated that Texas is interested in obtaining Gulf striped bass. He noted that they do not believe they will have a reproducing population in either of the reservoirs, but do believe they have the capability to produce large fish for future broodstock.

Striped Bass Stocking in Toledo Bend and the Sabine River

T. Stelly expressed an interest in Texas being included in this study with Louisiana and the desire to know the genetic make-up of previously stocked fish. G. Tilyou advised that he would contact Stelly in the near future to discuss this matter.

Status of State Projects

Texas - T. Stelly reported a couple of events that have taken place this year with existing populations in Texas. The first event was the capture of the first juvenile fish in a bag seine effort in Upper Galveston Bay, one bay system over from the Trinity. Fingerlings were stocked in the Upper Trinity Bay area. Since the Trinity and Galveston Bays adjoin each other, it is questioned whether the fish actually swam into Galveston Bay. This needs to be addressed.

The other event was the recovery of the first tagged fish that had migrated from the Bay to below Lake Livingston Dam. Quite a few tagged fish have migrated from below Lake Livingston Dam to the Bay, but the reverse had not been documented until recently. Recent regulations banning gill nets statewide could be a factor.

One million fingerlings are being requested for stocking this year. Texas is currently in the process of renewing their permit with the FDA for tetracycline marking and hopes to mark 300,000 fish

this year. The two primary systems for stocking this year will continue to be the Trinity and the Sabine River.

Florida - C. Mesing reported most of Florida's activities under other agenda items. He added that he will continue working on the Lake Talquin data. He also noted that a record striped bass was caught this year in Florida weighing 42 lbs. 4 oz.

U.S. Fish and Wildlife Service - D. Frugé updated the Subcommittee on the Sabine River Radio Telemetry Study. He indicated that John Forrester had recently conducted an aerial survey but was unable to locate any of the fish due to transmitter battery expiration. A final report should be available late this year.

Frugé also indicated that he still intends to distribute a Gulf anadromous fish restoration newsletter in partnership with the Commission (as discussed at the GSMFC Spring Meeting) despite lack of specific funding. Time constraints had forced a delay but, he hopes to have the first issue available this fall.

Mississippi - L. Nicholson reported that they had received fish from the Blackwater hatchery this past year. Fry from two different broodfish were kept separate and handled in the same way. Fry survival from one fish was 8.5% while survival for the other was 46%. Phase 1 survival was good, and survival of Phase 2 was not statistically different. Starting with 500,000 fry, a total of 150,386 63-day old fingerlings were harvested. From 220,000 Phase 1 fish, 16,237 high quality Phase 2 fish were harvested and tagged. The tagged fish were released in the Pascagoula and Pearl Rivers. Egg and larval sampling is currently under way and will continue through April. Juvenile sampling will begin during the summer.

A new state record was established this past year with the capture of a 37-1/2 lb. striped bass. Quite a few large fish are being caught in the Lower Pascagoula River and it is Mississippi's goal to be able to spawn their own broodfish within the next few years.

Louisiana - G. Tilyou reported that Louisiana had a $9,100.00 project with National Marine Fisheries Service last year to do anadromous work. They were unable to fulfill their obligations and are returning that money. Egg and larval sampling as well as fingerling sampling were not conducted last year due to high river stages.

Tilyou also mentioned that work is continuing on their pallid sturgeon project.

Other Business

G. Tilyou indicated that the Subcommittee would find a copy of the proposal "Location and Identification of Thermal Refuges for Striped Bass" in their package. R. Lukens asked that the Subcommittee review the proposal and get editorial changes to him so he can proceed with obtaining funding for the project.

A. Huff presented a copy of a legislative report developed by the Florida Department of Environmental Protection, February 1994, entitled "Legislative Report - Marine Fishery Stock Enhancement and Hatchery". Contact A. Huff for additional copies.

D. Frugé reported that the new FWS Director has embraced an "Ecosystem Approach" as the way the FWS will do business in the future. In principle this means a change from the generally "single-species" focus of the past. Funding and actions will be generally based on a system of watershed-defined ecosystem units. In practice it will mean greater coordination and cooperation among FWS divisions and

programs as well as increased emphasis on partnerships with other agencies and organizations, such as the Gulf States Marine Fisheries Commission.

**There being no further business, the meeting adjourned at 11:52 a.m.**

**DATA MANAGEMENT SUBCOMMITTEE**
MINUTES
Tuesday, April 5, 1994
Biloxi, Mississippi

Chairman Skip Lazauski called the meeting to order at 9:10 a.m. The following members and others were present (please note that there was no Data Management Subcommittee NMFS representative at the meeting):

Members
Steven Atran, GMFMC, Tampa, FL
Page Campbell, TPWD, Rockport, TX
Skip Lazauski, ADCNR, Gulf Shores, AL
Joe O'Hop (proxy for F. Kennedy), FMRI, St. Petersburg, FL
Judd Pollard, LDWF, Baton Rouge, LA
Tom Van Devender, BMR, Biloxi, MS

Staff
Ron Lukens, Assistant Director
David Donaldson, SEAMAP Coordinator

Others
Harry Blanchet, LDWF, Baton Rouge, LA
Ed Irby, FDEP, Tallahassee, FL
John Merriner, NMFS, Beaufort, NC
Frank Patti, GSMFC, Belle Chasse, LA
Corky Perret, LDWF, Baton Rouge, LA

Adoption of Agenda

The agenda was approved with the addition of a discussion of Establishment of Grid Codes Outside of the Current Zones under CSP/ComFIN Discussion.

Approval of Minutes

The minutes of the meeting held October 19, 1993 in San Antonio, Texas were approved as written.

State/Federal Reports

Florida - E. Irby reported that it appears that the net ban issue will be on the ballot in November 1994. Presently, the petition for placing this issue on the ballot is shy of two districts but these districts should be obtained later this year. This issue affects state waters and if passed, would remove all entangling nets and certain shrimp trawls from these waters. There has been discussion concerning compensation for the effected fishermen. Approximately 6,000 people will be directly impacted if this issue passes. Although other groups such as fish house owners, wholesale dealers, and retail markets will not be directly affected, there is some discussion about providing compensation for these groups, too. If this issue passes, it will cause a ripple effect throughout the Gulf of Mexico. In an effort to curb this effect, Florida is trying to limit the impacts on other fisheries by imposing certain rules to regulate the number of gear, licenses, people, etc. on these fisheries.

J. O'Hop stated that Florida is currently one of only four states which uses a trip ticket system. North Carolina, Virginia and Connecticut also use this system and South Carolina is examining the possibility of implementing one. He reported that the NMFS-NE has implemented a new log book system, however, did not inform the fisheries participants that they were implementing it. This has caused a multitude of problems within the states and shows the need for all participants to be directly involved throughout the design of such a system.

J. O'Hop reported that there have been some turtle catches and deaths on the east coast of Florida and the pompano fishermen have been implicated. FDEP and NMFS have been accused of not enforcing parts of the Endangered Species Act. So, Florida and NMFS have implemented an observer program to address this issue. This program is looking at how the fishery operates, looking at any catch of turtles, and looking at what was being caught in the nets and what was being discarded. To date, there has been approximately 20 observer trips and no turtles have been captured. Also, there is some fishery-independent sampling occurring in conjunction with this study. There is a backlog of the trip ticket system. However, the data can be obtained within three weeks after it is received but it has not been thoroughly reviewed and edited. There is legislation which will create permit areas for artificial reefs off the Florida panhandle area that mimics the permitting areas off Alabama. There will be three large areas consisting of approximately 50 square miles. The sites will be off: Pensacola, Panama City and Destin. These areas will be entirely in federal waters.

Louisiana - J. Pollard reported that there is still no money for the trip ticket program. Louisiana is continuing to collect monthly landings. There are only two port samplers for the entire Louisiana coast. The Louisiana Department of Wildlife and Fisheries has received a new adjunct to the VAX 6410 which is extremely fast and powerful.

Mississippi - T. Van Devender reported that Mississippi continues TIP and commercial sampling. Since the snapper season opened, BMR is concentrating on snapper landings in Jackson County. Last year, Mississippi implemented a saltwater recreational license and sold 35,000 licenses. There is still a 35,000 pound quota on red drum in Mississippi which was met in January 1994. There is a state bill which would remove the Bureau of Marine Resources from the Department of Wildlife, Fisheries and Parks and create the Department of Marine Resources with its own commission. Some of the rationale for this move is to get the control of marine interests back to personnel who understand marine issues. The commission will have seven members comprised of representatives from commercial fishing, seafood processing, recreational fishing, charterboat owners, environmental organizations, any unrelated field, and the current member of the Wildlife, Fisheries and Parks Commission from the coast. Funding for the new agency will come from money generated from licenses, fines, fees, etc. and the tidelands fund. The tidelands fund is money the casinos pay for existing on water bottoms, almost like a rent. Mississippi has a trip ticket system for oysters and has harvested 141,000 sacks. It should be closed by the end of April 1994. The ban the nets issue was also discussed in the Mississippi legislature but it was never introduced and a bill that would make red drum a gamefish was introduced but was not passed.

Texas - P. Campbell reported that Texas has changed their regulations concerning shrimping and recreational fishing. Shrimping will be allowed from sunrise to 2:00 p.m. from April 1 to August 14 in inshore waters. And the offshore closure has been extended to 75 days. Texas has implemented trophy tags for red drum and tarpon which allow someone to take one oversized fish (over 30 inches for red drum and 81 inches for tarpon) and the red drum tag is free while the tarpon tag costs $100. For blue crab, the new regulations reduce the number of traps from 300 to 200 for commercial fishermen and 300 to 6 traps for recreational fishermen. All of these regulations will take effect starting September 1, 1994. As a result of all the new shrimp regulations, Texas is conducting a paired trawl survey which will compare the different mesh sizes and is continuing to conduct the bycatch study. Last year, sampling was conducted in the lower Texas bay systems and this year sampling will be conducted in the upper bay systems. Preliminary results show that bay shrimpers do not catch as much bycatch as the gulf shrimpers. Texas Parks and Wildlife Department is continuing to transfer to the M204 system. This system is for easier on-screen data editing.

Alabama - S. Lazauski reported that Alabama is examining the use of military tanks as artificial reefs. An initial study will be conducted using two groups with a group consisting of three tanks. After the initial study, several hundred more may be placed in Alabama's permitted areas. There will be several artificial reef workshops held to discuss the protocols for using certain materials as reefs. Alabama is in the second year of their marine recreational fishing license. During the first year, a total of 33,000 licenses were sold and the break-even point has been reached. There are a variety of licenses available such as resident, non-resident, trip, and pier. Alabama has two port agents, in addition to one NMFS agent to conduct CSP sampling. S. Lazauski is working on getting adequate computers for the entry of commercial data. Alabama may begin using GIS. Bishop State University (BSU) has secured a grant to set up a GIS. BSU has offered that any agency desiring to use the system can use it after hours. The only cost would be for personnel time and supplies. In addition, BSU is also conducting a GIS certification course which will designate all the participants as GIS-certified. S. Lazauski stated that the Subcommittee may want to establish a GIS work group.

GMFMC - S. Atran reported that the Council has established a computer bulletin board system (BBS) and have been operating approximately 3 months. There are several different types of information available from the BBS. The Reef Fish Amendment 9 was approved at the last Council meeting. It is a data collection amendment to the reef fish fishery. It helps the Council evaluate the red snapper effort management proposal such as an ITQ system. It will collect information from fishermen on their red snapper landings from 1990-1992.

S. Atran stated that there has been a couple of emergency regulations recently submitted to NMFS. The first one deals with fish traps. In 1992, the Council implemented a moratorium on the reef fish fishery and established a cut off date to qualify as reef trap fishermen. Due to delays in implementing the moratorium, a number of fishermen entered the fishery without knowledge of the impending moratorium. The emergency action modifies the cut off date to include those fishermen and establishes an appeals board to hear cases concerning qualification of reef trap fishermen. The other action request deals with live rock harvest. The request would prohibit the harvest of live rock north and west of the Hernado/Pasco County lines and the use of power tools. Last year, the Council asked NMFS to begin requiring 100 percent coverage of logbooks for the reef fish fishery. There are three fisheries which currently use logbooks: reef fish fishery, large pelagic fishery (swordfish), and shark fishery. There is a generic trap definition amendment which came about due to problems in trying to enforce fish trap regulations. This new definition will eliminate intentional bycatch of reef fish. This issue should be going to public hearings later this year. There is an impending request from Alabama to establish several areas in their waters as special management zones (SMZs). The monitoring team for SMZs has been expanded to include the GSMFC Artificial Reef Subcommittee (formerly the Recreational Fisheries Management Subcommittee). Currently, there is a meeting being conducted at the Council office to address social and economic data needs.

Recreational Fisheries Information Network (RecFIN)

Chairman Lazauski introduced the issue of the states having the opportunity to conduct the intercept interviews for the NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) as a function of the RecFIN(SE). It is broadly understood that the MRFSS is a major component of the RecFIN(SE), and as such, formulates the base through which states could cooperate to collect and manage marine recreational fisheries data.

Lukens pointed out the handout in the Subcommittee packet, which is a proposal from KCA for the GSMFC and the States of Louisiana, Mississippi, Alabama, and Florida to subcontract to KCA to coordinate and collect the intercept data. Lukens pointed out that the proposal is out-dated, but does provide the general intent of KCA. In reviewing the proposal, it was generally considered to be insufficient in funds supplied to each state to perform the intended functions. There was general agreement to not support the proposal.

Lukens asked each state representative on the Subcommittee to explain their current position regarding the issue of conducting the intercept interviews for the MRFSS. Florida indicated that they are interested ultimately in conducting the interviews; however, there are several points that need to be cleared up before that would happen. For instance, they are interested in clearing up questions related to effort estimation. Alabama is currently rethinking the issue and is not in favor of going forward on the issue at the present time. Mississippi is ready to cooperate; however, there remains the issue of effort estimation, which is different in the ongoing Mississippi survey from the MRFSS. Louisiana is interested in cooperating with the MRFSS if the question of funding can be resolved. Lukens stressed that because the states are not in agreement on how to proceed, or whether or not to proceed, it would be ill advised to continue to pursue this issue. He suggested that perhaps the technical issues, particularly the effort estimation issue, could be addressed through the RecFIN(SE) Committee in hopes that agreement on those issues could clear the way to full cooperation in the MRFSS. That approach was generally accepted.

A general discussion revealed that the Subcommittee is in agreement that if a state does not cooperate in the MRFSS, any surveys conducted independently in a state should be compatible with the MRFSS so that it would avoid duplication of effort and provide data which could be used regionally. The RecFIN(SE) is the umbrella under which such actions would take place. J. O'Hop indicated that the State of Florida is planning to investigate other effort estimators through a pilot study. To date, funding has not been forthcoming. He indicated that there are other issues that may affect the state's potential involvement in the MRFSS. One is the net ban issue. He expects several articles to be released in fishing magazines that will be critical of Florida's reliance on the MRFSS data for the regulatory actions that are being considered. This pressure may force the state to become involved in the survey, but conduct additional work to enhance the data that are available. Another of Florida's concerns is that they want to implement whatever measure is ultimately agreed upon on the Florida east coast as well as the Gulf coast. General discussion on this issue continued, pointing out North Carolina's success story in subcontracting to KCA, among other issues.

Chairman Lazauski asked Lukens to briefly update the Subcommittee on progress of the RecFIN program evaluation. Lukens indicated that Churchill Grimes, President of the Marine Fish Section of the American Fisheries Society, has agreed to take the lead in formulating a program review panel and will attempt to get some funding to help support required travel for those panel members. He indicated that the RecFIN Administrative Subcommittee had met via conference call and agreed that this is the preferred direction to recommend to the full RecFIN Committee. The Subcommittee agreed. Lukens also informed the Subcommittee that the RecFIN Administrative Subcommittee had discussed the next meeting location for the RecFIN Committee, and came up with the recommendation of St. Petersburg, Florida. The Subcommittee agreed.

CSP/ComFIN Discussion

a. CSP Framework Plan and MOU Status - Lukens indicated to the Subcommittee that the Framework Plan for the State-Federal Cooperative Statistics Program (CSP) and the accompanying MOU, both of which set up the new organizational structure, have been fully approved and signatures of all partners obtained, including Dr. Andy Kemmerer and Dr. Brad Brown. Lukens then explained to the Subcommittee that having completed the CSP Framework Plan and MOU, the CSP Committee will now begin to formally develop and seek approval of companion documents for the Commercial Fisheries Information Network (ComFIN), recalling the concern on behalf of the South Atlantic States that action be taken to improve the CSP before entering into a new program.

In reality, ComFIN will not be a new program, rather it should be an expanded program with the CSP as a base component, similar to the relationship of the MRFSS to the RecFIN(SE). Lukens further clarified that the impending signing of a ComFIN MOU would not negate the CSP MOU, but would establish a broader organizational structure through which the CSP goals and objectives can be achieved.

b. Adoption of ComFIN Whitepaper - Lukens presented the final version of the proceedings of the February 1993 ComFIN workshop for consideration for adoption by the Subcommittee. Lukens explained that all participants had had an adequate opportunity to review and provide comments regarding the paper, and that all substantive changes had been made. The Whitepaper sets the stage for developing ComFIN, providing a broad set of goals and objectives and several recommendations for taking the next step. If the Subcommittee adopts the Whitepaper, it will form the basis for future action on ComFIN.

* Following some discussion, it was pointed out that the footnote referenced on the first page had not yet been included. Lukens stated that he would make that correction before putting a cover on the document. **T. Van Devender made a motion to adopt the ComFIN Whitepaper. The motion was seconded and passed unanimously.**

c. Processed Products Reports - The dealer numbers for the Processed Products Reports for the CSP are supposed to correspond to the fish codes; however, this is not the case. Somehow different codes are used. Lazauski indicated that he feels that "dead dealer" (a dealer who has gone out of business) codes are being assigned to dealers who have different finfish codes. No one yet knows why this is being done. Some discussion ensued regarding this issue, and a recommendation was made to bring the issue before the CSP Committee at the next CSP/ComFIN meeting. The Subcommittee agreed with that approach.

d. Grid Codes - Lazauski pointed out that there is a royal red shrimp fishery that operates out of Alabama, but the fishery is prosecuted outside of any NMFS water body codes. He is asking that the Subcommittee, through the CSP/ComFIN process, address the problem of non-existent codes for this fishery, and possibly the red and golden crab fisheries. The Subcommittee agreed.

e. Coast Guard Vessel Identification Numbers - Lazauski informed the Subcommittee that the U.S Coast Guard is now issuing seven digit vessel identification numbers. The problem with that is the field for entering vessel identification numbers allows only six digits. He asked that the Subcommittee, through the CSP/ComFIN process, address this issue and formulate a recommendation to send to the Coast Guard, or to the NMFS for some resolution of the issue. The Subcommittee agreed.

f. Administrative Funding for RecFIN/ComFIN - Lukens handed out a preliminary proposal for administrative funding for RecFIN and ComFIN. He pointed out that it is only a thinking and discussion proposal at the present time, and is not designed to seek endorsements from anyone for the concept. The proposal provides funds for staffing and travel for the participants in the two programs. He pointed out that preliminary discussions had been held with the NMFS Southeast Regional Office and the Southeast Fisheries Science Center in Miami, and that the concept was supported. There will be a good chance of getting funding for 1995 if President Clinton's budget for the NMFS is passed by Congress. Lukens also informed the Subcommittee that a report to Dr. Kemmerer, prepared by Dr. John Merriner, supported the concept of ComFIN as the direction for the future of fisheries statistics, recognizing that statistics programs were going to have to be state-federal cooperative in nature, because no agency, state or federal, can do an adequate job on their own.

Data Confidentiality

a. Status of Florida - Ed Irby reported that there is language attached to a bill that has a good chance of passing that will provide the opportunity for the State of Florida to become signatory to the GSMFC Confidentiality Memorandum of Agreement (MOA).

b. MOA and NOAA Administrative Order 216-100 - Lukens explained that the NOAA Administrative Order 216-100 deals with how to handle confidential data that are collected under the authority of the National Marine Fisheries Service. Lukens went through the document, point by point,

where there were passages relevant to the GSMFC MOA. His interpretation was that 216-100, if finalized, was compatible with the MOA. The only requirement may be that confidential agents in the states, as identified through the GSMFC MOA process, may have to sign a statement of non-disclosure for the NOAA/NMFS. Some discussion ensued regarding the Draft Administrative Order, and Lukens indicated that he would track the document and inform the Subcommittee if there were any action required.

c. Confidentiality Work Session for ComFIN - Lukens pointed the Subcommittee's attention to the worksheet of proposed items for a work session on confidentiality. He went through the items listed and how they may relate to general confidentiality, the GSMFC MOA, and the Draft Administrative Order just discussed. The following is a listing of items discussed.

1) Data confidentiality protection versus enforcement use (including information from NAO 216-100, page 16, section (d).
2) How does protecting the confidentiality of data relate to legitimate uses of confidential data?
3) Definition of data confidentiality
   a. Individuals
   b. Firms
   c. Vessels
4) What are the liabilities associated with data collection, use/misuse, distribution, etc. of confidential data.
5) Distinguish between confidentiality of data from the collection versus data management perspective.
6) Others

Discussion ensued regarding the issues listed, and confidentiality in general. It was agreed that the issues surrounding confidentiality are of a serious enough nature that a work session should be planned. The Subcommittee agreed to recommend that the CSP/ComFIN Committee work on the session at the upcoming September meeting.

GIS Symposium Proceedings

Lazauski indicated that each Subcommittee member had received a package of documents for review that are to be included in the GIS Symposium Proceedings. Since that time, Peter Rubec, TPWD, has been working to complete the Proceedings. P. Campbell reported that Rubec stated that the final draft is proceeding as expected. He has three papers that require editing, he is waiting on an introduction on another paper, and he is working on a symposium summary. Rubec indicated that the final draft of the proceedings should be ready by the end of May.

1994 Stock Assessment Training Workshop

Lukens asked the Subcommittee to begin thinking about the upcoming installment of the stock assessment training workshop. He indicated that he had budgeted for ten state personnel to attend the workshop, and wanted to determine when and where the session should be held, and what the content should address. There was general agreement that the facilities at the Florida Department of Environmental Protection are ideal for training, since there is computer equipment available to all the participants. Lukens indicated that he would be presenting the same information and opportunity for input to the GSMFC Stock Assessment Team.

a. When - Lukens recommended that the workshop be scheduled late in the year. The Subcommittee agreed that planning requirements would be easier to accomplish if the session were held during the last quarter of 1994.
b. Where - There was general agreement that if the logistics are appropriate, the facility at the Florida Department of Environmental Protection should be used.

c. Subject Matter - The "black box" syndrome was mentioned. This refers to the idea that data are plugged into the model, and an answer comes out. What happens in the middle? Also brought up is the issue of the relationship of stock assessments and fishery management decision-making. Finally, working with new models was suggested, particularly several with which Dr. Bob Muller is currently working.

Lukens indicated that he would mail out a request for input from the Subcommittee, and enclose a copy of the evaluation of the last workshop. He will also send that request to the GSMFC Stock Assessment Team. Following review of responses, he will send out alternatives to the Subcommittee and Stock Assessment Team for final selection of subject matter and place. The Subcommittee agreed.

Data Bases for Spotted Seatrout

Lukens informed the Subcommittee that the GSMFC Interjurisdictional Fisheries Program (IJF) is formulating a Technical Task Force (TTF) to begin the work of developing an interstate fishery management plan for spotted seatrout. One of the first activities of the TTF is to compile existing data bases on the species. In an effort to fully utilize the organizational structure and expertise available through the GSMFC arrangement with the states and federal agencies, the IJF Program is requesting that the TCC Data Management Subcommittee assist in identifying and compiling available sources of data and information on spotted seatrout. Since stock assessments are used to a great extent to devise management measures, it is anticipated that one of the first tasks will be to develop a stock assessment for the species in the Gulf of Mexico. Recognizing that spotted seatrout is not a truly migratory species that crosses state/state and state/federal jurisdictions routinely, the effort to develop stock assessment information may require several independent stock assessments, based on existing information relative to movement of the species. Lukens indicated that the staff will send out a memo to the Subcommittee requesting data and information on spotted seatrout.

**There being no further business, the meeting adjourned at 4:30pm.**

WBWade 10/17/94

**S-FFMC MENHADEN ADVISORY COMMITTEE**
**MINUTES**
**April 5, 1994**
**Biloxi, Mississippi**

The meeting was called to order at 1:25 p.m. by Chairman Borden Wallace. The following were in attendance:

Members
Dalton Berry, Zapata Haynie Corporation, Hammond, LA
Rick Marks, National Fish Meal & Oil Association, Arlington, VA
John Merriner, National Marine Fisheries Service, Beaufort, NC
Bill Pendleton, Gulf Protein, Inc., Amelia, LA
Jack Simpson, ABC Bait Company, Morgan City, LA
Jerry Mambretti, Texas Parks & Wildlife Department, Port Arthur, TX
Vince Guillory, Louisiana Department of Wildlife & Fisheries, Bourg, LA
Borden Wallace, Daybrook Fisheries, Inc., Covington, LA

Staff
Larry B. Simpson, Executive Director
Richard L. Leard, Program Coordinator

Others
George Brumfield, Zapata Haynie Corporation (retired), Moss Point, MS
Ed Swindell, Zapata Haynie Corporation, Hammond, LA
Joseph Smith, National Marine Fisheries Service, Beaufort, NC
William S. "Corky" Perret, Louisiana Department of Wildlife & Fisheries, Baton Rouge, LA
Frank Patti, Louisiana House, Belle Chasse, LA
Eldon J. Levi, National Marine Fisheries Service, Beaufort, NC
Bob Curry, Gulf Protein, Inc., Gulfport, MS
Richard Condrey, Louisiana State University, Baton Rouge, LA
Ed Irby, Florida Department of Environmental Protection, Tallahassee, FL
Jack Styron, Daybrook Fisheries, Inc., Covington, LA
John Barnes, AMPRO Fisheries, Inc., Weems, VA
Barney White, Zapata Haynie Corporation, Houston, TX

Adoption of Agenda

*D. Berry moved and J. Merriner seconded that the agenda be adopted. The motion carried unanimously.

Approval of Minutes

*J. Merriner moved that the October 19, 1993, minutes be approved as written. J. Simpson seconded, and the motion carried unanimously.

Discussion of FMP Update

R. Leard referred the committee to the October 8, 1993, draft of the FMP update that was distributed just prior to the October 19, 1993, meeting. He noted that he had received comments on the draft from V. Guillory, M. Buchanan, and B. Mahmoudi, and additional information from R. Condrey on

bycatch. He stated that comments from the SAT on NMFS's stock assessment had been forwarded to J. Merriner. He also stated that the plan lacked social and economic sections; updated landings with separation of bait and reduction; editorial comments; and management strategies, problems, and recommendations. He reported that a questionnaire had been developed for use by the industry in developing social and economic data.

B. Wallace suggested having a special meeting to develop and incorporate needed data and revisions to the plan. The committee also discussed the relative need for all of the social and economic information indicated in the questionnaire.

*By consensus, the committee agreed to hold a meeting at 10:00 a.m., May 18, 1994, at the LDWF offices in Baton Rouge, LA.

Report on the Effectiveness of Season Adjustments

B. Wallace asked state and federal representatives to report on any problems or other effects of the reduction season extension to November 1 of each year. It was noted that all states, except Florida which does not have a season, adopted the recommended change, and no states experienced problems as a result of the change. J. Smith reported that initial projections of increased landings were based on doubling the 5 year average landings for October (28,000 mt x 2 = 56,000 mt). He noted that reported landings were 68,000 mt. It was further noted that the effects of the extension would be monitored through future years to determine positive and negative impacts, if any.

Review of the 1994 Fishing Season Forecast

J. Smith reported that 6 plants and 56 vessels are expected to operate during the 1994 season, 4 more vessels than in 1993. Two of these vessels were primarily bait vessels that infrequently land catches for reduction. Also, Zapata Haynie-Dulac will discontinue their trial effort with 55 foot vessels and use conventional steamers in 1994.

J. Smith also noted that age 2 fish should be more abundant in 1994 catches versus 1993 because 1993 landings included larger number of age 1 fish. Based on these observations, he predicted that during the extended 28-week season (26 weeks prior to 1993) effort should be about 488,000 vessel ton weeks. With this level of effort, landings were predicted to be 588,000 mt with a four-out-of-five chance that they will be between 464,000 and 712,000 mt.

V. Guillory noted that Louisiana's projections were based on environmental conditions and juvenile indices from 1993 and 1992 that were used to predict the number of age 2 and age 1 fish, respectively, entering the fishery in 1994. He noted that estimates from both years showed below average recruitment that would extrapolate to below average catches of age 1 and age 2 fish in 1994. He believed that effort would be about 10% above average and that Louisiana's landings would be between 350,000 and 400,000 mt. V. Guillory also stated that although projections are based on data from the Lake Calcasieu area, which showed below average recruitment, other areas east of the Mississippi River and between the Mississippi River and the Atchafalaya River showed above average numbers. Finally, he noted that the cold, dry winter of 1994 should result in higher recruitment in 1995.

Discussion of Bonnet Carré Freshwater Diversion Project

B. Wallace described the long history of the project which dates to the early 1970s. He noted that most recently Mississippi has fully committed match funding for the project; whereas Louisiana has not. C. Perret stated that there has been increasing opposition from environmental concern groups in the Lake Pontchartrain area. At the state level, he noted that LDWF is designated as the local sponsor, and

the department's legal aids have advised that the department cannot commit multi-year funding without a guarantee of general fund support because the department's conservation fund would be bankrupt in the event the legislature decided not to fund the project in a subsequent year. Secondly, he noted that a recent legal opinion from the state bond commission states that general fund monies cannot be used for monitoring (a necessary component of the project).

C. Perret also reported that the oyster industry, a key recipient of the projected benefits from the project, recently filed a class-action lawsuit against the state of Louisiana for damages they claim resulted from the operation of the Caernarvan diversion structure, a similar project downstream from the proposed Bonnet Carré structure. B. Wallace also expressed concern that the Caernarvon structure may impact menhaden larval recruitment to estuaries through its increasing freshwater flow during winter months. It was noted that the overall effects of either project on the menhaden fishery were unknown.

Administrative Report on Future IJF Funding

L. Simpson briefed the committee on the status of IJF program activities and funding. He noted that planning activities of the commissions were reauthorized last year at $600,000 ($200,000 for each of the three commissions). He stated that he would be working with Congress to acquire full funding in 1995.

Status of Bycatch Studies

R. Condrey stated that his bycatch study report from last year, funded by a Saltonstall-Kennedy grant, was due in mid April 1994. He noted that he would complete the report as scheduled, but additional analyses of the data were ongoing. He also described his future 2-year bycatch study being funded by MARFIN. He stated that he would be contacting the industries in the near future to set up a coordinated sampling protocol, and he suggested that it be the same as was used before unless problems were encountered.

Other Business

E. Swindell reported that the TODAY television show recently showed large numbers of dead dolphins on the Texas coast and attributed the deaths to a disease. He further stated that the disease is perhaps common in the Gulf, and deaths had been reported from Florida and other areas. He asked the committee if they had heard of these phenomena and if the disease affected other fisheries. J. Mambretti stated that such deaths have occurred in or near bays in Texas and were possibly caused by pesticides and/or disease organisms.

**There being no further business, the meeting was adjourned at 3:30 p.m.**

**TCC SEAMAP SUBCOMMITTEE**
MINUTES
Tuesday, April 5, 1994
Biloxi, Mississippi

Chairman Walter Tatum called the meeting to order at 1:27 p.m. The following members and others were present:

Members
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA
Alan Huff, FMRI, St. Petersburg, FL
Tom McIlwain (proxy for R. Waller), GCRL, Ocean Springs, MS
Joanne Shultz, NMFS, Pascagoula, MS
Walter Tatum, ADCNR, Gulf Shores, AL

Staff
David Donaldson, SEAMAP Coordinator
Cheryl Noble, Staff Assistant

Others
Ralph Allemand, LDWF, Baton Rouge, LA
Steve Branstetter, GSAFDF, Tampa, FL
Jim Clugston, USFWS, Gainesville, FL
Steve Heath, ADCNR, Dauphin Island, AL
Terry Henwood, NMFS, Pascagoula, MS
Scott Nichols, NMFS, Pascagoula, MS
Butch Pellegrin, NMFS, Pascagoula, MS
Ken Savastano, NMFS, SSC, MS
Perry Thompson, NMFS, Pascagoula, MS

Adoption of Agenda

The agenda was changed to reflect the deletion of Discussion of EMAP. It was approved as amended.

Approval of Minutes

The minutes for the meeting held on October 19, 1993 in San Antonio, Texas and the conference call held on November 10, 1993 were approved as written.

Administrative Report

D. Donaldson reported that the SEAMAP Spring Plankton survey will begin sampling on April 7 and be completed on June 10, 1994. Vessels from NMFS and Florida participate in the survey. The purpose of this survey is to assess abundance and distribution of bluefin tuna eggs and larvae in the Gulf of Mexico. The third Spring Reef Fish survey was started on May 17 and will continue into October 1993. Vessels from NMFS, Mississippi, Alabama and Florida are sampling inshore and offshore waters from Brownsville, Texas to Key West, Florida. The purpose of the survey is to assess the relative abundance and to compute population estimates of reef fish. The Summer Shrimp/Groundfish Survey will begin early June and continue until mid-July. Vessels from NMFS, Alabama, Mississippi, Louisiana and Texas will sample waters out to 50 fm from Mobile Bay, Alabama to the U.S./Mexican border. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. Also, the second year of the Comparative Tow survey is scheduled to be conducted some time during May 1994

and this will be discussed later in the meeting. The Joint Annual Report and the 1994 Marine Directory have been completed and distributed to the appropriate personnel. Anyone desiring copies of these documents should contact D. Donaldson. The NMFS is working on data for the 1992 Atlas. NMFS and GSMFC personnel should begin the review process later this month. J. Hanifen stated that Louisiana has just finished its Spring Shrimp/Groundfish Survey and has reserved the PELICAN to conduct comparative tows for the week of May 9, 1994. T. Cody noted that Texas started sampling adult finfish in March using bottom longlining and will continue into May 1994. Texas is planning to purchase the equipment for conducting the trap/video survey and should participate in the survey this year.

Comparative Tow Survey

a. Review and Analysis of 1993 Activities

B. Pellegrin presented the analysis of catches from the TOMMY MUNRO and the A.E. VERRIL. The data used in the analysis was collected from previous comparative tows and the tows conducted in 1993 during the comparative tow survey. There are some differences in vessel and gear that was used. The TOMMY MUNRO used 8x40-foot doors to spread the net and tows from an outrigger while the A.E. VERRIL used 7x36-foot doors and tows from the stern. For the analysis, the most frequently occurring species and those species which comprised at least 90% of total number of individuals caught were selected to detect differences in catch. The next step was to determine what comprised a valid observation. A valid observation was defined as a paired tow in which a species of interest was caught by each vessel. The catch rates were adjusted numbers caught/hours fished and these adjusted catch rates were subjected to simple linear regression in the arithmetic and logarithmic scales. The reasons for using the logarithmic scale were that this scale usually stabilizes unstable variances and uncovers intrinsically linear functions. Using the method described early, 22 taxa were selected and the searobins and squids had to be grouped at the generic level. It was noted that from the selected species, there was a good vertical distribution throughout the water column. The catches of the two vessels varied with one vessel outfishing the other for one particular species but not another. The TOMMY MUNRO outfished the VERRILL for 12 taxa and the VERRILL outfished the TOMMY MUNRO for 10 taxa. What this shows is that there was not a distinct pattern of one vessel outfishing the other. From the linear regression analysis, there was no significant differences for 14 of the 22 taxa. From these findings, it is probably safe to conclude that there are no significant differences between two vessels' catches. From a paired tow experiment conducted on the OREGON II, it was found that 23.4% (arithmetic); 19.1% (logarithmic) of the taxa resulted in significant differences between nets and for the TOMMY MUNRO/VERRILL, 27.2% (arithmetic); 18.2% (logarithmic) of the taxa resulted in significant differences. Thus, the number of significant differences for the TOMMY MUNRO/VERRILL is not unusual and should not be considered out of the ordinary. The conclusion from the analysis is that the TOMMY MUNRO and the A.E. VERRILL are catching the same organisms and this year's work should focus on the determination of differences between the TOMMY MUNRO and the PELICAN. B. Pellegrin stated that for the past SEAMAP information, a problem may still exist since there were gear differences between several vessels and some conversion factors may be needed. However, if the results found in this analysis continue for projected comparative tows, the information collected in the future should be comparable.

T. Henwood presented another approach to examining the comparative tow analysis. This approach looks at ranking the species by variance in numbers. Based on this ranking, it may be possible to determine which species most closely exhibit random distribution and are the best candidates for use in comparisons of net performances. If species or species complexes exhibiting least variability between nets can be identified, it may be appropriate to ignore other species if the objective of the analysis is to determine whether nets are comparable. Preliminary analyses were conducted on some OREGON II data. As expected, the most abundant schooling species exhibited the highest variances in numbers of individuals. At the lower variance levels although not as clearly delineated, are species such as lizardfish, searobins, eels, crabs, shrimps, etc., that would be expected to exhibit less variability in catch rates. If the objective is to detect differences in performance of two nets, it may be preferable to compare between

species exhibiting the least variability. Therefore, this approach may have some practical application if a standardized list of species or species complexes for use in paired tow analyses can be developed.

b. Planning 1994 Activities

W. Tatum stated that there is really no need to conduct more tows between the VERRILL and the TOMMY MUNRO as a result of the previous presentation. D. Donaldson suggested that the tows be conducted between the TOMMY MUNRO and the PELICAN. The tentative schedule for the tows is the week of May 9 and D. Donaldson will be in contact with R. Waller and J. Hanifen to firm up the times and dates of sampling. The Subcommittee accepted the action by acclamation.

Update of Shark Data in the Gulf of Mexico

D. Donaldson stated that he summarized each participants' data into simple components such as total number, species caught, gear used, etc. For Texas, 6,338 sharks were caught from 1975 - 1993. The majority of sharks were caught with gill nets. Other gears included trammel nets, drag seines, and shrimp trawls. The majority of sharks consisted of bull, blacktip and bonnethead species with other species including Atlantic sharpnose and finetooth species. For Louisiana, 1,567 sharks were caught from 1986-1993. The majority of sharks were caught in 150-foot gill net with various size meshes. Other gears include 750-foot trammel nets, and 50-foot seines. The majority of sharks consisted of the Atlantic sharpnose species. Other species included bull, blacktip, spinner, lemon, bonnethead, and scalloped hammerhead. For Mississippi, 10 sharks were caught from 1987 - 1990. All of the sharks were caught with a 36-foot trawl. And all of the sharks consisted of Atlantic sharpnose species. For Alabama, 2 sharks were caught in 1983 and 1985 and the two species caught were Atlantic sharpnose and bonnethead. For Florida, 330 sharks were caught from 1990-1992. The majority of sharks were caught in 600-foot large-mesh gill nets. Other gears include 20-foot Otter trawls and center-bag seines. The majority of sharks consisted of the bonnethead species. Others included blacktip, bull, blacknose, nurse, lemon, and scalloped hammerhead species. For NMFS, 99,657 sharks were caught from 1950 - 1992. The majority of sharks were caught in shrimp trawls. Other gears include various types of longlining, fish trawls, gill nets, and tumbler dredges. The majority of sharks consisted of Atlantic sharpnose species. Others included hammerheads, requiem and cat sharks and broadband, smooth and Cuban dogfishes. A total of 107,904 sharks have been caught from 1950 - 1993.

* W. Tatum stated that this information should be sent to S. Nichols who will forward it to B. Brown at the Southeast Fisheries Science Center in Miami, Florida. D. Donaldson stated that he will provide a more comprehensive description of the data along with copies of the actual data base files to NMFS. W. Tatum asked the Subcommittee if the participants were interested in beginning a SEAMAP shark survey if the funds were available. T. Cody stated that Texas is currently sampling with gill nets in the spring and fall and could put this activity under SEAMAP if there were additional money. However, TPWD would probably not be interested in using a new gill net sampling protocol. J. Hanifen stated that Louisiana would not be interested in initiating a new monitoring program for sampling sharks since the LDWF is strapped for personnel. If there were additional money, Louisiana might be interested in piggybacking the survey on the current finfish monitoring program. T. McIlwain said that Mississippi is interested in participating in a shark survey. W. Tatum stated that Alabama does not use gill nets during their sampling but is interested in participating in the survey. The Florida and NMFS representatives also expressed an interest in conducting this survey. The states need to send the sampling protocols for the collection of the information that was used to establish the shark data bases. T. McIlwain moved that the SEAMAP Subcommittee charge the Adult Finfish Work Group to develop a sampling protocol for a SEAMAP Shark survey. The motion was seconded and passed unanimously.

* S. Nichols stated that NOAA/NMFS have identified several areas such as sharks, deep water reefs, and oil rig resources as being high priority within the agency. J. Hanifen stated that Louisiana is interested in participating in the SEAMAP Reef Fish Survey, but the current protocol is not able to survey structures which occur throughout the water column. One of the SEAMAP work groups might be able

to develop some methodology for sampling oil and gas structures in the northern Gulf of Mexico. J. Hanifen moved that the SEAMAP Subcommittee charge the Reef Fish Work Group to develop a sampling protocol to survey natural and artificial hard bottom areas that are not currently being sampled by the SEAMAP trap/video methodology. The motion was seconded and passed unanimously.

Presentation of National Biological Survey

J. Clugston reported that the National Biological Survey is a new bureau and not part of the Fish and Wildlife Service. One of first acts of Secretary Babbitt was to create the National Biological Survey (NBS). This bureau is a reorganization of biological research from the Fish and Wildlife Service (FWS), National Park Service, Bureau of Land Management, Mineral Management Service, Office of Surface Mine Reclamation and Enforcement, U.S. Geological Survey, Bureau of Reclamation, and Bureau of Mines. The research components from each of these Department of Interior agencies were used to create the NBS. The majority of personnel were taken from Region Eight of the FWS. The reason for establishing the NBS is that for too long, resource management has been reactive in response to perceived problems rather than anticipatory of developing problems. The agency is non-regulatory and consists of four divisions: administration, research, inventory and monitoring, and information and technological services. The deputy director of the NBS is Gene Husman, the director will probably be Ron Pulliam and there are approximately 1,600 employees. The budget for the NBS in 1994 is $163 million with $134 million dedicated to existing programs. The new money ($29 million) will be used primarily for ecosystem research, biological inventory and monitoring. NBS is headquartered in Washington, D.C. and is divided into four ecoregions: eastern, southern, mid-continent, and western. There will be regional offices and in the south ecoregion, the office will be in Lafayette, Louisiana. The Gainesville Center has gone through some changes since the reorganization. The Center is responsible for species biology of endangered species, global climate changes, non-indigenous species, and aquaculture. The Manatee Project, the Everglades National South Florida project and Big Cypress National Park have been added to the Gainesville Center.

Work Group Reports

a. Data Coordinating

K. Savastano reported on the status report of 1985-1993 SEAMAP data. Data processing efforts are currently focused on the 1993 SEAMAP cruises, reprocessing 1988 Gulf cruises, NMFS summer and fall shrimp/groundfish cruises from 1982 to 1987, and start up data management operations for the Caribbean. A data entry/edit workshop for Caribbean personnel is currently scheduled for April 11 - 15, 1994 at Stennis Space Center. Processing of the 1992 SEAMAP data for the Gulf and South Atlantic is complete. Processing of the 1992 Atlas is in progress. One hundred and thirty six SEAMAP requests have been received to date. One hundred and thirty four have been completed and work is being performed on the remaining requests. Modifications to the SEAMAP ichthyoplankton module were completed and species/length data for OREGON II cruise 183 were added to the on-line data base. Ichthyoplankton species/length data from seven additional cruises are currently being processed. The SEAMAP on-line data base has 177 cruises with a total of 1,163,990 records (approximately 46 megabytes of data). Since October 1993, ten cruises have been reprocessed from the NMFS data base through version 3.0 and nineteen cruises were processed through version 3.0 and added to the on-line data base. The SEAMAP on-line data base now contains 206 cruises with a total of 1,314,960 records (approximately 51 megabytes of data).

b. Red Drum

W. Tatum reported that at the last meeting, the Subcommittee charged the Red Drum Work Group to develop a MARFIN proposal to determine the age structure of red drum in the northern Gulf of Mexico. T. McIlwain reported that the group met in January and essentially came up with two options. The first was to develop a study protocol which would determine the age and growth of red drum and

the other option was to examine just the age structure. The group discussed the latter option at the meeting and believed that this work would not answer the necessary questions. After some discussion at the meeting and several conference calls, the group attempted to develop a larger study which would examine the entire population which relies on funding from MARFIN and inkind contributions from the states. The group believed that if the effort was made to capture the fish, effort should also be expended for population analysis. The Red Drum Work Group believed that information concerning red drum is necessary and the large, complete $1.7 million red drum sampling protocol was needed and recommended that the MARFIN age structure study not be developed. The states are very interested in collecting this data and this issue will be addressed again.

c. Reef Fish

J. Shultz reported that representatives from NMFS, Alabama and Mississippi met on March 7, 1994 to discuss tape reading methodologies. NMFS personnel reported that a new data form has been developed and they are currently working on some counting methodologies concerning duplicate counting of organisms. T. Henwood noted that NMFS is preparing to conduct an experiment which should help in determining the area being surveyed by a particular tape. And during the Reef Fish Survey, NMFS is planning to use a 4-camera setup at least once a day to view 360 degrees of the survey area. D. Donaldson reported that in talking with J. Kimmel, Florida is continuing to work on the panning mechanism for the trap/video methodology and will hopefully have it for this year's survey.

Discussion of SEAMAP Joint Meeting

* W. Tatum reported that initially the Gulf component did not have enough funds to meet in St. Croix, Virgin Islands. After a phone poll (Texas, Mississippi, Alabama, and Florida voted for and Louisiana voted against), the Subcommittee agreed to defer the fall meeting and thus provide funding to meet in the Caribbean for the joint meeting. Several conference calls were conducted and the Caribbean component believed that it was necessary for SEAMAP to meet in their area. However, NMFS did not have the funding to facilitate travel to the Caribbean. W. Tatum asked S. Nichols if this was still the case and S. Nichols replied that NMFS just does not have the money to travel to the Caribbean this year. Thus, J. Hanifen moved that the SEAMAP-Gulf component propose the sites of Atlanta, GA, Miami, FL or San Juan, PR for the next Joint meeting (August 1994) to the other two SEAMAP components. The motion was seconded and passed unanimously. The Subcommittee asked D. Donaldson to set up a conference call between the three SEAMAP components, coordinators and NMFS to finalize this issue.

Other Business

J. Shultz reported that SEAMAP ichthyoplankton samples have been returned from the Polish Sorting and Identification Center and are currently being sorted at the SEAMAP Archiving Center. She noted that P. Thompson, the Environmental Data Work Group leader, was present and P. Thompson stated that the Work Group has addressed the Subcommittee's concerns and is continuing to work on the solutions. J. Shultz asked that Terry Henwood be added to the Adult Finfish Work Group and the Subcommittee concurred. She noted that a biodiversity initiative from the National Systematic Laboratory (NSL) praised SEAMAP for its careful data collection and organism identification work and NSL could be a potential source of funding for some additional SEAMAP activities.

**There being no further business, the meeting was adjourned at 5:05 p.m.**

**STATE-FEDERAL FISHERIES**
**MANAGEMENT COMMITTEE (S-FFMC)**
**MINUTES**
**April 6, 1994**
**Biloxi, MS**

L. Simpson called the meeting to order at 2:40 p.m. Without objection, he continued to serve as moderator with the following persons in attendance:

Members
William S. "Corky" Perret, LDWF, Baton Rouge, LA (proxy for Joe Herring)
John Brown, USFWS, Atlanta, GA (proxy for James Pulliam)
Walter Tatum, ADCNR/MRD, Gulf Shores, AL (proxy for Charlie Grimsley)
Ed Irby, FDEP, Tallahassee, FL (proxy for Virginia Wetherell)
Dan Furlong, NMFS, St. Petersburg, FL (proxy for Andrew Kemmerer)
Rudy Rosen, TPWD, Austin, TX (proxy for Andrew Sansom)
Joe Gill, MDWFP/BMR, Biloxi, MS (proxy for Sam Polles)
Larry B. Simpson, GSMFC, Ocean Springs, MS (nonvoting)

Staff
Ron Lukens, Assistant Director
Rick Leard, Program Coordinator

Others
John Roussel, LDWF, Baton Rouge, LA
Gene McCarty, TPWD, Austin, TX
Tom McIlwain, GCRL, Ocean Springs, MS
Tom Van Devender, MDWFP/BMR, Biloxi, MS
Henry G. "Skip" Lazauski, ADCNR/MRD, Gulf Shores, AL
Doug Frugé, USFWS, Ocean Springs, MS

Adoption of Agenda

Without objection, the agenda was adopted as presented.

Approval of Minutes

*J. Brown moved and E. Irby seconded that the October 20, 1993, minutes be approved with the clarification "that Alabama had only implemented the net mesh recommendations" of the Spanish mackerel FMP. The minutes were unanimously approved as modified.

Menhaden Advisory Committee Report

B. Wallace reported that the committee has continued to work on the revised menhaden FMP and that a working meeting was scheduled for May 18, 1994, to draft unfinished sections and review others. He stated that the committee planned to have a completed draft ready for review by the S-FFMC in October.

B. Wallace noted that season changes that were previously recommended had been implemented without problems by the states that have seasons. He also stated that the resultant increase in landings did not appear to have any adverse biological effects on the stocks, and monitoring would continue in

future years. He reported that the bycatch study report by R. Condrey at LSU would be submitted to NMFS in mid-April 1994. Also, R. Condrey will begin a two-year MARFIN bycatch study this summer using the same sampling protocol of the previous study.

B. Wallace noted that the 1994 fishing season was expected to be about equal to or slightly better than 1993. He stated that the committee also discussed potential effects of freshwater diversion projects in Louisiana.

*L. Simpson asked on behalf of the committee that the menhaden industry review proposed amendments to Section 306 of the Magnuson Act and report back. B. Wallace agreed.

Report on RecFIN and ComFIN Initiatives

R. Lukens presented the 1993 RecFIN Annual Report and the 1994 RecFIN Committee Operations Plan. He also presented the 1994 Committee Operations Plan for the Cooperative Statistics Program and noted that this effort will become a future component of the ComFIN initiative which should be structured in the next year. With regard to funding, R. Lukens noted the need to work nationally with the NMFS to garner support for these programs. He complimented S. Lazauski for his leadership and the entire TCC Data Management Subcommittee for their work.

Gulf Sturgeon Recovery Plan

It was noted that approval of the plan was tabled by the TCC for further review of funding and possible participation by state personnel. J. Brown encouraged the S-FFMC and the GSMFC to continue to be a partner in the plan. L. Simpson reviewed the history of the GSMFC's involvement with the plan. It was also noted that the TCC would readdress the plan at its next regularly scheduled meeting.

Status of IJF FMPs

R. Leard noted that the status of the Menhaden FMP revision had been covered in the MAC report. With regard to mullet, he stated that progress continued to be slowed by the lack of social and economic data from dealers and processors in Florida. Without this data, up-to-date drafts of these sections cannot be completed. E. Irby stated that he would work to get the information. R. Leard noted that most of the other sections were complete and only needed editorial revision. He stated that the stock assessment was nearing completion by B. Mahmoudi and would be used to complete sections regarding management considerations and recommendations. R. Leard stated that the plan should be completed later in the year, but funding constraints preclude publication until 1995.

R. Leard reported that pending amendments to the Commission's Sport Fish Restoration administrative grant should provide start-up funding for the spotted seatrout FMP. He noted that requests for TTF designees have been made to the states and the standing committees. He also stated that the TCC Data Management Subcommittee has been requested to provide data for stock analyses. He expects that plan development will be initiated later in the spring.

Discussion of IJF Administrative Funding

L. Simpson reported that reauthorization of Section 308(c) of the IJF Act was attached to this Act and authorizes funding at $600,000 per year ($200,000 for each commission). He noted the need for efforts to secure appropriations and asked committee members to assist in this effort.

Status of Section 306, Magnuson Act Amendments

L. Simpson presented a proposed amendment that was discussed at the October 20, 1993, meeting and noted the purpose of proposed changes was to clarify states' jurisdiction over fisheries conducted in the EEZ. He described the proposed two-part proposal that addresses fisheries not governed by a federal management plan and those governed by such plans. He stated that the ASMFC and PSMFC were reviewing the proposal, and that the state of Alaska had expressed concern over language in part B (fisheries under a federal FMP). L. Simpson reported that he would continue to pursue passage of these amendments, however edited, unless directed otherwise.

Discussion of Proposed Red Drum Research

L. Simpson stated that the SEAMAP Red Drum Work Group has been discussing a research proposal to be submitted for MARFIN funding. He noted that after lengthy review the proposal was dropped due to inadequate funding for the needed work. Necessary funds for a complete study are actively being pursued.

Overview of the Atlantic Coastal Fisheries Cooperative Management Act of 1993

L. Simpson reviewed key components of this act and described certain ramifications. He noted that the primary impact of the act is that it authorizes the ASMFC to develop plans and forces states' compliance with recommended management measures through the Secretary of Commerce. J. Brown stated that the first FMP developed under the act will probably be weakfish. He noted that recently the NMFS and the USFWS have entered into a MOA to provide support and input to the plan, and a meeting was forthcoming.

Discussion of Casino Industry Impact

J. Gill noted that Mississippi currently has ten operating casinos, six under construction, and six seeking permits to construct. He stated that current plans for the Biloxi area would eliminate all but approximately four processing plants and two ice houses, displacing much of the existing shrimp fleet. He noted that planned movement into riverine and bay areas posed threats to estuarine habitat, and efforts to oppose such construction were being met with political opposition. In discussion, the committee noted potential ramifications to other states' industries because large amounts of shrimp harvested in Louisiana have been processed in Mississippi.

GSMFC Habitat Program

R. Leard presented the proposed habitat program for the GSMFC. He noted that the ASMFC and PSMFC have ongoing programs primarily working with fishermen and dockages. He stated that the proposed GSMFC's program would include education, outreach, and operations components. He noted that staff was seeking funding for the program from various organization and industry sources and that the program was being refined to not duplicate but complement other activities.

Discussion of Recreational Fisheries Advisory Committee

R. Leard noted that after initial efforts to get involvement and after attendance failed, the committee has been inactive for several years. He stated that with the start-up of the spotted seatrout FMP a recreational representative was needed for the TTF. He asked for guidance on how to select a representative from an inactive committee. R. Lukens reviewed the history of the committee and the problems with member involvement. The committee discussed the immediate need for recreational

involvement with the Spotted Seatrout TTF and the problems with getting recreational interests involved with the committee.

*After discussion, D. Furlong moved that in the absence of a functional recreational advisory committee that the committee recommends to the commission that the staff, with input from the states, take necessary actions to appoint a recreational representative for the Spotted Seatrout TTF. J. Roussel seconded the motion which carried unanimously.

Other Business

D. Furlong reported that at the last meeting a question arose regarding status of funds for reimbursement to states under disposition of Magnuson Act violations. He stated that Alabama had received $4,800 in May 1993; Louisiana has an application in for $4,700; Mississippi has been advised that it must wait 6 months to submit applications; Florida has many cases and has a special agent working to prepare applications; and Texas is not participatory since they do not have a cooperative enforcement agreement.

**There being no further business, the meeting adjourned at 5:30 p.m.**

APPROVED BY:

COMMITTEE CHAIRMAN

**TECHNICAL COORDINATING COMMITTEE**
**MINUTES**
**Wednesday, April 6, 1994**
**Biloxi, Mississippi**

Chairman Corky Perret called the meeting to order at 8:00 a.m. The following members and others were present:

Members
John Brown, (proxy for J. Pulliam), USFWS, Atlanta, GA
Paul Hammerschmidt (proxy for H. Osburn), TPWD, Austin, TX
Alan Huff, FMRI, St. Petersburg, FL
Ed Irby (proxy for K. Steidinger), FDEP, Tallahassee, FL
Skip Lazauski (proxy for V. Minton), ADCNR, Gulf Shores, AL
Gene McCarty, TPWD, Austin, TX
Tom McIlwain, GCRL, Ocean Springs, MS
Scott Nichols (proxy for B. Brown), NMFS, Pascagoula, MS
Corky Perret, LDWF, Baton Rouge, LA
John Roussel, LDWF, Baton Rouge, LA
Walter Tatum, ADCNR, Gulf Shores, AL
Tom Van Devender, BMR, Biloxi, MS

Staff
Larry Simpson, Executive Director
Ron Lukens, Assistant Director
David Donaldson, SEAMAP Coordinator

Others
David Etzold, GSMFC, Pass Christian, MS
Doug Frugé, USFWS, Ocean Springs, MS
Dan Furlong, NMFS, St. Petersburg, FL
Diane Hill Cantrell, NMFS, Pascagoula, MS
Bob Jones, SFA, Tallahassee, FL
Andy Kemmerer, NMFS, St. Petersburg, FL
Leroy Kiffe, GSMFC, Lockport, LA
Rick Marks, NFMOA, Arlington, VA
John Merriner, NMFS, Beaufort, NC
Frank Patti, GSMFC, Belle Chasse, LA
Joe Smith, NMFS, Beaufort, NC
Perry Thompson, NMFS, Pascagoula, MS
Gary Tilyou, LDWF, Baton Rouge, LA
Rolland Schmitten, NOAA/NMFS, Washington, D.C.
Tom Wagner, TPWD, Rockport, TX
Borden Wallace, Daybrook Fisheries, Covington, LA

Adoption of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes of the meeting held October 20, 1993 in San Antonio, Texas were approved as written.

Status Report on Controlled Freshwater Introduction into Louisiana and Mississippi Marshes

D. Etzold stated that he has been working on this issue and reporting to the GSMFC for 20 years. He reported on the status of several freshwater diversion projects. The Caernarvon freshwater site (Breton Sound) became operational in 1991. Some fishermen and oystermen in the area are upset with the amount of water being released.

The Davis Pond site, which flows water into the Barataria Basin, is part of the Mississippi Delta Region Project authorized by the Flood Control Act of 1965. This became inactive in 1973 and then the 1986 Water Resources Development Act authorized this site to be built. In March 1994, the contract for the pile load test, which is a six months project, for final design data has been awarded. In October 1994, there will be some effort on the South Pacific railroad bridge. In December 1994, the structure contract is scheduled to be let. And in September 1997, the diversion structure is scheduled to be operational.

Construction of the Bonnet Carré structure was scheduled to begin in August 1991. However, the Lake Pontchartrain Development Foundation continues opposition to this project. LDWF has been holding up on signing the LCA because of some funding concerns. Congressman Livingston (LA) wrote a letter to the EPA asking them to reanalyze the June 1993 EIS. The signing of the finding of no significant impacts (FONSI) has been postponed at least until May 31, 1994. In February 1994, EPA met with Corps of Engineers, Louisiana Governor's staff, Lake Pontchartrain Foundation, and a number of other groups. However, there were no Mississippi BMR , LDWF or New Orleans COE representatives invited to this meeting. The purpose of the meeting was to examine how to maximize the overland flow of water, prior to entering Lake Pontchartrain. The group looked at the flow in the spillway itself, the La Place and La Branche sides of the spillway. They want the water to flow over a number of marshes to purify the water before it enters the lake. There are attempts being made to bring in outside impartial personnel to assess the impacts to the environment. In March 1994, another meeting was held and the same people who attended the previous meeting as well as representatives from Mississippi BMR , Mississippi Attorney General's office, LDWF, New Orleans COE and Mississippi congressional staffers. A draft agreement to look at proposed diversion sites was developed and a steering committee to oversee this process was formed. The group also reviewed the technical analysis and decided to use the value engineering analysis technique. In May 1994, a progress report will be presented to the congressional delegations and hopefully there will be a decision to proceed/not proceed with the project.

State/Federal Reports

a. Florida

E. Irby reported that Florida has reorganized the Department of Natural Resources and Department of Environmental Quality into the Department of Environmental Protection. It appears that the net ban issue (Save our Sealife {SOS}) will be on the ballot in November 1994. Presently, the petition for placing this issue on the ballot is shy of two districts but these districts should be obtained later this year. This issue affects state waters and if passed, would remove all entangling nets and certain shrimp trawls from these waters. There has been discussion concerning compensation for the affected fishermen. Approximately 6,000 people will be directly impacted if this issue passes. Although other groups such as fish house owners, wholesale dealers, and retail markets will not be directly affected, there is some discussion about providing compensation for these groups, too. If this issue passes, it will cause a ripple effect throughout the Gulf of Mexico. In an effort to curb this effect, Florida is trying to limit the impacts on other fisheries by imposing certain rules to regulate the number of gear, licenses, people, etc. on these fisheries. There is legislation which will create permit areas for artificial reefs off the Florida panhandle area that mimics the permitting areas off Alabama. There will be three large areas consisting of approximately 50 square miles. The sites will be off: Pensacola, Panama City and Destin. These areas will be entirely in federal waters. The Florida Marine Fisheries Commission (MFC) passed a draft rule which creates a 2-fish bag limit, January-February closed season, and a 50-pound incidental commercial catch for speckled trout.

b. Alabama

W. Tatum reported that Alabama has employed an anthropologist to help with the problems in the crab fishery. There are several groups involved: crab fishermen, shrimpers, duck hunters, and home owners. The anthropologist met with each group and discussed their concerns and problems and each group chose a spokesman. At a later date, there will be a series of meetings of these spokesmen to develop solutions to the different problems faced by the groups. This approach is receiving much publicity and is considered a useful means of addressing this complex problem. Several fishing mortality studies for spotted seatrout and red drum are being conducted using W/B funds. The studies, which measure fishing pressure of these species, have just begun and should have more information later this year. Alabama is continuing to intercept charter boats to obtain catch-per-unit-effort data and track their log books. Also, W/B monies are being used to conduct the Alabama artificial reef program. This task is taking a large amount of time for inspection and monitoring of artificial reef materials. And stocking of the Atlantic and Gulf of Mexico strains of striped bass has been conducted in the Perdido Bay area. The purpose of this project is to determine which strains are better suited for this particular area. Several Coastal America projects have been recently completed. The first was the marking of the oyster reefs to keep shrimping activity off the reef. The second was evaluation of the effectiveness of archeological coral for production of oysters. And the last was the creation of a marsh where the discharge water from the hatchery was filtered through the marsh and then sent into the Gulf intercoastal waterway. The final analysis showed that there was a tremendous increase in oxygen and a large reduction of phosphates.

c. Mississippi

T. Van Devender reported that there is a state bill which would remove Bureau of Marine Resources from the Department of Wildlife, Fisheries and Parks and create the Department of Marine Resources with its own commission. Some of the rationale for this move is to get the control of marine interests back to personnel who understand marine issues. The commission will have seven members comprised of representatives from commercial fishing, seafood processing, recreational fishing, charterboat owners, environmental organizations, any unrelated field, and the current member of the Wildlife, Fisheries and Parks Commission from the coast. Funding for the new agency will come from money generated from licenses, fines, fees, etc. and the tidelands fund. The tidelands fund is money the casinos pay for existing on water bottoms, almost like a rent. Once the bill is signed, it will take effect July 1, 1994. Last year, Mississippi implemented a saltwater recreational license and has sold 35,000 licenses. There is still a 35,000 pound quota on red drum in Mississippi which was met in January 1994. Mississippi has a trip ticket system for oysters and has harvested 141,000 sacks. It should be closed by the end of April 1994. The 'ban the nets' issue was also discussed in the Mississippi legislature but it was never introduced. The IJF funds are being used to fund a fishery-independent monitoring and assessment program which is in its twenty-first year.

d. Louisiana

C. Perret reported that there is a possibility that several agencies in Louisiana may be consolidated into one large agency and the Louisiana state legislature will address only fiscal matters every other session. J. Roussel stated that Louisiana held its annual stock assessment of red drum. Mullet roe season opened in late-October and this has been the best season yet. The three-year closure on jew fish has been extended for another three years to be compatible with federal regulations. The commercial trout closed on March 6 because the 1 million pound quota was reached. LDWF met with menhaden personnel to present the fishing forecasts. Five new artificial reefs were incorporated into the Louisiana's artificial reef program. These reefs were oil rigs that were damaged during Hurricane Andrew. Several reefs are being planned and will be sited later in the year. The inshore shrimp season was closed in late December and the harvest was below average. In addition, some Louisiana territorial waters were closed to protect concentrations of overwintering white shrimp. Eight shrimp scoping meetings concerning establishment of shrimp sanctuaries were conducted throughout the coast. The daily bag limits for oysters have been increased due to an above average production of the western Louisiana reefs. The production in the primary public grounds was also very high. LDWF has settled with Green Hill Petroleum, the party responsible for a large oil spill. The retribution for the spill includes the creation of 21 acres of salt marsh

on east Timbalier Island, payment for the monitoring of the site for five years, and reimbursement to the LDWF for all the costs incurred in response to the spill.

e. Texas

G. McCarty reported that Texas has changed their regulations concerning shrimping and recreational fishing. The mesh size for bay shrimpers has been modified to 1½ inches except during the fall season (1¾ inches). The bays will be closed to shrimping starting at 2:00 a.m. to sunrise from April 1 to August 14. The offshore closure has been extended to 75 days. For blue crab, the new regulations reduce the number of traps from 300 to 200 for commercial fishermen and 300 to 6 traps for recreational fishermen and include some area closures. Texas has implemented trophy tags for red drum and tarpon which allow someone to take one oversized fish (over 30 inches for red drum and 80 inches for tarpon) and the red drum tag is free while the tarpon tag costs $100. The minimum length for snapper was increased to 14 inches. The second National Estuary Program (the first was in Galveston Bay) will be in Corpus Christi Bay. Planning and development has started and work is continuing. TPWD is also preparing for the upcoming legislative session.

f. NMFS

S. Nichols updated the TCC on the bycatch issue. NMFS is planning on presenting their findings at the upcoming Gulf of Mexico Program. NMFS is in the process of analyzing the data and it appears that the cooperative study went quite well. All the participants involved (NMFS, Gulf and South Atlantic Fisheries Development Foundation, and Texas Shrimp Association) appear to be measuring bycatch at comparable rates. These rates seem to be equivalent to the measures derived from the GLM methods. Another benefit from this work is large advancements in gear development for reduction of bycatch.

g. USFWS

J. Brown reported that the draft EIS for the Federal Aid program has been prepared and the final EIS should be out by mid-August. Alternative 2 was selected and this alternative provides that states would be encouraged in their W/B efforts to consider regional and national resource priorities in their use of W/B money. There has been a $20 million decrease in W/B funds from 1993 to 1994. The reasons for this are an overestimation of import taxes and the lower interest rates. The FWS Hunting and Fishing Survey is used to designate the freshwater and saltwater split of funds for the states. For the Gulf States, there was a small decrease in Texas (3%), Alabama stayed the same, and a small increase for the other three states. D. Frugé stated that there has been little change in the distribution of zebra mussels. The FWS, in conjunction with Louisiana Sea Grant, has established a task force to monitor and distribute information to interested people concerning control methodologies for zebra mussels. The Lower Mississippi River Conservation Committee (LMRCC) held its first meeting. Since it was the first meeting, mostly administrative matters were discussed. FWS is hiring a full-time coordinator for the LMRCC program. Pertaining to the Mississippi Interstate Cooperative Resources Agreement (MICRA), the Cooperative Interjurisdictional Fisheries Resources Act has been reintroduced in this year's legislature. The bill would establish a council on interjurisdictional river fisheries. The task of this council would be to develop a list of the top ten interjurisdictional rivers in the United States and develop fisheries strategic plans for five of those rivers. The bill would also provide some funding to evaluate the ability of MICRA to address fishery resource problems in the Mississippi River. There is a proposed amendment to the Clear Water Act that would establish a Mississippi River Program. This program would be similar to the EPA Gulf of Mexico Program.

Subcommittee Reports

a. Anadromous Fish Subcommittee - Gary Tilyou, Chairman

* G. Tilyou reported that the Anadromous Fish Subcommittee discussed the continuation of DNA surveys for striped bass and Gulf sturgeon to determine the impacts in the Gulf of Mexico. The group discussed the allocation of Gulf of Mexico race striped bass since there is a shortage of this race and everyone needs them for stocking. The Anadromous Fish Subcommittee is currently developing an

initiative which would aid in producing more of this race. At the Morone workshop, a definition of the Gulf of Mexico striped bass was developed. The GSMFC, through a contract with New York State University, is continuing its analysis of striped bass from the different rivers in the Gulf of Mexico to determine if unique genotypes occur. The Corps of Engineers has produced an EIS for the West Pearl River Navigation Project. The subcommittee reviewed the EIS and believes the document was poorly written and that all comments offered by the subcommittee and other agencies were not considered. The group was concerned with the effects the project might have on Gulf sturgeon and to a lesser extent, striped bass. The EIS has been opposed by FWS, LDWF, and other fisheries and wildlife agencies. A. Huff moved that the TCC draft a letter in opposition to the West Pearl River Navigation Project. The motion was seconded and passed unanimously. There was a meeting concerning finalization of the Gulf Sturgeon Recovery Plan. There were some changes made at this meeting which are not reflected in the copies the TCC members were asked to review. R. Lukens stated that most of changes did not substantially change the text. He presented and reviewed the objectives and criteria for the plan to the TCC. The Plan has already gone through the ESA process and regardless of TCC action, the plan will become a management plan. However, by TCC approval, the GSMFC will be involved in the mechanism throughout the entire process. J. Roussel noted that this management plan did not follow the established process of developing a GSMFC fishery management plan and he was concerned that this will set an unwanted precedent. R. Lukens stated that the reason for using a different method is that the plan is not a typical management plan since the species involved is listed as threatened. A. Huff moved that the TCC approve the Gulf Sturgeon Recovery Plan and forward it to the S/FFMC for their consideration. After some discussion, W. Tatum moved that the motion be tabled by the TCC. The motion was tabled with FWS and Florida voting against.

b. Crab Subcommittee - Tom Wagner, Chairman

T. Wagner reported that the Gulf States are moving along in adopting some of the recommendations from the Blue Crab Fisheries Management Plan. The Crab Subcommittee has completed the Western Gulf Stone Crab Profile and will publish this document as soon as money is available. The main topic of discussion was the charge from the TCC to examine the user group conflicts of the crab fishery in the Gulf of Mexico. All of the states are working towards reducing these conflicts. In Florida, one of the problems is between the stone crab fishermen and shrimpers in the bays. To address this problem, Florida has instituted area and season closures to temporal and spatially separate these groups. In Alabama, crab fishermen, duck hunters, and home owners are at odds with one another. Alabama, via an anthropologist, has conducted workshops for all of the user groups to address these problems. In Louisiana, there is a recommendation to remove all crab traps from Sabine Lake during the first few weeks of the groundfish season. In Texas, TPWD has passed several regulations regarding gear and area closures pertaining to the crab fishery.

c. Data Management Subcommittee - Skip Lazauski, Chairman

* S. Lazauski presented several CSP/ComFIN and RecFIN(SE) documents to the TCC. He presented the ComFIN White Paper which outlines the proceedings from the ComFIN workshop held in February 1993. This paper was reviewed and accepted by Subcommittee. The next stock assessment training workshop will probably be held in Tallahassee, Florida during the last quarter of 1994 and will focus on the uncertainty of predictions in modeling. S. Lazauski moved on behalf of the Subcommittee that the TCC accept the Data Management Report. The motion was seconded and passed unanimously.

d. Recreational Fisheries Management - Walter Tatum, Chairman

* W. Tatum reported that the Subcommittee met in December 1993. The main action was finalization of the Artificial Reef Data Base document. W. Tatum presented this document to the TCC. Other issues included discussion of social and economic evaluations which were conducted on the east coast. These evaluations attempt to measure the social and economic benefits obtained from artificial reefs. Also, there was presentation concerning REEFEX which uses old military tanks as artificial reefs. Alabama is interested in placing these tanks in their permit areas to enhance their artificial reef program.

W. Tatum moved that Recreational Fisheries Management Subcommittee's name be changed to the Artificial Reef Subcommittee. The motion was seconded and passed unanimously.

e. SEAMAP Subcommittee - Walter Tatum, Chairman

* W. Tatum reported that there were several action items for the TCC to consider. The first was that the SEAMAP Subcommittee charged the Adult Finfish Work Group to develop a sampling protocol for a SEAMAP shark survey. The next was that the SEAMAP Subcommittee charged the Reef Fish Work Group to develop a sampling protocol to survey natural and artificial hard bottom areas that are not currently being sampled by the SEAMAP trap/video methodology. This action is in reference to sampling oil rigs which the currently methodology is unable to accomplish. The next was that the SEAMAP-Gulf component proposed the sites of Atlanta, GA, Miami, FL or San Juan, PR for the next Joint meeting (August 1994) to the other two SEAMAP components. And the last was that the Red Drum Work Group believed that the $1.7 million red drum sampling protocol was necessary and recommended that the MARFIN age analysis study not be developed. The Red Drum Work Group believed the MARFIN study would be counterproductive and hinder the ability to conduct the $1.7 million study. W. Tatum moved on behalf of the Subcommittee to accept the SEAMAP report. The motion was seconded and passed unanimously.

Keynote Speaker, Rolland Schmitten, Assistant Administrator for Fisheries, NOAA/NMFS

Rolland Schmitten, Assistant Administrator for Fisheries, NOAA/NMFS addressed the TCC. He discussed the direction of the NOAA/NMFS and his perspective concerning fisheries and answered questions from the group. The TCC expressed their gratitude to Dr. Schmitten for his willingness to speak during the GSMFC meeting.

**There being no further business, the meeting was adjourned at 11:30 a.m.**

**COMMERCIAL FISHERIES ADVISORY COMMITTEE (CFAC)**
**SUMMARY**
**Wednesday, April 6, 1994**
**Biloxi, Mississippi**

Moderator Rick Leard called the meeting to order at 1:10 p.m. The following members and others were present:

Leroy Kiffe, Tom Kiffe & Sons, Lockport, LA
Dan Furlong, NMFS/SERO, St. Petersburg, FL
Rick Marks, NFMOA/NFI, Arlington, VA
Bordan Wallace, Daybrook Fisheries, Inc.,
Ed Iby, FDEP, Tallahassee, FL
Tom Wagner, TPWD, Rockport, TX
Albert King, GMFMC, Gulf Shores, AL
Richard Condrey, LSU, Baton Rouge, LA
Corky Perret, LDWF, Baton Rouge, LA
Walter Keithly, LSU, Baton Rouge, LA
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Steve Branstetter, GSAFDF, Tampa, FL,
Henry "Skip" Lazauski, MRD-DCNR, Gulf Shores, AL
Paul Hammerschmidt, TPWD, Austin, TX
Gene McCarty, TPWD, Austin, TX
Walter Tatum, MRD-ADCNR, Gulf Shores, AL
Rudy Rosen, TPWD, Austin, TX
John Roussel, LDWF, Baton Rouge, LA
Thomas E. Hults, Seabrook Seafoods, Kennah, TX
George Higgenbotham, Biloxi, MS
Bob Jones, SEFA, Tallahassee, FL
John Veazey, USFDA, New Orleans, LA

Staff
Larry B. Simpson, Executive Director
Richard L. Leard, IJF Coordinator
Cheryl R. Noble, Staff Assistant

Adoption of Agenda

Item Number 7 was moved to after Item Number 3 because John Veazey needed to leave early. No one was available to give a presentation on Item Number 8, Shrimp Season Outlook, so it was removed from the agenda. No other changes were made.

Review of Meeting Summary (10/14/92)

L. Kiffe asked that under the "Discussion of Sea Turtle Deaths off Louisiana, Spring 1993," to add that at the last meeting under this discussion, it was noted that the turtle strandings off of Galveston and Grand Isle occurred while shrimp season was closed in Texas. No other changes were made to the meeting summary.

Standardization of Oyster Processing Facilities

John Veazey from the U.S. Food and Drug Administration (FDA) in New Orleans, Louisiana, gave an overview on how the National Shellfish Sanitation Program (NSSP) operates, the role of the FDA and its relationship to the states. The NSSP is a set of voluntary guidelines that the states adhere to for the safe production of oysters, clams and mussels. These guidelines are generated by the states and various federal agencies which meet every year to review the guidelines and make changes if necessary. Only the states can vote to change the guidelines but the FDA has veto authority if a guideline conflicts with any established policy. The FDA's role in the NSSP is to evaluate the state's degree of compliance to the guidelines. If a problem cannot be resolved between the FDA and the state(s) it is referred to the Interstate Shellfish Sanitation Conference's (ISSC) Unresolved Issues Committee which is comprised of both state and FDA representatives who try to resolve the problem. Before 1992 there was nothing in the NSSP published guidelines that provided specific protocol for denying certification of a shellfish processor or shellfish shipper or for revoking a certification once it was granted. In 1992, the ISSC accepted changes to the guidelines which provided that specific protocol. The approach was changed to categorize different deficiencies and train state and FDA inspectors to recognize these deficiencies and to know what major category they fall under. The major categories are critical, key and other. Plants have a certain time limit to correct a deficiency or the plant does not get certified or the certification is revoked.

Discussion of State and Federal Jurisdictions for Fisheries Management

Robert Jones submitted a document entitled "Why Southeastern Fisheries Association is Fighting to Preserve the Magnuson Fishery Conservation and Management Act of 1976" (Attachment I) and reviewed each section with the group. In reference to the proposed amendment of Section 306 of MFCMA, he stated the SFA opposes the amendment and the Commission's position on the amendment. The SFA feels that the Commission's proposed amendment would allow a state to preempt a federal fishery management plan through its landing laws thus taking control of the federal fisheries. SFA feels that this is not the intent of the MFCMA, and believes the federal government should have exclusive authority to regulate fishing in federal waters. SFA also feels that if fish are legally harvested in federal waters, no state has the authority to restrict landing of these fish.

L. Simpson stated that it is not the Commission's intent to have the states preempt the federal government, in fact the constitution specifically forbids it except under certain circumstances. Section 306 (a)(3) of the Magnuson Act states "a state may not directly or indirectly regulate any fishing outside its boundaries unless the vessel is registered under the law of that state." He feels the proposed amendment clarifies the state's authority. If a federal FMP does not exist, and a certain fish needs managing, and if the state has a management program, it should apply to state-registered vessels. He feels there's no need for the very costly and time consuming management program of the Gulf of Mexico Fishery Management Council to apply. He stated this language simply clarifies what the states' jurisdictions are under two very tightly controlled situations--with a federal FMP and without an FMP.

Chris Nelson informed the group that he invited Robert Jones to speak on this issue because in past discussions only one side of the issue was discussed. He stated that he wants the Commission to readdress the wording to this amendment in the Commission's business meeting. He does not remember the exact language of the amendment being adopted or voted on by the Commission. After a lengthy discussion on the issue, it was decided to readdress this issue in the Commission Business Meeting.

Mr. Jones provided the committee with SFA's written comments concerning the proposal to establish procedures for the safe processing and importation of fish and fisheries products (the proposed "Seafood HACCP Regulation") and other information regarding HACCP.

Discussion of User Group Conflicts in the Commercial Crab Fishery

Tom Wagner, Chairman of the TCC Crab Subcommittee, discussed conflicts that are occurring in the crab fishery and asked the committee for any suggestions in resolving the conflicts. He stated that more people are getting into this fishery, and there are more traps in the water. Also, there is more recreational use of coastal waters. More traps in the water and increased traffic are causing conflicts between recreational people and crab fishermen and among crab fishermen. A few encounters have been serious involving threats with guns.

T. Wagner also noted problems with illegal processors and questions of jurisdiction over the processing part of the industry. Workshops between crab fishermen and other user groups are being held to address these conflicts and work out problems to hopefully avoid regulatory involvement. Options being discussed are seasonal closures for crab traps, reducing the number of traps in certain areas, setting minimum spacing between crab traps, and having crab leases.

Shrimp Processing in the Gulf of Mexico: An Economic Analysis

Walter Keithly gave a slide presentation on the shrimp processing industry in the gulf and southeast region. He noted that a detailed final report will be finished soon, but he does not expect the final results to be much different from the preliminary results he is presenting today. Analyses included when the most and least shrimp landings occurred, the price and value of domestic and imported shrimp and the effects of imported shrimp on domestic shrimp value. He stated that most shrimp processors used both domestic and imported shrimp, and most imported shrimp came from Ecuador, China, Thailand, Indonesia and India. He stated that the number of shrimp processors declined in the gulf region over the past 15 years. He stated that a copy of the detailed report was available on request.

Update on Shrimp Bycatch

Steve Branstetter from the Gulf and South Atlantic Fisheries Development Foundation (GSAFDF) updated the group on their bycatch activities. He stated that in the past they have been putting observers on boats throughout the region, but will soon start encouraging implementation of Bycatch Reduction Devices (BRD's) into the fishery. He noted that there is no longer the question of if BRD's will be used in the shrimping industry but when and what types. He said that the GSAFDF has been doing both characterization work and BRD evaluations, and the BRD designs used so far are having a high amount of shrimp loss that will not be acceptable to the shrimping industry. He said that the fish eye is a very simple device that has been around for some time, but additional data on using the gear and testing other configurations and other gear are needed. He said that the GSAFDF hopes to get more people in the industry to use BRD's voluntarily so that they can get feedback from the fishermen. This would help develop a device that works and is not too complicated to use. He noted that everyone agrees that shrimpers will use a device that works with minimal shrimp loss with or without a law, and they hope to develop a suitable device before it is required.

Appointment of Spotted Seatrout TTF Representative

After a brief discussion, the group decided Thomas Hults would be the CFAC representative for the Spotted Seatrout Technical Task Force.

**There being no further business, the meeting was adjourned at 5:15p.m.**

ATTACHMENT I


# SOUTHEASTERN FISHERIES ASSOCIATION, INC.

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ROBERT P. JONES, EXECUTIVE DIRECTOR


## WHY SOUTHEASTERN FISHERIES ASSOCIATION IS FIGHTING TO PRESERVE THE MAGNUSON FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976

### SFA'S ROLE IN THE PASSAGE OF FCMA

**"CONGRESS FINDS AND DECLARES THE FOLLOWING:** (a) Findings.-(1) the Fish off the coasts of the United States, the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries, constitute valuable and renewable natural resources. The fishery resources contribute to the food supply, economy, and health of the Nation and provide recreational opportunities."

(b) Purposes.- It is therefore declared to be the purposes of the Congress in this Act.....by establishing (A) **a fishery conservation zone within which the United States will assume exclusive management authority over all fish, except highly migratory species."**[1]

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[1] Page one, Section 2, of Public Law 94-265, 94th Congress, H.R.200 as published on April 13, 1976.

Those first words from the Magnuson Fishery Conservation and Management Act (FCMA) were the culmination of several years of intensive debates between various sectors of the commercial fishing industry, state and federal governments.

There was minimal input in the legislative history of FCMA from the recreational fishing sector. During the time period 1964 to around 1976, there was little animosity between commercial and recreational interests. This is reflected in the implementing language when Congress placed four words at the end of the opening paragraph of FCMA ie: "*and provide recreational opportunities.*"

I highlight the words, "and provide recreational opportunities" because the difference between commercial fishing and recreational fishing was clearly delineated by the lawmakers who created FCMA. A decade later NMFS changed this policy and combined commercial and recreational fishing industries in their definitions. This subtle but monumental policy decision changed the original intent of FCMA which was "contribute to the food supply, economy and health of the Nation", "and provide recreational opportunities".

Thirteen months before the passage of FCMA, an important Discussion Paper was presented to the Assistant Administrator for Marine Resources of NOAA (which is now AA for Fisheries).[2] The federal report reflected four Categories of Management responsibilities to wit:

Category "A" "For fisheries and fisheries resources which occur predominately within the jurisdiction of a single state (i.e., within 3 miles of the coastline) the management responsibility should remain with the state."

Category "B" "For fisheries resources which occur predominantly within 3 miles but are distributed or migrate across two or more state boundaries, or resources which essentially migrate between state and Federal jurisdiction,t he Regional Marine Fisheries Council should develop management policy and provide for its implementation, subject to Federal intercession only if the states concerned cannot reach agreement on such a policy."

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[2] "Fisheries Management Under Extended Jurisdiction, March 24, 1975.

Category "C" "For fisheries resources which occur predominantly within the 200 mile economic zone and outside state territorial waters, or fisheries (either domestic or foreign) which are conducted predominantly beyond state jurisdiction, the Federal government should be vested with the management responsibility, but should rely upon Regional Marine Fisheries Councils for cooperation, consultation and advice."

**"Management programs for Category "C" fisheries recommended by the Regional Councils may be implemented by the Councils through promulgation of regulations by the Federal government. "**

**"The Federal government should reserve the right to exercise its management prerogative independently when program's recommended by the councils are not achieving their objectives, or are not consistent with national fisheries policy, as determined by the Federal fisheries authority after appropriate discussions and upon recommendations of the National Advisory Board."**

Category "D" "For anadromous fish species the management responsibility and implementation should remain with the host state or states, subject to Federal intercession only if the states concerned cannot reach agreement, or if such management programs are subject to bilateral agreements or the regulations of international commissions."

## SFA OFFICIALLY OPPOSES FCMA

Southeastern Fisheries Association adopted a resolution opposing FCMA because it represented a significant number of distant water fisheries such as shrimp, tuna, snapper/grouper and spiny lobster. Congressman Pepper of Florida read into the Congressional Record, SFA's letter to the Chairwoman of the Merchant Marine & Fisheries Committee which said,"extending U.S. boundaries 200 miles offshore would devastate our southern based distant water fleet." The letter further stated, "the dockside value of spiny lobsters harvested by our distant water fleet in the Bahamas, was higher than the dockside value of seafood landed at the ports of Point Judith, Boston, Cape Charles or Beaufort-Morehead City according to "Fisheries of the United States 1974.[3]

At one point during debate on Senate Bill 961, which was the Senate version of HR 200, Senator Strom Thurmond of South Carolina held the Senate floor for an extended period.

Senator Thurmond began his speech by saying, "Each MEMBER is strong in his view that our coastal fish must be conserved and the American fishermen who bring this vital food to our tables must be protected.[4] (an endorsement of commercial fishermen)

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[3] Pages 974 and 975 of the "Legislative History of the Fishery Conservation and Management Act of 1976", printed October 1976.

[4] Page 496 of "Legislative History of the Fishery Conservation and Management Act of 1976.

Senator Thurmond was opposed to the 200 mile bill as were most of America's military leaders. The Senator had statements from Admiral James L. Holloway III, Chief of Naval Operations, General George S. Brown, Chairman of the Joint Chiefs of Staff, General Jones, Chief of Staff of the Air Force and Ambassador John Norton Moore, Chairman of the National Security Council Interagency Task Force, all of whom opposed the bill, read into the record.[5]

Ambassador John Norton Moore observed in his statement that, "In the Gulf of Mexico, there are no stocks within this area below the maximum sustainable yield and declining as a result of foreign fishing. In contrast, our Gulf fishermen fish for shrimp and red snapper within 200 miles of other nations.[6]

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[5] Pages 502-513 of "Legislative History of the Fishery Conservation and Management Act of 1976.

[6] Page 511,"Legislative History of FCMA of 1976."

There is much more to be said about the passage of the FCMA but the point I make is the impetus for passing an extended fisheries jurisdiction act was threefold:

1. **Remove foreign fishing within 200 miles of U.S. shores.**

2. **Create a federally managed zone in waters that prior to the passage of FCMA were international fishing waters over which states had no control of foreign fishing or fishing by boats from other states.**

3. **Enhance the domestic commercial fishing industry.**

## SFA'S ROLE IN IMPLEMENTATION OF FCMA

360 Congressmen voted for FCMA. 47 opposed it. 71 Senators voted in favor and 17 opposed. The passage of FCMA was overwhelming. Congress had spoken. SFA immediately became a supporter of this new Law of the oceans.

The politics began on the appointment process to select the members who would serve on the first Regional Fishery Management Councils. In Florida, I recommended to the head of the Department of Natural Resources, that commercial representatives and recreational representatives be recommended to the Governor for nomination by Secretary of Commerce Elliot Richardson.

I was honored to be nominated then appointed to represent Florida commercial fishing. B.J. Putnam, a Charter Boat Captain whom I had never met, was selected to represent Florida recreational fishing. We became friends for life as a result of serving together on the Gulf Council. I served for six years on the Gulf of Mexico Fishery Management Council. One year as Chairman.

Numerous members of Southeastern Fisheries Association have served on Council Advisory Panels and on the Councils as well since their inception.[7]

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[7] Records and Minutes of the Gulf of Mexico Fishery Management Council.

We feel SFA's influence in implementation of FCMA is still reflected in the SOPP's of the Gulf Council and manifested in some of the Council policies and FMP's still in effect.

Additionally, SFA, on several occasions, testified before Congress for increased federal appropriations to adequately fund the management councils and for increases in research funding.

## FCMA AND STATE LANDING LAWS

Our understanding of FCMA is that the federal fishery zone is under the exclusive jurisdiction of the federal government as spelled out in the provisions of the Act.

The EEZ was established as a body of water in which all U.S. citizens were to be treated equally. No actions would be allowed that would violate any of the seven national standards. We have always understood that fish harvested legally in federal waters could be placed in interstate commerce. One of the main purposes of the FCMA was, and still is, to provide seafood for consumers.[8]

As an opponent of FCMA during the development and passage of the Act, SFA worked to extend states boundaries to 12 miles through the amendment process in the Senate.

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[8] Numerous references to consumers and production of fish for food throughout the "Legislative History of FCMA of 1976".

We were afraid of what the federal government might do if they got control. (And we were right) Senator Gravel of Alaska, was one of our leaders in opposing FCMA as was Senators Chiles and Stone of Florida and Senator Tower of Texas. At one point in the debate on the floor of the Senate, Senator Gravel tried to give states joint management authority out to 200 miles but couldn't overcome the objections of Senator Warren Magnuson and others.

In extended debate on the Senate floor, the subject of state extension past 3 miles was discussed in great depth. It was obvious to anyone following the progress of FCMA that the intent of Congress was to prevent the federal government from preempting state waters except under very narrow guidelines ***and to prevent the states from preempting the federal government in the federal zone.***[9]

## THE ISSUE OF SFA VS. CHILES

The issue of Southeastern Fisheries Association versus Chiles is very simple.

We strongly believe the federal government has exclusive authority to regulate fishing in federal waters. If fish are legally harvested in federal waters, no state has the authority to restrict landing of these legally harvested fish.

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[9] Pages 458 to 470 of "Legislative History of FCMA of 1976".

We believe a states attempt to enforce its landing laws on federally harvested fish violates the civil rights guaranteed to us under the U.S. Constitution. We have been more than willing to back that belief up through due process.

Taking this a step further we don't believe Congress can pass any law which violates our Constitutional rights. Changes to FCMA being suggested giving states control beyond their state boundaries would be challenged in federal courts immediately if passed by Congress.

Congress can propose to amend the Constitution but even Congress cannot ignore the provisions of the Constitution.

Some State Officials are still asking Congress to amend FCMA to recognize more stringent state laws in the federal waters adjacent to their state.[10]

Enacting more stringent regulations can already be accomplished through the Council process. Some officials must fear justifying their state laws under the collegial setting of a Council Meeting. These officials might not feel confident their state laws meet the seven National Standards required by the FCMA.

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[10] Page 2, testimony of Robert Turner, State Director of Washington, Page 7, testimony of Rudolph Rosen, Director of Fisheries Texas Parks & Wildlife, Page 2,Testimony of William S. "Corky" Perret, Louisiana Department of Wildlife and Fisheries, page 6, Testimony of Gordon Colvin, New York Department of Environmental Conservation to the Subcommittee on Fisheris Management, Merchant Marine & Fisheries Committee, June 16, 1993.

## SPECIFIC LITIGATION

SFA started litigating in federal court in 1983 because the State of Florida was about to arrest some of its members who were planning to harvest King Mackerel with purse seines in federal waters. This purse seine harvest was legal under the approved Coastal Migratory Pelagic Fishery Management Plan[11] which was in place. We won that case. Our members went fishing.

In 1986, Southeastern Fisheries Association again had to file suit in federal court, this time concerning redfish. At issue, was the fact that the Gulf Council had proposed, and then NMFS adopted, an amendment to the existing Redfish FMP. The amendment allowed states with landing laws to enforce them under the Plan thereby preventing the landing of the legally harvested redfish. In other words, the Gulf Council Redfish Fishery Management Plan said the fishermen could catch 1,000,000 pounds of Redfish in federal waters but couldn't land them in any state that had a landing law prohibiting such landing. I believe Texas and Florida were the only two states with such landing laws in 1986.

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[11] Southeastern Fisheries Association v. Captain Livings, et al. Case Number 83-524-CIV-SMA (S.D. Fla. 1983)

Southeastern Fisheries Association immediately sued Secretary of Commerce Mosbacher, a high ranking Cabinet member in the Reagan/Bush Administration.[12]

We contended just because several members of the Gulf Council were powerful enough to get Secretary Mosbacher and NMFS Assistant Administrator Bill Fox, to accept an amendment allowing state landing laws to preempt a fishery management plan, such political action was absolutely illegal under FCMA and the U.S. Constitution.

Federal District Judge Harris wrote, "In adopting the (original) Secretarial FMP (for redfish), Defendants Mosbacher/Fox themselves state that "state laws and regulations which prohibit the landing, sale of interstate commerce of red drum harvested commercially outside state waters are in conflict with measures in the FMP. In accordance with that conclusion, Defendants Mosbacher/Fox expressly superseded conflicting state laws in the Secretary FMP." Judge Harris continued, "Less than a year later, the Secretary approved an amendment to the FMP and issued the implementing regulations,<u>reversing his position and expressly choosing not to supersede state landing laws."</u>

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[12] Southeastern Fisheries Association et,al.,V. Mosbacher et., al, Coastal Conservation Association and State of Florida/Defendant/Intervenors. Civil Action 88-1948-SSH (D.D.C., August 6th 1991)

"The court, too, finds that a conflict exists and concludes, therefore, that the state laws cannot coexist in the federal scheme." SFA had won and the provision allowing state landing laws to preempt in federal waters was struck from the FMP.

It is almost unheard of for a small fishery trade association to prevail against the awesome power of a federal agency, a large sportfishing organization and several states. But the evidence was so compelling showing how some very powerful people were able to manipulate the system that even a federal judge, sitting on the bench in Washington D.C., had no choice but to rule against the United States Department of Commerce.

Although SFA won the case it lost the redfish fishery. The suit was filed in 1986 and a decision was rendered in 1991. We call this the "corporate two step" which is a strategy used by big companies. The commercial fishermen in Prince William Sound are suffering from this "corporate two step" as they can't get their day in court concerning the massive oil spill.

## OTHER CASES OF INTEREST

Southeastern Fisheries Association, while not being shown on the court documents, is a very interested party in the Bethell v. Florida and Bateman v. Gardner litigation. Both dealt with state landing and possession laws concerning harvest of federal resources.

Both times the federal court ruled in favor of the fisherman and against the State of Florida for trying to extend its jurisdiction into federal waters. Bethell concerned fish traps and Bateman concerned shrimping in the Tortugas fishery.

## SFA VERSUS CHILES

### AN EPIC FEDERAL RIGHTS VERSUS STATES RIGHTS BATTLE

This litigation has taken on a life of its own. The interest from all parts of the country has been surprising and enlightening. The list of interested parties we had to notify concerning our Court of Appeals case[13] covered four pages and looks like a "Who's Who of the Legal World". The list included Brian Berwick, Asst. A.G. for Texas, Michael Bowers, A.G. for Georgia, Robert Butterworth, A.G. for Florida, William W. Fox, NMFS, William J. Guste, A.G. for Louisiana, Mary Keller, Dept. A.G. for Texas, James Kilbourn, U.S. Dept. of Justice, Dexter Lehtinen, U.S. Attorney, Travis Medlock, A.G. for South Carolina, Mike Moore, A.G. for Mississippi, Dan Morales, A.G. for Texas, Lacy Thornburg, A.G. for North Carolina, John F. Wilson, Dept. A.G. for South Carolina and a host of others.

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13 "The United States Court of Appeals for the Eleventh Circuit, Case No. 91-5721, Chiles V. Southeastern Fisheries Association."

Southeastern Fisheries Association hopes to reach the Supreme Court for a final determination on whether or not state landing laws can preempt federal fisheries management in federal waters.

In Florida, our members have had to constantly pay for legal representation to argue basically the same case over and over. We estimate that SFA members have spent in excess of $200,000 on this issue.

Fortunately for us, most of the money has been or will be refunded by order of the courts because this is a civil rights case and the state has to pay costs when it loses. Florida has lost all major cases SFA has filed concerning state preemption in federal waters. The cost of SFA vs. Chiles (which was originally SFA v. Martinez until Governor Martinez lost to Governor Chiles) is approaching $100,000. If we are heard by the U.S. Supreme Court, and win, the State of Florida will be liable for a judgement in excess of $200,000.

SFA v. Chiles seems to take unexpected turns. As an example of what we have to go through in Florida, the State Department of Environmental Protection recently passed a rule, without even a public hearing, prohibiting the landing of Jack Crevalle caught by a purse seine **WITHIN AND WITHOUT THE WATERS OF FLORIDA.**

The DEP Division Director, Ed Conklin, used the "within and without" phrase in his rule even though the federal court has repeatedly told Florida it cannot regulate legally harvested fish from federal waters by using Florida landing laws.

State landing laws preempt federal fishery management. Landing laws violate interstate commerce and equal protection.

In the most recent twist in the SFA v. Chiles litigation, Southeastern Fisheries Association was granted a Temporary Restraining Order against the State of Florida within a day of requesting it concerning D.E.P.'s Jack Crevalle rule. We thought we had put the issue to rest.

However, on March 10, 1994, one of my members was harvesting Jack Crevalle in state waters off Fort Pierce, Florida. The Florida Marine Patrol, acting in good faith, made the fisherman release the fish in his net, ordered him to port and told him that if he was caught fishing for Jack Crevalle "within or without the waters of Florida" again, he would be arrested.

Eight days later, on the 18th of March, SFA again appeared in federal court. We asked for an identical Temporary Restraining Order concerning the identical species of fish in federal waters. This time, the State of Florida, in lieu of going before the same Federal Judge on the same exact issue, voluntarily signed a "Stipulation for the Entry of the Temporary Restraining Order"[14] This latest TRO will remain in full force and effect until the SFA V. Chiles litigation is settled.

[14] Signed stipulation by Jonathan Glogau, Assistant Attorney General for Florida, on March 18th, 1994.

## GSMFC'S POSITION ON FCMA

As we understand the position of the Gulf States Marine Fisheries at this time, there are several parts.[15]

At the end of Section 306(a), add the following paragraph:

(4) (A) For any fishery for which there is no fishery management plan approved and implemented pursuant to this Title, a state may enforce its laws or regulations pertaining to the taking of fish in the EEZ off that state or the landing of fish caught in the EEZ providing there is a legitimate state interest in the conservation and management of that fishery.

(B) (1) For any fishery for which there is a fishery management plan approved and implemented pursuant to this Title, a state may enforce its laws or regulations pertaining to the taking or landing of fish caught ~~caught~~ in the EEZ, so long as such law or regulation is not inconsistent with any relevant fishery management plan approved and implemented under this Title. Any state may request that the Secretary of Commerce, in consultation with the relevant Regional Fishery Management Council, issue a determination of consistency with respect to any specific state law or regulations.

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15 Compact News, Volumne 6, Number 1, page 1, The Executive Directors Report, January-February 1994, and information distributed by the Commissions concerning the rationale for the proposed amendments.

(2) Any state seeking a determination of consistency pursuant to this paragraph shall submit such request to the Secretary and the relevant Regional Fishery Management Council. The Secretary shall immediately publish a notice in the Federal Register setting forth the request and inviting written data, views, or comments of interested persons. The state's laws or regulations subject to the request shall be deemed consistent with the Federal fishery management plan if the Secretary has not notified the state in writing of his denial of the consistency determination within 90 days of the receipt of the request by both the Secretary and the Council.

In response to these proposed amendments SFA offers the following.

**Regarding (4) (A) of the proposed amendment.** FCMA mandates exclusive federal management authority in federal waters. There is no legal way we know of that would let a state extend its reach under any circumstances to control the actual harvesting of fish in the EEZ. Even "Skirotis", which the states used for decades to justify their extension of state police power, was only applicable to state citizens fishing offshore adjacent to that citizens particular state and for legitimate law enforcement purposes only. States have never been able to regulate citizens from other states or foreign fishing outside of state territorial boundaries and in our opinion never should.

FCMA mandates state participation in the development of all FMP's. In our opinion, the states already have too much influence in the process.

If state preemption of federal waters is allowed, states could thwart the implementation of any more FMP's in order to maintain control of fishing activites in the federal waters off their state. If the state agency in charge of marine resources in a particular state, was biased toward sportfishing for instance, one user group would be rewarded and the other user group would be denied access. That "fish won't swim" in the federal waters governed by the United States Constitution.

Inasmuch as 85% of all the fish in the Gulf of Mexico are estuarine dependent, 85% of all the fish could hypothetically come under state control in federal waters and a fisherman could have five different sets of rules in the federal waters of the Gulf of Mexico. Preemption is preemption no matter how well it is shrouded.

**Regarding (B) (1) of the proposed amendment,** we also view this as another attempt to use state landing laws to preempt federal fisheries management. As far as getting the Secretary to issue a letter of "consistency", this already occurs in the process of plan development and implementation.

As I stated earlier, we have already been a victim of what can happen when the Secretary of Commerce's friends get him to approve an unconstitutional regulation.[16]

Any state can propose to include their state laws or regulations in an FMP. If they are consistent with the FCMA, particularly the National Standards, the consistency question will be answered when the Secretary approves the federal plan. Why set up an amendment to do something that can already be accomplished under present federal law?

The term "efficient management" has been used but what does that mean? Is this term really the "buzz" words for LANDING LAWS? State landing laws which violate interstate commerce, equal protection and other provisions of the U.S. Constitution are illegal.

Secretary of Commerce Robert Mosbacher couldn't violate the Constitution when he and Bill Fox decided to let states preempt the U.S. Department of Commerce in the redfish FMP. Congress cannot and I don't think will even try to amend the Magnuson Act by allowing state landing laws to **"gill and gut"** the FCMA.

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16 Southeastern Fisheries Association versus Mosbacher, Coastal Conservation et al, Civil Action 86-1948-SSH (D.D.C.,August 6th, 1991) Secretary Mosbacher authorized state landing laws to preempt redfish FMP, Judge Harris ruled it violated FCMA and interstate commerce.

In regards to paragraph (2) of the proposed amendment to Section 306 of the FCMA, all this does is put the U.S. Secretary of Commerce on a 90 day fast track. If the 90 day deadline isn't met, a state gets preemption authority through a "consistency" determination. This might be "efficient" for state agencies but will cause great problems for other entities engaged in the process.

THE FAVORITE STATE ARGUMENT FOR EXTENDED POWER

One of the major arguments states have used in trying to extend their power outside their territorial limits, is that it is difficult to tell if fish or shellfish were harvested in state or federal waters, therefore, the state must have landing laws.

It is a states responsibility to provide law enforcment in its state waters. Most states have a three mile territorial sea. Most states have the capability of enforcing laws within this area either by airplane, helicopter, fast nearshore boats and larger patrol boats. In addition, states have thousands of sportfishermen who serve as watchdogs for illegal commercial fishing. The federal drug interdiction program has given law enforcement some very sophisticated equipment.

The states have the capability to enforce their laws in their waters and they also have the ability to carry out joint enforcement efforts as they recently did in a major red snapper violation in Texas and Louisiana.[17] Every state knows exactly where all commercial fisheries are located. They know when the season should begin and when it ends. Commercial fishing boats are notoriously slow and easy to see which makes enforcement on the water about as convenient as it can be for the law enforcement people. We have no high speed chases. There is no place for a boat to hide on the open water.

We have no objections to states having regulations stating that **"any vessel physically harvesting fishery products in state waters, will be assumed to have harvested all fishery products on board the vessel in state waters"** and therefore subject to that particular state's laws and regulations. We fully support the states right to regulate fishing and enforce their regulations ***WITHIN THEIR BOUNDARIES.***

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[17] Joint case on January 17, 1994 between Texas, Louisiana, Coast Guard and NMFS where 21,000 pounds of red snapper valued at $63,000 was seized from four vessels. (reported in newspapers and NMFS law enforcement report.

We are only trying to protect our vessels and fishermen who have legally harvested fishery products in federal waters under federal authority, from being harrassed and arrested by state authorities, when our vessels and fishermen come to shore to unload their catch and put their catch into interstate commerce. This is the essense of all our litigation since 1976.

REGARDING OTHER ARGUMENTS

I can't comment on Dungeness Crabs,Thresher Sharks,Oregon Scallops but I can comment on some of the Gulf and South Atlantic fisheries:

**MENHADEN**

Menhaden was listed and the last sentence in the rationale is; **"Uncontrolled growth in the federal fishery would increase oportunities for fishing on spawning stocks and would thwart the management efforts set forth by the interjurisdictional FMP."** What uncontrolled growth in any fishery is going to occur in the Gulf & South Atlantic. There certainly won't be uncontrolled growth in menhaden which is struggling to hold on to what it has now. I would observe if a menhaden company tried to bring in new vessels to fish the stock in federal waters, the states would simply say if you fish offshore, we will close inshore because the stocks can't stand the pressure from both sides. That would be the end of "uncontrolled growth" before it got off the ground.

**SPOTTED SEATROUT**

No enforcement problems identified in the rationale paper and no fishery for spotted seatrout exists in the federal waters. Most of the harvest for this species is by recreational fishermen in nearshore waters. That is the segment of fishermen most likely to overfish and the segment to be most closely watched.

**MULLET**

Mullet is the backbone of the gillnet fishery in Florida. There is no offshore fishery for mullet nor is there one likely to occur. Mullet, after they leave the shallow waters in Florida are assumed to go offshore to spawn and are believed to be widely dispersed in the EEZ. There is little likelihood for an offhsore mullet fishery to develop. Should one start however, the industry would work closely with state and federal fishery managers to assure the proper Spawning Potential Ratio is maintained.

**WHITE SHRIMP**

The problem cited in the rationale for white shrimp was really a real law enforcment problem. Florida has been in a shrimp count controvery since 1964 when I first joined SFA.

Nearshore and smaller vessels cannot go to the grounds offshore in most instances yet they want access to the shrimp. Offshore vessels want as many shrimp as possible to grow and move offshore to enhance their production. This calls for a delicate balance. However, if the states of Louisiana and Texas were having the most problems, they could have cited any vessel fishing in state waters with illegal size shrimp onboard and confiscated the catch.

In Florida, the state said it couldn't enforce the count law and closed area on the Tortugas grounds because they didn't have a vessel large enough for patrol work. SFA donated a shrimp boat, paid much of the expenses until the legislature funded the Marine Patrol so they could purchase their own patrol vessels.

As far as it taking three years to develop a shrimp count for white shrimp, the delay seems to have been the states not being able to convince the management council that such an amendment was necessary. Under the proposed amendment, if the Secretary of Commerce is friendly to a particular state or the politics are right, getting a "consistency determination" would be routine and therefore bypass the Council process? If the majority of the members of the Gulf Council had voted to establish a 100 count law that would have been all that was necessary.

SPANISH MACKREL

Spanish Mackerel is at the heart of the SFA vs. Chiles litigation I discussed earlier. Florida has historically landed the major share of Spanish Mackerel. Florida developed this fishery and created an efficient infrastructure capable of filleting and freezing mackerel for the restaurant and cafeteria trade in the southeast. This infrastructure has almost been destroyed by the federal regulations imposed by the FCMA. I won't bore you with the details of what has happened in Florida affecting Spanish Mackerel these past 30 years but I will make a few observations.

The Spanish Mackerel stock is healthy. The size of fish we produce have spawned more than twice in many instances. We have total quotas. In our opinion, our harvest is restricted well below the optimum sustainable yield.

Most of the Spanish Mackerel harvested offshore occurs in a very small geographical area of Florida. Harvest is during the day in plain view of the Florida Marine Patrol which is equipped with airplanes, helicopters, cigarette boats, large patrol boats, as well as the Coast Guard cutters and watchfulness of the NMFS law enforcers. There is no doubt whatsoever, by even a casual observer, of where the offshore mackerel net boats are working in harvesting their fish. The Costal Migratory Pelagic Fishery is overregulated. It does not need state preemption in that fishery.

Why is the Gulf States Marine Fisheries Commission really pushing for these amendments?

Which fisheries in the Gulf of Mexico are not being managed?

Which fisheries are over OSY that state landing laws would save?

Which fisheries are in danger of depletion because the state doesn't have landing laws?

Which fisheries in the Gulf would the Commission like to have landing laws on? Why?

## CONCLUSION

If a state can preempt a federal fishery management plan through its landing law then it has in effect taken control of the federal fisheries. If that is allowed to occur, some states would prohibit commercial net fishing just as quickly as they could. Some states might even develop a system to make it easy for their own citizens to fish but difficult for others. Under that kind of scenario, the federal fishery resources could be lost to commerce. Clearly not what the "Founding Fathers" of FCMA had in mind.

## WHAT'S AT RISK

The economic loss of commercial fishing in the Gulf and South Atlantic region to the nation would be in the billions of dollars.

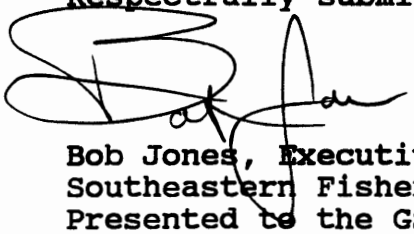
The basic culture of commercial fishing could be destroyed.

To us the loss of our culture is as important as any other aspect of this entire controversy.

## THE ANSWER

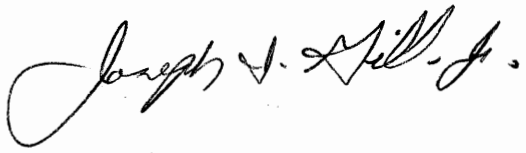
Establish fair and equitable state and national fishing policies for commercial and recreational fishing industries which maintain optimum sustainable yield of the resources for food and recreational purposes. Spend much more time and effort in water quality management, particularly in the inshore waters to insure a bright future for both the commercial and recreational fisheries. It's way past time to bring all users of the marine resources together for the benefit of the resource. Maybe the Gulf State Marine Fisheries Commission can be the catalyst for such efforts.

Respectfully submitted,



Bob Jones, Executive Director
Southeastern Fisheries Association
Presented to the GSMFC on April 6, 1994

**COMMISSION BUSINESS MEETING**
**MINUTES**
**Thursday, April 6, 1994**
**Biloxi, Mississippi**



The meeting was called to order at 8:37 am by Chairman Rudy Rosen. He noted that a quorum was present and asked that all commissioners, staff and other participants introduce themselves. He than reviewed pertinent rules and regulations regarding the appropriate meeting procedures. Voting is by individual Commissioners. If there is a question about the vote, each state delegation shall cast one vote. If three Commissioners are present, two out of three will carry the State vote. If only two Commissioners are present from a state, they must agree or their vote will offset each other. If only one Commissioner from a state is present his vote shall represent the state.

The following Commissioners and/or proxies were present:

| Members | |
|---|---|
| Leroy Kiffe | LA |
| John Roussel | LA |
| Rudy Rosen | TX |
| Chris Nelson | AL |
| Walter Tatum | AL |
| Tommy Gollott | MS |
| Joe Gill, Jr. | MS |
| George Sekul | MS |
| Edwin Irby | FL |

Other persons attending were:

Staff
Larry B. Simpson, Executive Director
Ron Lukens, Assistant Director
Dave Donaldson, SEAMAP Coordinator
Richard Leard, IJF Coordinator
Ginny Herring, Executive Assistant
Cheryl Noble, Staff Assistant
Nancy Marcellus, Administrative Assistant
Cynthia Bosworth, Staff Assistant

Others
Doug Frugé, USFWS, Ocean Springs, MS
Dan Furlong, NMFS, St. Petersburg, FL
Rick Marks, NFMOA/NFI, Arlington, VA
Gene McCarty, TPWD, Austin, TX
Tom McIlwain, GCRL, Ocean Springs, MS
Jerald K. Waller, ADCNR/MRD, Dauphin Island, AL

Adoption of Agenda

The agenda was adopted with the following changes. Items #7, #11, and #12 were moved forward in the agenda. All of these items followed Item #5.

Adoption of Minutes

The minutes for the October 21, 1993 meeting held in San Antonio, Texas were approved as presented.

NMFS Southeast Regional Office (SERO) Report

Dan Furlong reported on behalf of the NMFS/SERO. He reported that for the first time in twelve years, the administration supports an FY 1994 budget increase of $62.2M for the NMFS programs. The proposed increases will support activities to build sustainable Southeast fisheries; recovery of protected species; and, protection and restoration of living marine resource habitat. SEAMAP and MARFIN, among other activities will continue to be funded at the FY 1994 levels. The user fee issues discussed at the October 1993 meeting continue to be involved in the budget process. The Administration wants approximately $82M of the total budget to be funded by a user fee concept. D. Furlong stated plans are for user fees collected by the agency to go back to the NMFS but may not necessarily be assessed back to a species and/or region paying a particular user fee.

Dan Furlong briefly discussed NMFS policy on Individual Transferrable Quotas (ITQ). Mr. Rolland Schmitten, Assistant Administrator for Fisheries of the National Marine Fisheries Service/National Oceanic and Atmospheric Administration had addressed this topic in detail at the TCC meeting held the previous day. The NMFS views ITQs as a very useful tool to conserve and manage the Nation's marine resources. They represent one approach that can address many of the problems that have developed under traditional open access management programs. Although considerable costs are involved in developing, implementing, and maintaining ITQ programs, the NMFS believes that in time the benefits will outweigh the costs in certain fisheries. They anticipate increased industry support in fisheries where benefits can be derived. E. Irby discussed problems and successes Florida is currently experiencing with their lobster ITQ program. Florida fishermen were not real supportive at first but more and more fishermen are now getting involved. The program has only been implemented for one year. He will report back to the Commissioners after more time has passed and managers will be better able to assess the program.

D. Furlong discussed funding of NMFS Bycatch Programs. Funding is currently being provided through NMFS budget, Saltonstall Kennedy Grants, and MARFIN grants. The current time frame for consideration of management measures by the Council to reduce red snapper bycatch in the shrimp fishery is late 1994 or early 1995. It is hoped that in this way red snapper will reach 20% Spawning Potential Ratio (SPR) by the year 2009. Congressman Tauzin is attempting to extend this time frame.

R. Rosen briefed the Commissioners on the National Bycatch Program. Funding for this project is $200,000. This program will provide Washington level personnel a look at nationwide bycatch issues. C. Nelson asked D. Furlong how NMFS knows how many red snapper are being taken by the shrimp industry if they do not know how many shrimp boats are in the fishery. D. Furlong stated that the Pascagoula Laboratory has developed a method to determine bycatch. They will present their method in May 1994 for interested persons. Other discussions concerned improved habitat as a method of red snapper recovery. D. Furlong stated that NMFS is addressing issues raised in the Reef Fish FMP. NMFS has no funds available to address habitat issues at this time. R. Lukens reported that the Commission is addressing habitat improvement as part of artificial reef management. T. Gollott would like to see a cooperative program in the Gulf to address improved habitat.

USFWS Region 4 Office - Report

Doug Frugé, Gulf Coast Fisheries Coordinator, USFWS reported for Region 4. He reported that Environmental Impact Statement on the Federal Aid Program is currently under review. He stated that

states were concerned with the FWS emphasis on national and regional priorities. R. Lukens and R. Rosen elaborated on the states' concerns. The states feel that FWS will dictate to the states how they could use grant funds. D. Frugé reported that states would be encouraged to develop projects that address national and regional problems, but would still have the freedom to develop projects as they see fit. This will not affect the way FWS presently administers the Federal Aid Program. R. Rosen indicated that it was his understanding that FWS wants to work with the states in changing FWS directions. D. Frugé further stated that a decrease of 10% in Federal Aid allocations for FY 1994 is due to an overestimate by the Treasury of import tax receipts in prior years and generally lower interest being earned on the Federal Aid Trust Fund.

D. Frugé reported that Federal Aid allocations between freshwater and marine must be "equitable". Proportions are based on marine vs. freshwater anglers surveys. Based on these surveys, Texas marine angler allocations were reduced by 3%. FWS is attempting to be as flexible as possible in determining what constitutes equitable allocations. States are encouraged to submit their own data if they feel that it is more accurate.

D. Frugé gave a status report on the Lower Mississippi River Conservation Committee (LMRCC). They held their first annual meeting on March 1, in Little Rock, Arkansas. FWS has been instrumental in establishing this organization. D. Frugé has helped with coordination of this project, but as of April 18, 1994, FWS has hired Ron Nassar on a full-time basis.

D. Frugé reported that there was no change in zebra mussel distribution since last October. A task force was formed in January 1994 to monitor the zebra mussel in the lower Mississippi River. Studies have shown that the zebra mussel can tolerate high salinities and calcium levels. They do not, however, do well in fluctuating waters.

The new FWS Director has embraced an "Ecosystem Approach" to the way FWS will do business. Funding and actions will be based on a system of watershed-defined ecosystem units. In practice this will mean greater coordination and cooperation between FWS and other programs and organizations.

The FWS is currently working on four major areas in sea turtle recovery: beach armoring regulations in Florida; installing light shields on street lights near beach nesting areas; working with the Corp of Engineers to evaluate effects of beach nourishment project; and, beach driving in Volusia County, Florida.

Selection of Charles H. Lyles Award Recipient

L. Simpson briefly reviewed rules for the annual selection of a recipient for the "Charles H. Lyles Award". The 1994-95 recipient will be presented the award at the October 1994 meeting in New Orleans. *L. Kiffe nominated Ted Shepard. T. Gollott moved to accept the nomination by acclamation. The motion was approved unanimously. L. Simpson will contact Ted Shepard by letter and inform him of his selection.

Future Meetings

L. Simpson reported that the Commission staff had been having problems scheduling meetings due to conflicts with other organizations, Easter and Spring break. One solution may be to schedule meetings further out (12 to 18 months). This would require flexibility with meeting dates. Spring meetings will be scheduled anywhere from mid-March through mid-April.

The full Commission will meet at the Clarion Hotel, New Orleans, Louisiana, in October 1994. In March 1995, the committees only will meet in Orlando, Florida. The Commissioners will meet jointly

with the Atlantic and Pacific States Marine Fisheries Commission in April 1995 in Washington, D.C. The staff was directed to seek a location in Orange Beach, Alabama for October 1995 meeting.

Proposed Amendment of Section 306 of the Magnuson Fishery Conservation and Management Act (MFCMA) of 1993

R. Rosen stated that Commission's proposed amendment of Section 306 of the MFCMA had been discussed in detail at the Commercial Fisheries Advisory Committee (CFAC) on April 6. Robert Jones, Southeastern Fisheries Association, Inc. (SFA) made a presentation at this meeting that reflected SFA's concerns regarding amendments to MFCMA, particularly the Commission's proposed amendments. R. Rosen will make sure everyone gets a copy of this presentation (copy attached to CFAC minutes). He stated it was a clearly written and well thought out legal theory. He further stated that the Commissioners had discussed their proposed amendments (copy attached) and that draft language had been approved at the October 1993 meeting. This language was subsequently discussed and input requested from other Commissions and organizations, including National Fisheries Institute. Some editing was made to accommodate the Atlantic and Pacific Fisheries Commissions but the intent and concept of the Commissioners were followed. Basically this proposal clarifies the authority of the States to manage inshore fishery resources while offshore both with a federal plan and without a plan, to apply conservation and enforcement measures consistently.

C. Nelson recalled the discussion of the Commission's proposed amendments but did not remember actual language being voted on. R. Jones spoke to the CFAC at C. Nelson's request, because of problems that SFA has experienced with state laws in Florida. C. Nelson felt that SFA's position should be considered and supported changing the Commission's proposed amendments based on information contained in this presentation. He reviewed in detail SFA's position of the Gulf States Marine Fisheries Commission's proposed amendments (see pp. 15-31 of CFAC attachment). Basically, SFA feels that the Commission's proposed amendment would allow a state to preempt a federal fishery management plan through its landing laws thus taking control of the federal fisheries. They fear that some states would totally prohibit commercial net fishing or only allow their own citizens access to the fishery. They feel that this is not the intent of the MFCMA.

C. Nelson requested that the Commissioners discuss SFA's position. He also thought that a vote on the amendment was still necessary. W. Tatum asked if that was a good idea, since the proposed amendments had already been circulated. R. Rosen did not think it was a good idea to change positions at this time but stated that the Commissioners could do so if they wanted to change their original position. L. Simpson reviewed the procedures followed in developing the Commission's proposed amendment. The issue was presented to the Commission at the Spring 1993 meeting and a concept discussed. Specific language was developed and voted on in October 1993 at the Commission Business Meeting. Some minor changes in the original language were necessary but the proposal reflects Commissioner's directions, actions, intent and concept. L. Simpson explained that some of the language was changed at the request of the PSMFC and ASMFC and in other instances the change actually enhanced the Commission's intent.

R. Marks stated that he thought the Commission had not utilized an open process in developing the proposal. He stated that he did not think constituents had been involved in the process. L. Simpson again reviewed the procedures followed. He read the original proposal and again pointed out that only minor changes had been made, nothing that changed the Commission's intent. Terms such as "legitimate state interest" were added to be more specific and "90 days" was added simply because there are only 90 days between Council meetings. Nothing was changed that would change the intent - to clarify the authority of a State to manage the fishery resources off that state and to apply enforcement and conservation measures in a consistent manner. L. Simpson further stated that his interpretation is, if there is no Federal FMP in place, then State law applies, therefore there would be no need to involve the Secretary of Commerce to write a plan for these species.

During a break, L. Simpson showed C. Nelson the minutes documenting the procedures followed in developing the Commission's proposal. He agreed that appropriate guidelines were followed by the Commissioners and staff. Nelson went on record being against the Commission's proposed amendment. R. Rosen recommended that if any Commissioner desired to change the amendment that they could do so. W. Tatum motioned to put in writing any changes to the amendment that might better clarify the Commissions position. J. Roussel seconded. The motion passed. No one had written changes, but R. Rosen instructed Commissioners to mail any written comments to the Commission office. He would hold a conference call meeting to discuss any recommendations and suggestions that are submitted.

Interjurisdictional Fisheries Act (IJF) - Public Law 99-659

L. Simpson presented a joint statement from the three compact Commissions on their recommendations for IJF funding. In the past, annual appropriations of $330,000 were split equally between the three Commissions. This amount is no longer adequate. P. L. 103-206 Title VIII, Section 811 authorizes $600,000 for this program. L. Simpson, along with the other Commissions, will seek to have this amount allocated.

Red Drum Mark/Recapture and Age Composition Studies

L. Simpson stated that he will continue to seek funding for a three year red drum mark/recapture and age composition study. This is an important study due to the extreme measures taken in the late 1980s to protect the resource, a mark/recapture study is necessary to determine the success and health of the offshore adult population and document any changes in that resource. Funds necessary for this study amount to $1.7 million over three years. It is recommended that the southeast region of the NMFS monitor and coordinate this activity.

Report - Technical Coordinating Committee (TCC)

T. McIlwain reported that the TCC met on Wednesday, April 6, 1994. The committee received a report on freshwater introduction into Mississippi and Louisiana marshes from D. Etzold. T. McIlwain pointed out that D. Etzold first reported on this project in 1974. Progress is being made as state funds become available. Mississippi has made its portion available. Other reports included reports from the various Gulf States, NMFS and FWS. Mississippi and Florida are revamping their marine management agencies.

The various TCC Subcommittees reported. Among other topics the SEAMAP subcommittee reported on the status of its comparative tow study currently in its second year. No action was required by this subcommittee. On behalf of the Anadromous Fish Subcommittee, the TCC recommended that the Commission write a letter in opposition to the West Pearl River Navigation Project. The TCC also recommended the Commission accept the Data Management Subcommittee's White Paper regarding the need for planning and coordination of the collection and management of commercial fisheries statistics. Other action requested by TCC subcommittees came from the Recreational Fisheries Management Subcommittee. They recommended the name be changed to the Artificial Reef Subcommittee. J. Gill motioned to approve the report and the three recommendations. C. Nelson seconded. The motion passed.

Report - Law Enforcement Committee (LEC)

J. Waller reported that the LEC met jointly with the GMFMC Law Advisory Committee in Gulf Shores, Alabama on Monday, March 14, 1994. The committee received a report from Texas regarding the Texas Coast Watchers Program and a system the state is using in tracking finfish exports and imports. Other topics discussed included problems in the transport of shellfish, particularly crabs and oysters. J. Waller reported that Morris Pallozzi, Director of Law Enforcement for NMFS was retiring. He requested

that the Commission write a letter to M. Pallozzi in appreciation of his outstanding law enforcement work in the Gulf Region.

The LEC continues to discuss enforcement problems that occur throughout the region due to different size and regulations among the Gulf States for target species. J. Waller recommended that the Commission support uniform size regulations for amberjack, cobia, flounder, king and Spanish mackerel, snappers, speckled trout, black drum and pompano. T. Gollott and J. Gill agreed that something needs to be done. After discussion, J. Roussel motioned that the LEC be charged with writing a "white paper" detailing the enforcement problems. This paper would be submitted to the State-Federal Fisheries Management Committee to help them better understand the enforcement issues and to find a workable solution. T. Gollott seconded. The motion passed.

Report - State-Federal Fisheries Management Committee (S-FFMC)

L. Simpson reported that the S-FFMC met on Wednesday, April 6, 1994. The committee reviewed and/or discussed status of the RecFIN and ComFIN initiatives; the Interjurisdictional Fisheries Management Program and efforts to secure appropriations; the Menhaden Advisory Committee Report; the Gulf Sturgeon Recovery Plan; and, an overview of the Atlantic Coastal Fisheries Cooperative Management Act of 1993. The S-FFMC discussed the problem of getting recreational representation on the various task forces for FMPs, especially the Spotted Seatrout TTF. The Recreational Fisheries Advisory Committee has been inactive, therefore their participation does not exist. On behalf of the S-FFMC, L. Simpson recommended that the Commission staff seek input from the various States and take the necessary actions to appoint a recreational representative to the Spotted Seatrout TTF. J. Gill motioned to approve this recommendation from the S-FFMC. C. Nelson seconded. The motion carried.

L. Simpson reported on the Atlantic Coastal Fisheries Cooperative Management Act of 1993. Basically this legislation gives the Atlantic States Marine Fisheries Commission (ASMFC) the authority to develop FMPs and to implement and enforce recommended management measures. It is a self governing tool that allows the Secretary of Commerce to declare a moratorium at the request of the ASMFC. This particular legislation evolved as a result of problems in the striped bass fishery on the Atlantic Coast. This type of management is of no interest in the Gulf Region and will not impact the Gulf. This legislation goes into effect December 1995. L. Simpson will track the success and/or failure of this legislation and advise the Commissioners.

R. Lukens briefly reviewed the status of the RecFIN and ComFIN Initiatives. He noted that the Commission staff and DMS is deeply involved in these efforts and are now looking for administrative funding support for these programs.

R. Leard reported on the Commission's Habitat Program. He reviewed the ASMFC and PSMFC's Habitat Programs dealing with marine debris and oil spills. The Commission's major areas of emphasis will be education, outreach and operations (providing tools to help fight spills and eliminate debris). R. Leard is currently looking at other groups to avoid duplication. The Commission is seeking funding for their program from various organizations and industry sources. Commissioners were very enthusiastic about the Commission beginning a habitat program and supported this initiative.

Coastal Effects of the Mississippi Casino Industry

Tommy Gollott (D), Mississippi Senate, District 50, Joe Gill, Deputy Director, Mississippi Bureau of Marine Resources, and George Sekul, Owner, Gulf Central Seafoods, Inc. led the discussion regarding the coastal effects of the Mississippi casino industry.

T. Gollott reported that the Mississippi casinos have created over 28,000 new jobs, with a payroll of over $500 million. Capital investments and construction on the Coast are approximately $1 billion. Local taxes and fees total $28 million. State revenues at the last count amounted to $80 million. The casinos each spend approximately $5 million a year on marketing. The State of Mississippi budgets only $5 million for marketing purposes. What this means is increased tourist dollars. The economic development people in the State project that 3.5 million visitors will come to the Mississippi Gulf Coast this summer. They project between 5 and 7 million for the next twelve months. Visitors to the coast casinos will translate into new dollars, new hotels and new restaurants. T. Gollott stated that two years ago, all State budgets were cut by 5%. Last year the State generated $306 million over anticipated revenues. T. Gollott projects that this year the State will have a $400 million overage in revenues. Unemployment is at an all time low which means the economy will improve. Funds are available for programs now that were not available prior to the casinos. He feels that this trend will continue and hopes that the State will lead the rest of the region for the next two years. If Mississippi does not have to compete with other States for casino dollars he feels that no other area will be able to touch Mississippi's success. He considers Mississippi's tough regulations, which exceed Nevada's regulations, and the Gaming Commission's efficient business-like management of the industry to be a major reason for the success the State is experiencing.

J. Gill reported that his major concern is the impact the casinos will have on the resources. He reported that 10 casinos are currently operating off the Mississippi Gulf Coast. Six are under construction and 6 are being reviewed by the Bureau of Marine Resources. The immediate impact has been the lack of dock space for the commercial fishing fleet. New docks are being built and a study is under way to plan and provide new facilities for the fleet. All of the ice houses and processing plants on the beach are now gone. There are five ice houses located on Back Bay. The loss of the processing plants has caused landings to go down, which of course impacts federal funds to the State agencies that support the resources. If casinos are allowed to move into the Back Bay areas, four more plants will close down. The existing ice houses and plants will be hard pressed to handle the Mississippi shrimp fleet this season. The additional impact from the transient fleet will make it even more difficult. J. Gill sees the economic growth of the State as positive, but would like to see this new industry involved in cooperative efforts to secure the habitat for the resources that existed prior to the casino industry's arrival on the beach front.

G. Sekul stated that City and State officials lacked vision and should have been able to foresee the problems that now exist for the commercial fishing community. The independent shrimp boats have been pushed out of the business, they have nowhere to go. He reported that in March 1993 a committee was developed to find a facility for shrimp boats. It will take up to 4 years to build a new facility. No areas are available for purchase or lease. Property owners willing to sell or lease are dealing with the casinos because there is more money in it for them. He is concerned for the independent fishermen and the processors. The transient fleet is huge. The local fishermen can't compete and the processors can't service them. There is an immediate need for piers, ice plants, docks, and processing plants. If the casinos stay out of Back Bay and the commercial fleet moves in, other problems will occur. Traffic on Highway 90 is already bad, but if boat traffic increases to Back Bay, the Ocean Springs-Biloxi Bridge will be going up and down all the time. J. Roussel is concerned that the entire Gulf of Mexico fishing fleet will be impacted. If the shrimp season is a good one, who will provide fuel, ice and processing? It was noted that even the charter boats are having to find new docking facilities. For some commercial fishermen the problems are unsurmountable, they will sell out. The Commission will continue to monitor the situation on the Mississippi Gulf Coast and report any progress.

Financial Report

L. Simpson provided copies of the a financial statement as of March 31, 1994. There are no projected problems. The Commission staff is committed to watching expenditures very closely. L. Simpson reminded the Commissioners that he had been authorized to purchase a new vehicle for the

Commission out of reserve funds. He will monitor expenditures, and if financial problems do not occur, he will purchase a new vehicle during 1994.

The Commission auditors are expected in the office later this month. When the 1993 audit is complete, copies will be forwarded for review and approval.

Report - Commercial Fisheries Advisory Committee (CFAC)

Chris Nelson reported that the CFAC met on Wednesday, April 6, 1994. The committee received several reports. John Veazey from U.S. Food and Drug Administration (FDA) gave an overview on how the National Shellfish Sanitation Program (NSSP) operates, the role of the FDA and its relationship to the states. R. Jones, Executive Director, Southeastern Fisheries Association presented a document entitled "Why Southeastern Fisheries Association is Fighting to Preserve the Magnuson Fishery Conservation and Management Act of 1976". Other topics discussed included conflicts in the commercial crab fishery; and economic analysis of shrimp processing in the Gulf of Mexico; and, update on shrimp bycatch activities. The CFAC appointed Tom Hults to represent the commercial industry on the Spotted Seatrout Technical Task Force.

Other Business

R. Rosen discussed the need for the Commission to do some strategic planning. He would like to see the Commissioners set aside several hours at the next meeting (October 1994), to discuss general directions, priorities, new areas of interest to the Commission, and, reexamine areas the Commission is currently involved in. He thinks that this would give the staff general guidance and provide the Commissioners with information necessary to make the Commission work for all of the Gulf States. He suggested that a professional facilitator be hired to assist the Commissioners in developing long and short range plans for the Commission. J. Gill motioned to follow through on this recommendations. C. Nelson seconded. The motion carried.

R. Duplaise demonstrated a shrimp harvesting system he had designed to help alleviate bycatch problems in the shrimp industry. The system utilizes a light to attract shrimp. When shrimp enter the wire system they cannot escape but fish can. He suggested that this system could be used for small or large operations. It is a patented system, developed in 1988.

**There being no further business, the meeting adjourned at 3:10 pm.**

APPROVED BY:

Harry Blanchet
COMMITTEE CHAIRMAN

**Spotted Seatrout Technical Task Force**
**MINUTES**
**June 21-22, 1994**
**Gulf Shores, AL**

The organizational meeting of the Spotted Seatrout Technical Task came to order at 12:20 p.m. The following were in attendance:

Members
Chuck Adams, UF, Gainesville, FL
Harry Blanchet, LDWF, Baton Rouge, LA
Jim Duffy, ADCNR/MRD, Gulf Shores, AL
Tom Hults, Seabrook Seafood, Kemah, TX
Larry McEachron, TPWD, Rockport, TX
Bob Muller, FMRI, St. Petersburg, FL
Terry Waldrop, GCCA, Gulfport, MS
Jerald K. Waller, ADCNR/MRD, Dauphin Island, AL
James "Tut" Warren, GCRL, Ocean Springs, MS

Others
James Ammons, Fishing Guide, Orange Beach, AL
Tom Madison, Fishing Guide, Foley, AL

Staff
Rick Leard, Program Coordinator
Cindy Bosworth, Staff Assistant

Opening Comments/Introductions

Vernon Minton, Director of the Alabama Department of Conservation and Natural Resources, Marine Resources Division, welcomed the task force to the Claude Peteet Mariculture Center. He encouraged development of a fishery management plan for the spotted seatrout fishery and noted the importance of this inshore species.

Rick Leard, Program Coordinator, presented a brief overview of the Interjurisdictional Fishery Management Program and described the GSMFC fishery management plan development process.

Election of Chairman

Chuck Adams nominated Harry Blanchet for chairman, and the nomination was seconded by Larry McEachron. Terry Waldrop asked that nominations be closed, and Harry Blanchet was elected chairman by acclamation.

Table of Contents Discussion

Rick Leard explained that the task force has leeway in adding to or deleting portions of the outline as necessitated by the specific fishery. The task force then reviewed and revised the table of contents (see attachment 1).

Identification of Data Bases and Data Needs

Rick Leard reported that the Stock Assessment Team and Data Management Subcommittee have been sent a request for all data bases and pertinent information to perform a stock assessment for this

fishery. Task force members are requested to send in publications with general information on the fishery. A repository listing of materials on hand in the GSMFC office (attachment 2) should prevent duplication of this effort.

Each state representative presented a brief overview of data bases for their state. Bob Muller, also on the Stock Assessment Team, volunteered to coordinate the stock assessment effort for this fishery and will send out a questionnaire to ascertain the availability of specific data from each state.

Assignments

The task force discussed and agreed upon section assignments as noted below:

| FMP Section | Assigned to: |
|---|---|
| • Title Page<br>TTF Listing<br>Acknowledgements (input from all)<br>Preface<br>Table of Contents<br>List of Tables<br>List of Figures | Staff |
| • 1.0 Summary (to be written once the FMP is complete) | All |
| • 2.0 Introduction | Staff |
| • 3.0 Description of Stock(s)...<br>(input from profiles, LA FMP, add paragraphs on genetics information through coordination with McEachron) | Staff |
| • 4.0 Description of the Habitat...<br>(add broad eco-system statement) | Staff |
| • 5.0 Fishery Management Jurisdiction, Laws...<br>(using Mullet FMP draft, state reps update as needed, add IJF Act) | Staff w/State Reps |
| • 6.0 Description of Fishing Activities...<br>(state reps send in, break down by state, recreational fishery, commercial fishery) | Staff w/State Reps |
| • 7.0 Description of Economic Characteristics...<br>(Adams distribute list of needs to state reps) | C. Adams |
| • 8.0 Social & Cultural Framework...<br>(Leard to check with GMFMC Panel; M. Jepson, UF; B. Ditton, TX A&M) | |
| • 9.0 Management Considerations<br>(begin development of 9.4 now) | All |
| • 10.0 Potential Management Measures<br>(need statement emphasizing that these are management scenarios; 10.6.1/10.6.2 stress data needs) | All |

- 11.0 Management Recommendations — All
- 12.0 Regional Research Priorities & Data Requirements — All
- 13.0 Review and Monitoring of the Plan — Staff
- 14.0 References — All
- 15.0 Appendix
  15.1 Stock Assessment — B. Muller

Timetable for Completion/Next Meeting

A broad timetable was developed and is anticipated to proceed as follows:

June 1994 - Organizational Task Force Meeting-FMP development begins
August 1994 - Stock Assessment Team Meeting-stock assessment begins
September 1994 - Second Task Force meeting
December 1995- Stock assessment complete
June 1996-FMP complete

Task force deadlines are as follows:

Input on sections 3, 4, and 5 will be completed and sent to the GSMFC office by July 31.

State sections to be incorporated into section 6 will be completed by December 31.

R. Leard reported that the Stock Assessment Team shall begin discussion of the spotted seatrout fishery at a meeting tentatively scheduled for mid-August. Depending upon progress of section assignments, the next task force meeting is tentatively scheduled for the week of September 19.

**There being no further business, the meeting adjourned at 12:15 p.m.**

# DRAFT

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**State reps send in info by 7/31**
**R. Leard will combine & develop draft sections 3.0 & 4.0**

**State reps send current info to R. Leard by 7/31**
**R. Leard will develop draft section 5.0**

6.0 Description of Fishing Activities Affecting the Stocks in the U.S. Gulf of Mexico
6.1 Recreational Fishery
6.1.1 History
6.1.2 State Fisheries
6.1.2.1 Florida
6.1.2.2 Alabama
6.1.2.3 Mississippi
6.1.2.4 Louisiana
6.1.2.5 Texas
6.2 Commercial Fishery
6.2.1 History
6.2.2 State Fisheries
6.2.2.1 Florida
6.2.2.2 Alabama
6.2.2.3 Mississippi
6.2.2.4 Louisiana
6.2.2.5 Texas
6.3 Incidental Catch
6.4 Foreign Activity

**State reps draft descriptions on their respective state's fisheries**
**Send to R. Leard by 12/31**

7.0 Description of Processing, Marketing, and Economic Characteristics of the Fishery
7.1 Processing Methods and Products
7.2 Markets and Product Distribution
7.3 Domestic Harvesting Sector
7.4 Domestic Processing Sector
7.5 Economic Interdependencies
7.6 Market Competition

**C. Adams will draft**

8.0 Social and Cultural Framework of Domestic Fishermen and Their Communities
8.1 Commercial Harvesters, Dealers, and Processors
8.1.1 Ethnic Characteristics
8.1.2 Age and Education Profiles of Fishermen and Processing Labor Force
8.1.3 Employment Opportunities
8.1.4 Distribution of Income
8.1.5 Resource Expectations
8.2 Recreational Fishermen
8.2.1 Ethnic Characteristics
8.2.2 Age and Education Profiles
8.2.3 Resource Expectations
8.3 Organizations Associated with the Fishery
8.3.1 Federal
8.3.2 Regional
8.3.3 Local (State)
8.3.3.1 Florida
8.3.3.2 Alabama
8.3.3.3 Mississippi
8.3.3.4 Louisiana
8.3.3.5 Texas

**R. Leard will work to identify an author for section 8.0**

9.0 Management Considerations
9.1 Definition of the Fishery
9.2 Management Unit
9.3 Stock Assessment and Status of the Stock
9.4 Problems and Perceived Problems in the Fishery
9.4.1 Inadequate Supply for all Potential User Groups
9.4.2 Excessive Bag/Possession Limits
9.4.3 Increased Recreational Harvesters
9.4.4 Differential Recreational Expectations - Trophy Versus Food Fishing
9.4.5 Limited Database for Management

**B. Muller will develop questionnaire & coordinate development**

**All TTF members send comments by 12/31**

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Overstreet, R.M. 1983. Aspects of the biology of the spotted seatrout, *Cynoscion nebulosis*, in Mississippi. Gulf Research Reports, Supplement 1. 43 pp.

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APPROVED BY:

COMMITTEE CHAIRMAN

TCC ARTIFICIAL REEF SUBCOMMITTEE
MINUTES
Tuesday, July 26, 1994
Wednesday, July 27, 1994
New Orleans, Louisiana

Chairman Walter Tatum called the meeting to order at 1:00pm. The following members and others were present:

**Members**
Walter Tatum, ADCNR/MRD, Gulf Shores, Alabama
Jan Culbertson, TPWD, Rockport, Texas
Rick Kasprzak, LDWF, Baton Rouge, Louisiana
Jon Dodrill, FDEP, Tallahassee, Florida
Mike Buchanan, MDMR, Biloxi, Mississippi
Bob Cooke, USFWS, Atlanta, Georgia

**Staff**
Ron Lukens, Assistant Director

**Others**
Melanie Morgan, Reef Ball Development Group, Doraville, Georgia
Todd Barber, Reef Ball Development Group, Doraville, Georgia
Burt Mullin, MMS, New Orleans, Louisiana
Warren Barton, MMS, New Orleans, Louisiana
Les Dautrive, MMS, New Orleans, Louisiana
LTC Don Dale, Army Material Command
Capt. Bill Higgins, Defense Logistics Agency

## Adoption of Agenda

Several agenda items were rearranged in different order, with no new agenda items added. The agenda was adopted as amended without objection.

## Approval of Minutes

The minutes were approved as written without objection.

**REEF-EX Update**

Chairman Tatum introduced LTC Don Dale and Captain Bill Higgins, both of whom are involved in the REEF-EX program. Tatum indicated that the day prior to the meeting, 20 tanks were deployed offshore Alabama, in addition to the six tanks that were deployed in the initial exercise. He indicated that the sinking was successful. Thirty-eight additional tanks will be deployed within the next several days, again in offshore Alabama.

There was a great deal of discussion regarding the deployment activities, including viewing video footage of tank preparation and deployment. Higgins indicated that there is now some limited funding to carry out REEF-EX, with additional funding expected next year. Two of the most important items to result from the discussion was the need to develop a coordinated approach to future REEF-EX activities through a Gulf-wide cooperative project, and the need for current economic data on artificial reef use and impact on local economies.

* The Subcommittee elected to develop a cooperative project proposal which outlines what the states will do and what the REEF-EX program to do, including the potential for funding from the states. Also, the Subcommittee discussed the issue of economic studies, indicating to Higgins and Dale that the Subcommittee had had several discussions regarding economic studies with personnel from Southwick and Associates. Higgins pointed out that one of the big weaknesses is the lack of commercial use and economic data. He indicated that there may be funding available to support an economic study if the Gulf and Atlantic committees can provide input regarding what should be done and where. The Subcommittee expressed considerable interest in working with REEF-EX to conduct an economic study. The Subcommittee indicated that they would look into reinstating the artificial reef questions in the Marine Recreational Fisheries Statistics Survey conducted by the National Marine Fisheries Service (NMFS). That would provide some data regarding use of artificial reefs. It was also suggested that the NMFS log book and Cooperative Statistics Programs could be used to get some commercial artificial reef use data. The Subcommittee asked if the Defense Logistics

Agency, who is in charge of the REEF-EX program, could develop a "cook book" of how to get involved with REEF-EX and what is involved in getting tanks. Higgins answered that they could do that.

**Reef Ball Development Group**

Melanie Morgan and Todd Barber of Reef Ball Development Group provided the Subcommittee with a description of reef balls, which are commercially produced artificial reef units. The presentation included slides and printed literature regarding the various models and applications of reef balls. It should be noted that several state artificial reef programs have acquired the material and placed them in an experimental mode to determine the efficacy of their use in broad application.

**Status of Gulf of Mexico Regional Data Base**

a. Housing and Maintenance - Lukens introduced the issue, relating that the Sport Fishing Institute (SFI), the organization that began and maintained the national artificial reef data base, has been reorganized into the new American Sportfishing Association (ASA). When that reorganization occurred, the ASA discontinued the SFI Artificial Reef Development Center (ARDC), which physically housed the data base. Tina Berger, past member of the Subcommittee and past Director of the ARDC, asked if the Gulf States Marine Fisheries Commission (GSMFC) wanted the data base, since it would no longer be maintained at the ASA. Lukens indicated that he felt that the GSMFC would be an appropriate organization to house and maintain the data base, and brought the issue before the Subcommittee for discussion. It was generally agreed by the Subcommittee that the GSMFC should house and maintain the data base.

b. Update and Standardization - Lukens then indicated that there are consistency and user problems with the data base as it is currently stored. He asked the Subcommittee if they are interested in restructuring the data base to make it more user friendly and applicable to geographic information system technology available today. Lukens indicated that the New Orleans office of the Minerals Management Service

(MMS) had requested the data for the Gulf of Mexico for inclusion into their data base related to OCS oil and gas activities. Their experience emphasized the difficulty in using the data base in practical application, requiring significant staff time to "clean up" the data prior to its use. Lukens indicated that MMS staff had agreed to discuss their use of the data and their possible role in future Subcommittee work on the data base.

Les Dautrive of MMS introduced Norm Froomer and Warren Barton who actually worked with the data, indicating that the data are used to analyze the spacial relationship between existing artificial reefs and oil and gas structures and to inform potential lease purchasers of the presence of artificial reef material in a given lease, since that presence could affect oil and gas exploration activities. This application can also be used by artificial reef managers when making decisions regarding siting of artificial reefs for development. This approach avoids potential user conflicts in offshore waters. Barton and Froomer provided the Subcommittee with slides and printout material from the GIS system at the MMS, while discussing the difficulties that were encountered using the data base.

Lukens indicated that the potential uses of a data base will likely increase as the visibility of artificial reef programs increases, and as artificial reefs become the focus of important issues, for example special management zone consideration and the REEF-EX exposure. These kinds of issues elevate the importance of artificial reefs in overall fisheries management, and increased attention leads to a need for more and higher quality data and information. It was pointed out that at the inception of the national data base, the uses that we have today for data may not have been envisioned; consequently, the structure of the data base may simply reflect what was known or understood at that time.

Lukens suggested that the Subcommittee might want to rework the data base from the ground up, deciding what data elements are important and how the data should be stored for easy access and utility. The Subcommittee agreed that that activity should take place. Lukens proposed to print out a listing of the data elements that are contained in the data base, not the data themselves, but rather the elements. At a

subsequent meeting the Subcommittee could begin to analyze the data elements to determine what should be contained in the data base, and progress toward reestablishing the data base in a more user friendly format. Then, the Subcommittee could establish a time schedule for regular updates of the data base as new artificial reefs are developed and additional data are obtained. It is also Lukens' intent to ask Norm Froomer and Warren Barton from MMS to assist the Subcommittee in the activity, since they have some recent experience with working with the current data base. There was general agreement from the Subcommittee to proceed with the project at the next meeting.

**Meeting Recess**

Prior to recessing the meeting, Chairman Tatum asked the Subcommittee members to think about how future work through REEF-EX. He explained that there is an opportunity for conducting economic and sociological studies on artificial reefs. Also, Captain Higgins suggested that it would be useful to have a cooperative effort coordinated through the Subcommittee to plan distribution and deployment of tanks and other military assets among the five states. Chairman Tatum asked that the issue be readdressed on the following day to determine how it could be handled.

**Discussion of Special Management Zone Issues (SMZ)**

a. Subcommittee Role as Council SMZ Panel - The Subcommittee held an extensive discussion regarding the role of the Subcommittee as the SMZ Monitoring Team for the Gulf of Mexico Fishery Management Council (Council). It was explained that the SMZ Monitoring Team was formed as a result of Amendment 5 to the Council Reef Fish Fishery Management Plan to consider a request from the Alabama Department of Conservation and Natural Resources/Marine Resources Division for SMZ designation of two large offshore artificial reef general permit areas. Following a great deal of debate, the Subcommittee determined that it, as the SMZ Monitoring Team, would not make a recommendation for or against Alabama's request, but rather would evaluate the

request and supporting documentation to determine if adequate analysis of the issue had been provided. The Subcommittee also determined that the format of the SMZ Monitoring Team report should reflect discussions regarding the specific request of Alabama, and not discuss a variety of other alternatives to any great degree. The Subcommittee determined that such discussion and advice to the Council should appropriately be provided by the Scientific and Statistical Committee and the Reef Fish Advisory Panel. It was agreed that the Subcommittee should convey the above recommendations to the full SMZ Monitoring Team during the upcoming meeting to follow the Subcommittee meeting.

b. ASMFC SMZ Workshop - Lukens informed the Subcommittee that the Atlantic States Marine Fisheries Commission (ASMFC) is planning an SMZ workshop to discuss a variety of issues related to SMZs, including enforcement, management implications, legality, among others. He indicated that there may be an opportunity for the Subcommittee to attend the workshop if a Subcommittee meeting could be held jointly with the ASMFC Artificial Reef Advisory Committee. The Subcommittee determined that if the timeframe is appropriate, they would like to meet jointly with the ASMFC and attend the SMZ workshop. If not, the next meeting should be held in November or December, 1994, in New Orleans.

Lukens indicated that he has been invited to provide a presentation to the workshop on the framework measure for SMZs in the Gulf Reef Fish Fishery Management Plan, and Chairman Tatum has been invited to provide a presentation on Alabama's experience regarding their SMZ request.

**Artificial Reef Material Project**

Lukens suggested to the Subcommittee that the artificial reef materials document be completed in first full draft by the end of December 1994. That time schedule will allow a full year to finalize the document during 1995. He indicated that the purpose of the agenda item is to get a status report on the progress of each member, and see if there are any questions remaining about what each member is supposed to be doing.

Lukens reviewed material that he had developed regarding an introduction to the document and asked the Subcommittee to let him know if they have any comments. Further, Lukens indicated that he had developed some information regarding tires; however, it is not in the proper format.

Chairman Tatum suggested that each member try to include any citations where materials were misused, as a way of demonstrating to readers of the document how not to use a particular material. He referenced an incident offshore Alabama regarding concrete bridge rubble that was accidently placed in areas where there was shrimp fishing activity. While concrete is thought to be a good material, that incident caused a user conflict which still exists. Lukens reminded the Subcommittee that they should be consulting with other artificial reef managers, particularly along the Atlantic coast, regarding their experiences using specific materials, using the materials document developed by the Atlantic States Marine Fisheries Commission. Each Subcommittee member then reviewed their information, providing a discussion of their progress. Lukens then reminded the Subcommittee that each member's work product will be reviewed and enhanced by the other members, resulting in the final product.

**Guidelines for Use of Coal Ash Waste**

Jan Culbertson presented information from Texas regarding the use of coal ash waste for artificial reefs. She indicated that she divided the presentation into two parts, the first being permits required and the second being the protocols required before permits can be gotten. She reminded the Subcommittee that the Environmental Protection Agency (EPA) had previously ruled that coal ash waste is not a hazardous waste, a ruling that relaxes the requirements for handling and use of the material. She referred to the EPA document that outlines the criteria for classification of coal ash waste as a Class II, non-hazardous material, and the guidelines contained therein for determining if the coal ash waste in question does meet the stated specifications. Her interpretation is that the ash waste from all sources of coal intended to be used as artificial reef material must be analyzed to determine if they do meet Class II, non-

hazardous waste specifications. Also required is a Corps of Engineers permit, as normally required for an artificial reef. She indicated that the EPA has determined that use of coal ash waste should be regulated by the states, and as such a state water quality permit is required from the appropriate state agency for use of coal ash waste as artificial reef material. Lukens indicated that state water quality certification may not be required if the material is to be deployed outside state jurisdiction. Kasprzak indicated that Louisiana's Coastal Zone Management (CZM) Program requires his program to get a ruling from the Louisiana Department of Environmental Quality on their artificial reef activities, even if the activity is in the federal zone. Culbertson indicated that the Texas CZM program is not yet approved. **Lukens suggested that the Subcommittee check into requirements for state agencies to approve use of the material in both state and federal waters.** Culbertson indicated that if the material is to be used as oyster cultch material, it will have to be pursued through the applicable oyster lease and transplanting process.

Regarding protocol for use of coal ash waste in artificial reefs, Culbertson indicated that the party desiring to use the material must evaluate the material for human health and environmental risks. She then referred to specific human health and environmental issues. Culbertson indicated that different sources of coal have different chemical consistencies. For instance, some have high sulfate, calcium sulfate, or calcium levels which may have different use implications depending on the composition of the ash residue. For this reason, a coal ash user should always know the source of coal and the coal combustion and handling process of the ash source. Houston Power and Light has gone through the process as described and documented each step. Consequently, they have an approved source of ash for use as artificial reef material. Lukens suggested that it would be useful to know why the coal composition is important, eg. why is it not good to use coal ash from coal that has a high sulfur content?

Culbertson indicated that the coal ash should be analyzed through a EP toxicity procedures as per the specification of ASTMC618-85, looking primarily for leachable cadmium, arsenic, lead, mercury, selenium, hexavalent chromium, among others. It

should be noted that the EP toxicity test is designed to mimic the conditions of acidic municipal landfills, not monofills of ash or the marine environment. Consequently, the test probably does not adequately address conditions under coal ash would be used as artificial reef materials. Since there is no other test available, the EPA still requires the test in the case of artificial reef usage. The question was asked whether the results of the toxicity test would preclude getting an application, and Culbertson indicated that it probably would not, since an argument could be made that the results are applicable to a acidic landfill only, not the marine environment. The EPA will still require the test, however.

Culbertson indicated that bio-toxicity and bio-accumulation tests should also be done for materials to be used in state waters but not in federal waters. These test address human health risks associated with the consumption of seafood exposed to possible leachate from coal ash materials. In Texas, the industry conducted bio-toxicity/bio-accumulation tests, and then the state Health Department duplicated those tests, before approval of the use of specific coal ash. This work was done primarily using oysters as indicator organisms, because of their sedentary nature and their filter feeding behavior. Chairman Tatum asked that the results of the study in Texas on leachate, coupled with Culbertson's report to the Subcommittee, should be presented to the GSMFC Technical Coordinating Committee (TCC), since this is largely the information the has been awaited related to the resolution on the use of coal ash as artificial reef material.

The next aspect of protocol for use of the ash material relates to physical characteristics, eg. the design mix. A rough surface texture is required to allow for bio-fouling. Another important component is the compressive strength of the material. The material should have between 350 and 500 psi according to ASTM rules. Apparently, exposure to seawater increases the compressive strength of the material in excess of ten fold. This is due to chemical reactions between the seawater and the coal ash. Another issue regarding the physical aspects is the actual shape and size of the material manufactured from the coal ash. For example, should the material be small blocks,

square rather than round, large enough to be a significant substrate, small enough for efficient handling, etc. **Culbertson's report is attached to these minutes.** She indicated that she would revise her report to reflect some of the discussion from the Subcommittee. The Subcommittee agreed that the information discussed should be analyzed as it relates to fulfilling the charge to the Subcommittee from the TCC to encourage the development of broad guidelines for the use of coal ash waste for artificial reef material. It may result in rescinding the earlier resolution or the development of another resolution or position statement. Lukens stated that Culbertson should make a presentation to the TCC regarding her report to the Subcommittee on the requirements of the EPA, referring to Houston Power and Light and to the leachate and toxicity studies from Texas. Chairman Tatum requested that information from Mississippi be included in the presentation. The TCC would then be in a position to take an action regarding the status of the resolution and the adoption of standard guidelines for use of coal ash waste as artificial reef material.

Chairman Tatum informed the Subcommittee that the American Coal Ash Association is holding their annual conference in January, 1995, in Orlando, Florida, and will be holding two sessions on aquatic application of coal combustion by-products. The suggestion was made that Lukens attend the conference, along with other Subcommittee members who may be interested in the technical sessions.

**Other Business**

Chairman Tatum reminded the Subcommittee that they were to think about the possibility of entering into a joint regional project with the DOD/DLA regarding deployment of tanks in offshore waters of the Gulf of Mexico. Following some discussion of the issue, the Subcommittee charged Lukens with drafting a preliminary cooperative project to distribute and deploy tanks made available to the states through REEF-EX. The cooperative project proposal will give Captain Higgins some support for seeking additional funding and other support for continuation of REEF-EX. The DOD/DLA is also interested in working through the Subcommittee to conduct an

economic study of artificial reefs that could be used by the state programs and the DOD/DLA to support and publicize their programs.

There being no further business, the Subcommittee adjourned at 12:00 pm.

**Guidelines for Use of Coal Waste Ash As Artificial Reef Material**

## I. PERMITS REQUIRED

Both Federal and Local State Permits must be obtained to place Coal Combustion By-Product Material in Artificial Reef Sites.

A. Federal Permits

1. EPA made a final determination required by Section 3001(b)(3)(c) of the Resource Conservation and Recovery Act (RCRA) on four large volume wastes from the combustion of coal by electric utility power plants on August 9, 1993. These waste materials include fly ash, bottom ash, boiler slag and flue gas emission control waste. EPA has concluded that the regulation under Subtitle C of RCRA is inappropriate for these four waste streams due to the limited risks posed by them and the existence of generally adequate State and Federal regulatory programs, and that the site specific approach to regulation over this material is appropriate. Therefore, EPA will continue to exempt these wastes from regulation as hazardous wastes under RCRA Subtitle C, as long as the proposed material meets the criteria for a "Class 2 Non-Hazardous Waste" (per ASTM C618-89) as described in the 40 CFR Part 261: 530-Z93-009, FRL-4689-8. The effective date of this ruling was September 2, 1993.

2. Corps of Engineers 404 and or Section 10 permits for placement of artificial reef substrate in navigable waters of the United States and within the Economic Exclusive Zone. U.S. Fish and Wildlife Service and National Maine Fisheries Service comments are coordinated through the Corps of Engineers.

B. State and Local Permits

1. Water Quality Permits through State and Local Governments

2. Surface Leases from State or Local Government to place material in State Waters

3. Oyster Leases for placement of reef material used as artificial reef substrate for oyster larvae settlement from State or Local Governments (Fish and Game and/or Health Departments)

## II. Protocols For Evaluating Coal Combustion By-Product (CCBP) Artificial Reef Substrate Required Prior to Application for Federal, State and Local Permits

A. Does the waste material used to make artificial reef substrate constitute damage to human health or the environment both acute and chronic effects?

1. Does the material exceed Primary Drinking Water Standards (PDWS)?

2. Does the material cause directly observed health effects such as elevated blood contamination levels or loss of life?

3. Does the material cause impairment of natural resources (i.e. contamination of any source of drinking water reasonably expected to be used for public drinking water supply?

4. Does the material cause any ecological effects resulting in impairment of the structure or function of natural ecosystems and habitats?

5. Does the material cause any effect on wildlife resulting in impairment of terrestrial or aquatic fauna (reduction in species diversity or density, impairment of reproduction)?

B. Assessment of Coal Ash Source

1. The physical and chemical differences from the coal used in coal combustion production will vary greatly from different locations. Only ash materials generated from one source of coal or specifically documented sources of coal may be considered for artificial reef material substrate. All subsequent testing to document the ash meets the EPA standards for Class 2 Non-Hazardous Waste material criteria should only be considered for this known source of coal. Should the source of coal used in the combustion process change, all testing should be repeated and considered a separate artificial reef substrate.

2. The source of the coal used in the combustion process which generates the ash used to make artificial reef substrate must be low in sulfur content.

a. Coal mined from Wyoming and Montana has been documented to be lower in sulfur content than coal from Pennsylvania and New York. Other sources of coal would need to be analyzed for sulfur content.

b. The percent of sulfur removed by scrubber units at coal combustion site where ash is generated is important and should also be documented.

3. The physical and chemical characterization of the ash which could potentially leach out must meet EPA standards for Class 2 Non-Hazardous Waste criteria as defined under RCRA, Section 3001(b)(3)(c). The following tests are recommended although the resulting data may not be a clear projection of the true leaching potential of the material.

a. The substrate should be analyzed by EP toxicity extraction procedure (EP) for (ASTM C-618-85 Specifications) for leachable cadmium, arsenic, lead, mercury selenium and hexavalent chromium; and Toxicity Characteristic Leaching Procedure (TCLP) testing for volatile, semivolatiles, chlorinated herbicides and organochlorine pesticides conducted using ASTM

batch/column methodology on the substrate. Note: The EP toxicity test is designed to mimic conditions in acidic municipal landfills rather than homogenous monofills used by electric utilities or a monolith leach test in marine environments. Therefore the data from the EP toxicitiy test could significantly overstates the potential risks of the substrate material. Test procedures should involve an acid extraction procedure to stimulate leaching.

b. Fouling toxicity testing and bioaccumulation tests on the substrate to document potential leaching of toxic elements from the substrate into the aquatic environment and accumulating in the attached organisms (i.e. oysters).

1. Oyster or benthic settlement rates on the material versus natural shell or reef material. Replicate sets of each candidate mix design and control material should be exposed to hatchery reared oyster larvae for 34 -48 hours to determine the CCBP substrates suitability as clutch for settling of oyster spat.

2. Survival and growth of oyster larvae comparable to control substrate. Spat should be counted and measured in the hatchery at weekly intervals until they reach 2.54 cm (1 inch) in length or approximately 8 weeks old. Juvenile oysters on their respective substrate should be housed in plastic mesh bags suspended at low and high salinity sites and monitored for survival and growth for one year.

3. Bioaccumulation of selected trace metals (cadmium, arsenic, lead, mercury, copper, zinc, manganese, selenium and hexavalent chromium) should be analyzed from replicate samples of oyster spat after one year. Tests should be conducted under the following three conditions: prespawn, postspawn, and freshwater depuration - to evaluate the affect of gamete release and freshwater flushing on trace metal levels in oyster tissue. Replicated samples of soft - tissue digests should be analyzed for trace metals (noted previously) by multi - element inductively coupled plasma mass spectrometry (ICPMS) during each test condition.

4. Biomass and succession of secondary productivity should be monitored on substrate for one year.

C. Assessment of Physical Characteristics of CCBP Mixture Designs

Optimum CCBP mix designs should be based on strength, environmental soundness, biofouling potential and cost analysis. Grain size for bottom ash ranges from fine sand to coarse gravel.

1. Priority for any CCBP mix design used as artificial reef substrate is that it must meet established EPA criteria for Class 2 Non-Hazardous Waste Materials.

2. The proportion of bottom ash to fly ash ratios mixed with other materials should be tested prior to construction of artificial reef substrate for optimum strength. Successful ratios should be between 1:1 and 1:4. See Table 1 for candidate CCBP mix designs for oyster reef substrate. Water can contribute to the mix design between 10 and 22% by weight of the substrate depending on the mix design.

3. Compressive strength testing of random samples of the mix design should at least be between 350-500 psi after 14-day curing period before submersion in seawater. Compressive strength testing should be done again every three months for 365 days. Values should exceed non-submerged materials.

4. Portland cement and hydrated lime have successfully been used at 4.5-5.0% of the mix design to construct strong artificial reef materials. However, mixed designs with 1:1 bottom ash to fly ash without Portland Cement and 5% hydrated lime and 10% water have shown greater than 500 psi and are the most cost effective designs. The Portland cement has not been shown to create any additional strength to the mix.

5. The addition of lignite bottom ash to fly ash has been found to increase the compression strength of the design (3587 psi) compared to the average bottom ash (1617 psi) generated with the fly ash from the same source of coal.

D. Cost Effective Optimum Mix Design of CCBP Substrate

1. Cost effective production of a small sized pellet for estuarine environments. A shape must be developed that guarantees optimum oyster yields and is compatible with local commercial and sport harvest methods (hands, tongs, or dredge).

a. A round shape ranging in size from 2.5 to 7.6 cm (1 to 3 inches), with 2.5 cm (1 inch) being preferred by commercial fishermen. Round shape increases the amount of interstitial space within the deployed reef, permits more current flow through the reef, and provides additional habitat for small estuarine organisms.

b. Spat setting experiments have shown that rough textured surfaces are more conducive to larval oyster attachment than are smooth surface substrates.

2. Cost effective production of block substrate for offshore reefs that are large enough to provide a stable durable shape which is also not too large to pick up by commercial deployment vessels such as jack-up vessels or barges with cranes.

Table 1

CANDIDATE CCBP MIX DESIGNS FOR OYSTER REEF SUBSTRATE

"A" Series

| Mix Components (% by weight) | A1 | A2 | A3 |
|---|---|---|---|
| Fly Ash | 42.18 | 39.07 | 40.04 |
| Bottom Ash | 42.07 | 39.30 | 40.04 |
| Hydrated Lime | 5.04 | 2.30 | 0.00 |
| Portland Cement | 0.00 | 2.30 | 4.81 |
| Water | 10.71 | 17.00 | 15.11 |

"B" Series

| | B1 | B2 | B3 |
|---|---|---|---|
| Fly Ash | 49.30 | 50.00 | 49.01 |
| Bottom Ash | 24.46 | 25.00 | 25.76 |
| Hydrated Lime | 4.41 | 2.20 | 0.00 |
| Portland Cement | 0.00 | 2.20 | 4.49 |
| Water | 21.83 | 20.40 | 20.74 |

"C" Series

| | C1 | C2 | C3 |
|---|---|---|---|
| Fly Ash | 26.76 | 26.59 | 26.99 |
| Bottom Ash | 51.55 | 51.73 | 52.64 |
| Hydrated Lime | 4.70 | 2.35 | 0.00 |
| Portland Cement | 0.00 | 2.35 | 4.78 |
| Water | 16.99 | 16.98 | 15.59 |

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GSMFC SEAMAP SUBCOMMITTEE
MINUTES
Tuesday, August 9, 1994
and Thursday August 11, 1994

Chairman Walter Tatum called the meeting to order at 1:15 p.m. The following members and others were present.

Members
Joanne Shultz, NMFS, Pascagoula, MS
Richard Waller, GCRL, Ocean Springs, MS
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA
Walter Tatum, ADCNR, Gulf Shores, AL
Mark Leiby, FDNR, St. Petersburg, FL

Others
Ken Savastano, NMFS, SSC, MS
Scott Nichols, NMFS, Pascagoula, MS
Frederick "Buck" Sutter, NMFS/SERO, St. Petersburg, FL

Staff
David Donaldson, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Adoption of Agenda

The Data Management Report was moved to after agenda item Number 7, "Presentation of SEAMAP Plankton Data Summaries," then the agenda was approved as submitted.

Approval of Minutes

The minutes for the meeting held on Tuesday, April 5, 1994 were approved as submitted. In reference to these minutes, W. Tatum asked if the Reef Fish Work Group was contacted to develop protocol on surveying hard bottom areas. D. Donaldson said a letter was sent to the work group charging them with developing a sampling protocol to survey natural and artificial hard bottom areas that are not currently being sampled by the SEAMAP trap/video methodology. The main purpose for the request is to develop methodology for sampling oil and gas structures in the northern Gulf of Mexico. There has been no response from the work group yet. R. Waller stated that NMFS has submitted a proposal to MARFIN to develop protocol but it is still in review. He suggested the Subcommittee wait to see the outcome of the NMFS proposal to MARFIN and then decide if the work group should continue with the charge.

Administrative Report

D. Donaldson stated the third Spring Reef Fish Survey was started on June 8 and will continue into later this year. Vessels from the NMFS, Mississippi, Alabama and Florida sampled inshore and offshore waters from Brownsville, Texas to Key West, Florida. The purpose of the survey is to assess the relative abundance and compute population estimates of reef fish. Texas is in the process

of getting their equipment for this survey and will conduct some preliminary samples later this year.

The Summer Shrimp/Groundfish survey began June 2 and continued until July 19, 1994. The purpose of this survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. There were 360 stations sampled. Vessels from NMFS, Alabama, Mississippi, Louisiana and Texas sampled waters out to 50 fm from Mobile Bay, Alabama to the U.S./Mexican border.

Comparative tow surveys were conducted May 9-12, 1994. Approximately 49 stations were sampled.

There were six weekly Real-Time Data mailings starting on June 14 and continuing until July 19. The information was mailed to approximately 275 interested people.

NMFS is working on the 1992 Atlas data. D. Donaldson said they should begin reviewing the data later this year.

D. Donaldson stated he completed the summary of shark catches during routine fishery-independent sampling activities for Texas, Louisiana, Mississippi, Alabama, Florida, and NMFS. The summary was mailed to the Adult Finfish Work Group and he will send a copy to the Subcommittee.

W. Tatum asked if the SEAMAP budget for administration was all right so far and D. Donaldson said at this point everything is fine.

R. Waller explained that after he plotted the stations to be sampled during the July leg of the Summer Shrimp/Groundfish survey he noticed several of the stations were in Texas and sampling would occur during the Texas closure. He called to get a permit but it was too late so they were unable to sample those stations. He said he would check stations before leaving next time to make sure they had permits if they needed them.

Discussion of Comparative Tow Survey

J. Shultz distributed B. Pellegrin's comments on the preliminary comparisons of the 1994 trawling experiment conducted by the research vessels TOMMY MUNRO and PELICAN. She explained that at this time there are no formal analysis that it was too early to make any kind of judgement. She expects to have completed analysis by the end of September and B. Pellegrin will present the results at the SEAMAP meeting scheduled for October.

Update on SEAMAP Shark Data and Survey

D. Donaldson submitted a summary of shark catches during routine fishing-independent sampling activities. He explained this was just the total number caught and by what gear types. After a lengthy discussion on whether the Subcommittee should pursue developing protocol on shark sampling, it was decided the Adult Finfish Work Group should address this issue. Everyone was in

agreement the NMFS is very interested in obtaining shark data and SEAMAP would be the best way to do it. D. Donaldson said the work group will not be able to meet until next year but they can have a conference call. W. Tatum asked him to set this up and he would like to be involved in it.

Data Management Report

Ken Savastano submitted a Data Management Report (Attachment I) to the Subcommittee. The major accomplishments since March 1994 are:

- Status reports from SEAMAP years 1982-1994 are in Attachments 1-9 of the Data Management Report. All cruise data have been reformatted to SEAMAP versions 3.0 or 3.1. Data processing of 1992 and 1993 Gulf and South Atlantic data have been completed.

- A three day workshop on the SEAMAP data entry system was held for the Caribbean participants at Stennis Space Center, MS on April 12-14, 1994.

- 1994 SEAMAP Near-Real-Time data processing was completed.

- Processing of the 1992 SEAMAP Atlas is approximately 25% complete. Processing of the 1993 SEAMAP Atlas will begin when the 1992 Atlas is complete.

- One hundred and forty-three SEAMAP requests have been received and one hundred and forty-two requests have been filled.

- A new version (3.1) of the SEAMAP software was released and distributed in July. All data should now be processed in 3.1. A Silicon Graphics (SGI) machine which is an IT-95 machine is now on-line in Miami. The capability of accessing the SGI using INTERNET has been added.

- The SEAMAP on-line data base now contains 232 cruises with a total of 1,527,012 records which is approximately 60 megabytes of data.

Presentation of SEAMAP Plankton Data Summaries

J. Shultz gave a slide presentation on the status of the Ichthyoplankton Database (Attachment II). She said they worked with a vengeance on the Ichthyoplankton data this past month but were not able to have a complete time series of all species. She showed some very general slides explaining the data files and the information in them. She said they will continue working with the fall plankton surveys and then proceed to the summer and fall shrimp/groundfish collections because they want to start comparing the results of those collections to the plankton collections. After the comparisons are made and if they are able to determine any patterns or trends it may help them decide if they need to modify or redesign some of the surveys. She also distributed several examples of the other reports for the Subcommittee to review.

Activities and Budget Needs

W. Tatum stated that it is likely SEAMAP will again be level funded. He then asked if there were any requirements from the components above level funding.

Each state and the Commission stated their budget needs for FY96:

FLORIDA - M. Leiby stated that there is a strong possibility that Florida could lose the HERNAN CORTEZ II and if they did lose it, their budget could not cover the costs to charter a boat to conduct surveys. He also stated he would like a full-time Curator for the SEAMAP Archiving Center instead of a part-time person. He said it is hard to get and keep a quality person there if the position is not a full-time position. The archiving work being done is for the Gulf. He estimated that an additional $20,000 should cover these expenses. He is asking for a total of $134,001.

ALABAMA - W. Tatum stated they could handle their current obligations with the current budget. Level funding would be $80,000.

MISSISSIPPI - R. Waller stated they had some mandated salary increases and it will have to come out of the budget. If the money that was given up last year to other components can be returned, there shouldn't be a problem with doing the same work for the same amount of money. The added amount would be $2,000. Level funding would be $111,170.

LOUISIANA - J. Hanifen stated they also had salary increases in the last year and he hasn't had a vessel charter rate increase in seven years and expects to have one next year. He said if the money that was given up last year is returned this year they should be able to do the same work for the same amount of money. The added amount would be $4,471 and level funding would be $146,471.

TEXAS - T. Cody stated they were the benefactors of the money given up by other components. It was used to purchase equipment to get started on the reef fish survey. He said if they gave up what was received last year they wouldn't be able to do the sampling. They can combine it with other cruises but won't be able to do a full scale sampling program. If the $4,000 from the other components is taken away they can maintain SEAMAP but will not be able to do reef fish or any other additional programs. With an added $10,000 they could conduct some reef fish sampling. Texas is asking for $72,475.

NMFS - S. Nichols stated they would be able to stay level funded.

GSMFC - D. Donaldson stated they could do the same things at the current funding level. He stated they will not be able to meet in the Caribbean at level funding. Louisiana gave GSMFC $2,471 last year and GSMFC really can't afford to lose that. Level funding would be $92,310 but is asking for $98,281.

After a lengthy discussion on how much money the Gulf component would need and how it would be divided, the following is the breakdown of how the money would be distributed:

| STATE | LEVEL FUNDING | ADD | TOTAL |
|---|---|---|---|
| GSMFC | 92,310 | 5,971 | 98,281 |
| MISSISSIPPI | 111,170 | -0- | 111,170 |
| FLORIDA | 110,401 | 20,000 | 130,401 |
| ALABAMA | 80,000 | -0- | 80,000 |
| TEXAS | 62,475 | 10,000 | 72,475 |
| LOUISIANA | 146,471 | -0- | 146,471 |
| TOTAL | 602,827 | 35,971 | 638,798 |

**The meeting adjourned at 6:15 p.m.**

**The meeting reconvened on Wednesday August 10, 1994 at 3:30 p.m.**

During the Joint Seamap Meeting, it was decided that each component would stay at level funding. The Caribbean component agreed to pay travel costs for three Gulf States for the next joint meeting. After discussion, the final breakdown for the gulf component is as follows:

| STATE | TOTAL |
|---|---|
| GSMFC | 94,781 |
| MISSISSIPPI | 111,170 |
| FLORIDA | 110,401 |
| ALABAMA | 80,000 |
| TEXAS | 64,475 |
| LOUISIANA | 142,000 |
| TOTAL | $602,827 |

Red Tide Issue

J. Hanifen informed the group that a red tide occurred off of the Louisiana and Texas coasts during July. He stated that because of miscommunication no samples were taken. The OREGON II was in the area and could have easily taken samples. He asked what should be done to keep this from happening in the future. The Subcommittee agreed that if any events out of the ordinary should occur such as a red tide, the SEAMAP Coordinator, Dave Donaldson, should be contacted and he in turn will contact the appropriate person(s) to ensure the problem is addressed. In addition, the Subcommittee agreed that Brad Brown of the NMFS should be notified about this issue.

Preparation of Cooperative Agreements

Minor changes were made to the Operations Plan and was approved by the Subcommittee for inclusion in FY1995 cooperative agreements.

Other Business

T. Cody asked the group what type of video player he should purchase to review the tapes. They told him he needed a high quality player with such features as playback, slow, fast, pause, etc. This type of machine has to be special ordered, it's not a standard VCR player. W. Tatum suggested that T. Cody spend his time this year getting trained at the NMFS Laboratory rather than buying a player.

R. Waller stated Mississippi delayed the reef fish cruise from May until a week ago for various reasons. One reason was because they felt they would have clearer water later on in the summer but that didn't hold true. They also had boat trouble and that delayed them even further. He wanted to let the Subcommittee know that he feels it's not worth spending SEAMAP time and money because the tapes have such low visibility. The group decided the Reef Fish Work Group should be notified of the problem and come up with a solution.

**There being no further business, the meeting adjourned at 4:50 p.m.**

SEAMAP - Gulf, South and
Caribbean Subcommittees
JOINT MINUTES
Atlanta, Georgia
Wednesday, August 10, 1994

Chairman Walter Padilla, Puerto Rico Department of Natural Resources, called the meeting to order at 9:16 a.m. The following members and others were present:

Members
Terry Cody, TPWD, Rockport, TX
Richard Waller, GCRL, Ocean Springs, MS
Joanne Shultz, NMFS, Pascagoula, MS
Jim Hanifen, LDWF, Baton Rouge, LA
Mark Leiby, FDEP, St. Petersburg, FL
Walter Tatum, ADCNR-MRI, Gulf Shores, AL
Walter Padilla, FRL, PRDNER, Mayaguez, PR
David Cupka, SCDNR, Charleston, SC
David Whitaker, SCDNR, Charleston, SC
Alan Huff, FDEP, St. Petersburg, FL
Henry Ansley, GADNR, Charleston, SC
Bob Van Dolah, SCDNR, Charleston, SC
Elizabeth Wenner, SCDNR-MRRI, Charleston, SC
Stephania Bolden, NMFS, Miami, FL
Mike Street, NCDMF, Morehead City, NC
Jack Dunnigan, ASMFC, Washington, DC
Steve Meyers, VIDFW, St. Thomas, VI
Nancy Thompson, NMFS, Miami, FL

Staff
David Donaldson, SEAMAP-Gulf Coordinator
Aida Rosario, SEAMAP-Caribbean Coordinator
Diane Stephan, SEAMAP-South Atlantic Coordinator
Scott Nichols, NMFS, Pascagoula, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Others
Frederick "Buck" Sutter, NMFS, St. Petersburg, FL
Kenneth Savastano, NMFS, Stennis Space Center, MS

Adoption of Agenda
The agenda was adopted as submitted.

Approval of Minutes
The August 19, 1993 minutes were approved after incorporating various changes (Attachment I).

Overview of SEAMAP-Caribbean
W. Padilla reported on the activities of the SEAMAP-Caribbean Subcommittee during the past year:

- Concluded the second year of a three-year reef fish survey. The survey will provide abundance information and compilation of changes in fish abundance over time and space. The survey was conducted by the Division of Fish and Wildlife of the U.S. Virgin Islands (USVI) and by the Fisheries Research Lab, Puerto Rico Department of Natural Environmental Resources. The administrative portion of the program was transferred to the Puerto Rico Department of Natural and Environmental Resources from the Caribbean Fisheries Management Council during the past year.

- The SEAMAP-Caribbean Subcommittee met three times in the past year, twice in Puerto Rico and once in St. Thomas.

- Advances during the past year included the implementation of sampling strategies that had been refined during the past year. After personnel were trained, the integration into the SEAMAP data management system was finally initiated. However, full integration into the SEAMAP data management system is still being addressed because there is more information to be transcribed and entered.

- A sampling protocol manual is now being written. The sampling protocol manual will detail the fluctuations of the surveys and help to maintain the integrity of the surveys.

- Annual reports for the projects done by the USVI in Puerto Rico was prepared and are available upon request to the SEAMAP Caribbean Coordinator, A. Rosario.

S. Meyers briefed the group on the gear used in their Reef Resources survey in the Virgin Islands. The basic methodology is to employ two different types of gear--handlines and fish traps. In St. Thomas, 12 fish traps were used from the 27 ft. research vessel and basically 3 species--the triggerfish, the coney and red hind--comprised approximately 80% of catch by weight in the traps. In St. Croix, 3 different species comprised roughly 60% of weight per trap--the coney, butterflyfish and queen triggerfish. The results on the handline were about 70% catch by weight of these fish. The sample areas were south of St. John at 64 mile grid with 256 subquadrants, all of which were randomly sampled, and in the area north of St. Croix there were 20 sample units or 90 subquadrants, again the sites were chosen randomly. The fish traps used were 1 1/4 mesh, they measured 4 x 4 x 1.5 feet in dimension and were baited with blue pride. Twelve traps were set three on a string with four strings and were soaked for about 4-5 hours. They had 3 hooks per handline and were fished by 3 people, and the hooks were baited with squid. The data was recorded and now that the screen has been completed with the Caribbean database section of the SEAMAP database, the information is being uploaded to that.

- A. Rosario stated that the Puerto Rico portion uses basically the same methodology as the Virgin Islands. The main difference being different species of sardines were used for bait in the traps. She said they ended the second year of sampling and are already into half of the third year of sampling. So far, 45 stations have been sampled and over 131 trips have been recorded for the last year. The species composition was basically the same that were caught in the first year of sampling and was dominated by red hinds and coneys. The groupers sampled showed some signs of being overfished and they are trying to gather as much data possible to try to assess this. Regarding this matter, they have been trying to monitor the red hinds spawning

aggregation off the west coast of Puerto Rico. They were not able to sample the area in 1992, but during December 1993 through March 1994 they sampled three spawning aggregation sites off the west coast of Puerto Rico and the results have been quite striking. They are trying to access if there are any juvenile recruitment population because for 1987-1991 they saw a decrease in recruitment of juveniles to these populations.

W. Tatum asked if there is a historical database on the use of traps in sampling in the Virgin Islands and Puerto Rico. S. Meyers said there is an ongoing commercial catch assessment project. There are smaller studies that have been done adjacent to the south side of St. John on the coral reefs to try to quantify the effect of fish traps independently with fishermen, but studies are few and very area specific. A. Rosario said Puerto Rico has fishery- independent data on trap catches beginning in 1967.

Overview of SEAMAP-Gulf

W. Tatum reported on the activities of the SEAMAP-Gulf Subcommittee during the past year:

- Publications for 1993 were the 1991 Biological and Environmental Atlas, the 1993 Joint Annual Report, the 1993 SEAMAP Report to the GSMFC Technical Coordinating Committee, the 1994 Marine Directory, and six 1994 summer Shrimp/Groundfish real-time mailings. Editing is now being done on the 1992 Biological and Environmental Atlas which should be completed later this year. For copies of any of these publications contact the SEAMAP-Gulf Coordinator, Dave Donaldson.

- The 1993 Fall Plankton survey was conducted on August 29-October 18, 1993. The purpose of the survey is to access the abundance and distribution of red drum and king mackerel eggs and larvae. Agencies that participated were the NMFS, Florida, Alabama, Mississippi and Louisiana. A total of 229 stations were sampled throughout the Gulf of Mexico.

- The 1993 Fall Shrimp/Groundfish survey was conducted October 4-November 18, 1993. The purpose of the survey is to determine the abundance and distribution of demersal organisms from inshore waters to 60 fathoms. Agencies that participated were the NMFS, Alabama, Mississippi, Louisiana and Texas. A total of 410 trawl stations were sampled as well as 31 plankton stations from off Mobile Bay, Alabama to the Texas/Mexico Border.

- The Louisiana Seasonal surveys were conducted in the fall and winter of 1993 and the spring and summer of 1994. This survey provides comparative information concerning the abundance and distribution of major gulf species, especially shrimp, in Louisiana waters.

- The 1994 Spring Icthyoplankton survey was conducted April 7-10, 1994 and the primary purpose of the survey is to assess the abundance and distribution of bluefin tuna eggs and larvae. Agencies that participated were the NMFS and Florida. A total of 154 stations were sampled throughout the Gulf of Mexico.

- The 1994 Reef Fish Survey began June 8 and will continue into later this year. This is the third year of the survey. The purpose of the survey is to assess relative abundance and compute population estimates of reef fish. Vessels from the NMFS, Mississippi, Alabama and Florida are currently participating and as of this date a total of 162 stations has been sampled throughout the Gulf of Mexico. Texas is in the process of conducting preliminary work later this year.

- The 1994 Summer Shrimp/Groundfish survey began June 2 and continued until July 19, 1994. The purpose of this survey is to determine abundance and distribution of demersal organisms from inshore waters out to 50 fathoms. 340 stations were sampled. Participating agencies were the NMFS, Alabama, Mississippi, Louisiana and Texas and they sampled from Mobile Bay, Alabama to Brownsville, Texas.

- The SEAMAP Subcommittee met October 1993 in San Antonio, Texas and in April 1994 in Biloxi, MS. Discussions included the comparative tow survey and the development of a shark survey. Work Group Leaders gave reports on their activities to the Subcommittee. The Red Drum Work Group met in January 1994 at the GCRL in Ocean Springs, MS and discussed the development of a red drum age structure project in the northern Gulf of Mexico, but the project was not developed. The Red Drum Work Group also had several conference calls to discuss this issue.

Overview of SEAMAP-South Atlantic

D. Cupka reported on the activities of the SEAMAP-South Atlantic Subcommittee during the past year:

- SEAMAP-South Atlantic continued its two major activities over this past year which are the Shallow Trawl Survey and the Bottom Mapping Project.

Elizabeth Wenner gave a brief presentation on the Nearshore Regional Trawl Survey. She distributed summary sheets (Attachment II) on the presentation. She stated that they are in the sixth year of this project and sampling is currently being done in the southern half of South Carolina down to Florida. The primary goal of this survey is to provide information on distribution and abundance of target species and community composition of fishes and decapod crustaceans in nearshore waters off South Carolina, Georgia, North Carolina and Florida. She reviewed the handout showing the different phases the project has been through and the survey results. There are also reports--cruise, quarterly and annual, oral presentations and published papers available upon request. Also, all information is in the SEAMAP database. She reviewed the benefits of a long-term data base and pointed out other cooperative studies that are being done. She also stated that after many years of inactivity the Trawl Work Group met with the Crustacean Work Group and had a very productive session. She distributed flyers announcing a Trawl Data Workshop that SEAMAP-SA will be sponsoring.

Bob Van Dolah gave a slide presentation on the Bottom Mapping Project (Attachment III) of the work that has been done to date. He said they have finished the first major phase of the program. The primary goal of the program is to develop a long-term regional database for identifying hard-bottom habitats throughout the South Atlantic Bight. The area extends from North Carolina down to south of Cape Canaveral, Florida and from the shoreline to 200 meters in depth. He said they are reviewing historical

data records and then evaluating them using standardized analytical procedures that can be repeated throughout the region on various types of data. The goals for the first phase of the project have been finalized. The database has three relational files: a primary file which has all the basic information about the original record; a secondary file which gives more information about how to access the original data; and another secondary file that summarizes the number of observations in any particular block. The types of data sources evaluated were visual assessments, removal sampling gear and geological surveys. He said they reviewed several popular Desktop Mapping software packages that are available and found they all worked reasonably well. The software packages reviewed are ArcView 1.0/2.0; Atlas GIS, IDRISI 4.0; MapInfo for Windows. The South Carolina/Georgia segment is completed and the report is available upon request. They are now in the process of compiling the data off North Carolina and once that is completed they will start on Florida.

- The Crustacean Work Group met this past year to discuss research and management issues and the Crustacean Newsletter has been distributed.

- They continue to be involved with the Data Management Work Group to discuss issues in the SEAMAP program.

- The Benthic Characterization study which began in 1983 is continuing and is expected to end soon. All the data will eventually be entered into the SEAMAP database.

- D. Cupka informed the group that he is resigning from the South Atlantic SEAMAP Subcommittee because of new responsibilities. He said he enjoyed serving on the committee and working with the SEAMAP group. Alan Huff from Florida was elected chairman and Roger Pugliese from the South Atlantic Fisheries Management Council will be Vice Chairman for SEAMAP-South Atlantic this coming year.

Status of FY95 Funds

* S. Nichols said that the SEAMAP will again be level funded. The group should plan to use $1,320,000 as the working figure. M. Street moved that the group use $1,320,000 as the budget figure and that the NMFS absorbs the taxes, but if funds become available to the level of those taxes, the NMFS will receive the funds. D. Cupka seconded the motion and it passed unanimously.

Proposed Activities and Budget Needs

a. Caribbean - needs present level of funding to continue their surveys. Level funding will be $126,879. Request $10,000 for a habitat characterization project and $12,000 for a trap calibration study. Total request - $148,879.

b. Gulf - needs present level of funding to continue present activities. The state of Florida may lose the HERNAN CORTEZ this coming year and that is the vessel used to do the icthyoplankton sampling. Florida also needs to hire a full time curator for the Archiving Center. In order to continue these activities they request $20,000. Also, the Gulf States Marine Fisheries Commission needs an additional $5,971--that would cover the $2,471 cut from last year and $3,500 to cover expenses of the next joint meeting in

the Caribbean. Texas needs $10,000 to implement their reef fish survey. Total requested - $638,798.

c. South Atlantic - needs additional $39,265 to continue present activities. Requests $75,000 for the ASMFC to have a staff member do a new five-year plan. Requests $6,000 for North Carolina to enter trawl survey data in database. Total requested - $451,014.

d. NMFS - can continue at level funding $274,545, after taxes $219,311.

Discussion: W. Tatum stated that if the next joint meeting was held in the Caribbean, the Gulf would need extra money. The Gulf cannot justify going over budget and meeting in the Caribbean. J. Dunnigan stated that it would not necessarily be more expensive to meet in the Caribbean than anywhere else. S. Meyers said he would gather information on air fares, etc. for next August and the Coordinators can discuss it via conference call next week. M. Street suggested that in reference to the Five-Year Plan revision, funds need to come off the top because it involves the whole SEAMAP program.

Development of SEAMAP Management Plan: 1995-2000

The SEAMAP Five Year Management Plan needs to be updated in 1995. The South Atlantic believes it cannot be just a simple revision but it needs to be rewritten and used as a selling document as well as a planning document for SEAMAP. W. Tatum opposed an extensive revision if it means taking funds from the program that would be used for surveys. He does not oppose doing a new document if other funding sources can be found.

* M. Street said that this is an extremely important item that cannot be delayed and it could be done for under $50,000, even $30,000. He then moved that during 1995, SEAMAP conduct a planning function for the 1996 period and beyond (5 or 10 years to be determined) not to exceed a cost of $30,000 with funding to be sought in the following priority order: 1) total funding from NMFS out of any increases that the SERO might get, asking A. Kemmerer since he has been a strong supporter; 2) combination of NMFS and ASMFC if they both get increases in funding that might support it; and 3) contribution from the four components in proportion to their current fiscal year allocation. A. Huff seconded the motion. Discussion: J. Dunnigan suggested to delete the part on how to seek funding and add that the chairmen will appoint a group to do this. W. Tatum said he opposes the motion because in the third order of priorities, resources that are currently being utilized for sampling could be taken away. He then said he would be in favor of the motion if he changed it to being funded by outside sources only.

* After a lengthy discussion, D. Cupka offered a substitute motion: He moved that the SEAMAP Subcommittee commit to a planning effort in 1995 to address the SEAMAP needs for 1996 and beyond; and that the chairs of the three SEAMAP components, NMFS, ASMFC and GSMFC comprise a steering committee to determine the funding sources of and direction for this effort. M. Street accepted the amended motion and seconded it. It passed unanimously.

Joint Discussion of SEAMAP Budget Needs

* D. Cupka moved that if the program is level funded, each of the components will receive the same amount of funding as they did during the current fiscal year. The motion was seconded. Discussion: W. Tatum said he is against the motion because this is not the sort of thing that can be passed by simple majority. He said that in order to maintain the Archiving Center, the Gulf will need the additional $20,000. He suggested that one of the South Atlantic States may want to maintain the archiving center. W. Padilla said the Caribbean could not sacrifice anything, they need the level funding to do their surveys. The South Atlantic states said they would need level funding also. W. Tatum said that it would be up to NMFS to settle this if they cannot come up with a solution. Each component met separately to discuss this issue.

* W. Tatum said the Archiving Center needs a full time curator and could do this for $10,000. He reminded the group that this is not just a Gulf function. The Archiving Center is for all three components. D. Cupka said the South Atlantic would fund the curator but the Gulf would have to deal with their other shortfalls. W. Tatum asked if the Caribbean could help fund the Gulf's travel to the joint meeting since they will be saving money if the meeting is in the Caribbean. M. Street moved that because of level funding, each component will receive the same amount of funding as last year but the South Atlantic will help fund the Archiving Center and Puerto Rico will help fund the Gulf travel at the joint meeting if it's in the Caribbean. The motion was seconded and passed unanimously.

The final breakdown for the SEAMAP Components is as follows:

| | |
|---|---|
| Caribbean | $126,879 |
| Gulf | $602,827 |
| South Atlantic | $315,749 |
| NMFS | $274,545 |

Grants Administration - Document Preparation

Buck Sutter distributed an outline (Attachment IV) on how to complete an application for FY 1995 proposals. He said S. Long wanted him to inform the group that annual reports are no longer required because all of the projects are based on a three-year duration, so there will be 5 semiannual reports and 1 completion report. The semiannual reports are due 30 days after the 6 month period. The completion report is due 90 days after the three-year period. She wanted him to emphasize the project start date is the date of the project, it is not based on the fiscal year. He then informed the group that he has completed a document, "1994 Status Report," that is a summary and cross reference of all the programs funded through their grants office and he will mail everyone a copy. There are no changes in the application package.

Planning for 1995 Joint Annual Meeting

* W. Tatum moved to have the meeting on August 6-8, 1995 in the Caribbean. The motion was seconded and passed unanimously. S. Meyers will contact local travel agencies to get information on air fares, hotels, etc. He will then contact the three coordinators with the information and they will decide on the best location for the meeting.

Other Business

J. Dunnigan stated that this will be D. Cupka's last meeting as a member of the SEAMAP Committee. He thanked him for serving on the committee and wished him luck on his new career adventures.

**There being no further business the meeting adjourned at 3:15 p.m.**

27sep95
Joe O'Hop

SOUTHEAST COOPERATIVE STATISTICS COMMITTEE
MINUTES
September 26 - 27, 1994
St. Petersburg, Florida

Chairman Joe O'Hop called the meeting to order at 1:30 p.m. The following people were present:

Mike Buchanan, MDMR, Biloxi, MS
Mary Anne Camp, NMFS, Miami, FL
Page Campbell, TPWD, Rockport, TX
David Donaldson, GSMFC, Ocean Springs, MS
Christine Johnson, MDMR, Biloxi, MS
Geroge Henderson, FMRI, St. Petersburg, FL
Lisa Kline, ASMFC, Washington, D.C.
Steve Koplin, NMFS, Silver Spring, MD
Tony Lamberte, GMFMC, Tampa, FL
Skip Lazauski, ADCNR, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Bob Mahood, SAFMC, Charleston, SC
Daniel Matos, PRDNER, Mayaguez, PR
John Merriner, NMFS, Beaufort, NC
Joe Moran, SCDNR, Charleston, SC
Joe O'Hop, FMRI, St. Petersburg, FL
John Poffenberger, NMFS, Miami, FL
Gina Rogers, GDNR, Brunswick, GA
Joe Shepard, LDWF, Baton Rouge, LA
Mike Street, NCDMR, Morehead City, NC
William Tobias, VIDFW, St. Croix, VI
Tom Van Devender, MDMR, Biloxi, MS

Adoption of Agenda

The agenda was approved with the following changes:

* Adding items f. Recording of shark fin data, g. Discussion of FY1995 funding, and h. Establishment of protocols updating state dealer lists under Problems and Issues Pertaining to the Commercial Statistics Program (CSP).

* Adding Discussion of Florida's Mercury Sampling Program as the first item on September 27.

Approval of Minutes

The minutes from the CSP meeting held on February 1, 1994 in Jacksonville, Florida were approved as written.

Update on NMFS Fisheries Statistics Strategic Plan (FSSP)

S. Koplin reported that NMFS is continuing with the one-on-one meetings with the regional directors and Headquarter personnel. These meeting are designed to discuss the implementation of the plan. There will be a board of directors meeting which will provide guidance for the implementation. R. Lukens stated that the SCSC is interested in contributing to the FSSP process and asked if this was possible. S. Koplin stated these types of questions will be addressed by the board of directors, and once they have met, it will be easier to determine the role the states will play in this process. J. O'Hop asked how ComFIN fit into the FSSP process, and J. Poffenberger

stated that the FSSP discussions and processes are very conceptual at this time and not at the working level of ComFIN.

Problems and Issues Pertaining to the Cooperative Statistics Program (CSP)

a. Discussion of Effort Estimates

* S. Lazauski reported on the shrimp effort workshop sponsored by the NMFS. The workshop was designed to determine if the shrimp effort estimates were accurate and truly reflected the actual amount of effort being exerted on the fishery. There was much discussion concerning the model used and analyses conducted to attain the estimate. J. Shepard stated that the mission of the workshop was to examine the estimation of shrimp effort. There were two reasons for conducting the meeting. The first was to identify and quantify possible biases in the shrimp effort estimates and the second was to review the data collection methodology. From this, the panel identified several biases concerning the estimate. The underlying problem is that the industry contends that the NMFS shrimp effort estimates are too high. Some of the biases identified were vessel size in regards to oversampling of larger vessels, the states in terms of concentration of port samplers, frequency in regards to conducting interviews for vessels that were more cooperative, CPUE in regards to the lower values for interviewed versus non-interviewed trips, and less cooperation from fishermen over the past several years. The long-term recommendations developed at the workshop were to develop a random selection process, develop a Gulf-wide trip ticket system, increase effort to identify shrimp vessels of the inshore fishery, and require federal shrimp permits. **S. Lazauski moved that a letter be sent to the Gulf Council and NMFS stating that the SCSC is interested in the results of the workshop and that the recommendations from the workshop be acted upon by the appropriate personnel.** The motion was seconded and passed unanimously. There was a discussion concerning the last recommendation, federal shrimp permit. R. Lukens stated that the state licensing systems should be examined for their utility towards this problem before another permitting regimen is placed upon the fishery. The Committee discussed the pros and cons of a permit system and agreed that using existing licensing systems should be explored before a new system is implemented. As a result of the discussion, **R. Lukens moved that a presentation relating to licensing requirements for each state be conducted at the next meeting, if time permits.** The motion was seconded and passed unanimously. This information will be collected via survey, and each state will provide information regarding marine commercial licensing in their jurisdiction. The staff will prepare a report concerning licensing for presentation at the next meeting.

b. Discussion of Confidentiality Work Session

* R. Lukens distributed a list which was developed from the issues identified during the brainstorming session that referred to confidentiality. He asked the Committee if it would be interested in conducting a data confidentiality work session. The Committee agreed that this activity would be extremely beneficial and **M. Street moved that a data confidentiality work session be addressed at the next meeting.** The motion was seconded and passed unanimously.

c. Discussion of Coast Guard Identification Number

S. Lazauski stated that the Coast Guard (CG) vessel identification number has changed from a 6-digit to a 7-digit number, which has caused some data entry problems. J. Poffenberger stated that the data entry problem has been fixed and the only potential problem is that from up to 1993, there are two different formats for the CG number. Once NMFS moves to the new data base system, this problem (different formats) will go away. M. Camp will find out what the CG will do with the 6 and 7-digit numbers and report back to the Committee at the next meeting.

d. Discussion of NMFS Grid Codes

S. Lazauski stated that in Alabama, there is a royal red shrimp fishery which is prosecuted outside the established NMFS grid zones. Thus there is no way to document where the fishermen are fishing. He requested that NMFS establish a system to correct the problem. J. Poffenberger stated that new grid numbers have been created off Alabama. Grids 10 and 11 were essentially extended into deeper water to include those species being caught. S. Lazauski stated that it might be better to establish a new grid system for the entire Gulf of Mexico to address other species which may be caught outside the present grid zones. R. Lukens stated that this appears to be a quick fix and there may need to be a more general solution to this problem.

e. Discussion of Processed Products Reports, Codes, and Other Uses

* S. Koplin reported that this type of data has been collected since 1918. The information has be kept in a data base since 1970. Approximately five thousand surveys are sent out on an annual basis throughout the U.S. The data base consists of 10,000 firms of which 5,000 are active. Each firm is given a unique identification number. Information is collected regarding address, identification number and employment. On the wholesale portion, data concerning products wholesaled are collected. On the processing side, information regarding the product processed, volume, wholesale value, and if necessary, how the data were estimated. The survey is voluntary except in the state of Alaska. The firm identification number is a 7-character code. It consists of a region code, NMFS state code, firm code, and county code. The information supplied is based on the plant location. The product code is a 10-digit number which consists of four sections: NMFS species code, type of product code, intermediate code and end product code. This survey is a census. For every form sent out, one needs to be returned to NMFS. It was noted that the origin of the products is not collected during the survey. S. Lazauski stated that it would be useful to report where the processed products came from to determine its state of origin. He asked if other information can be easily added to the survey. S. Koplin stated that it would be interesting to collect this type of information but it would be extremely difficult to get since the survey is voluntary. S. Lazauski suggested that the Committee may want to explore this issue in more detail sometime in the future. The purpose of the survey is to determine how many firms are processing seafood products and to get an estimate of value for these products. J. Poffenberger noted that since this survey is conducted by NMFS port agents, no information is being collected in the South Atlantic states. He asked if the states would be willing to pick up this activity. After some discussion, **S. Lazauski moved to conduct a workshop concerning the processed products survey data base at an upcoming CSP meeting. A series of recommendations would be developed from this workshop.** The motion was seconded and passed unanimously.

f. Recording of Shark Fin Data

J. Poffenberger asked the Committee to review the proposed methods for handling shark fin data and determine if it's contrary to how each member records data concerning shark fins. The problem is that if a person followed the existing general canvass guidelines, data on shark fins would not be entered. The information that was distributed was a proposed method for collecting information on both the shark carcass and fins. The purpose of this discussion is to determine if the proposed methods will adequately collect the necessary data. Data on both whole shark and fins are needed for different purposes. The whole shark data are necessary for assessment and the economic information is needed for the fins. The Committee discussed several scenarios concerning the reporting of shark and fins. The Committee agreed that the proposed protocol is adequate to collect the necessary information.

g. Discussion of FY1995 Funding

* J. Poffenberger distributed the funding for the CSP during FY1995. He stated that the Committee needs to develop a list of priorities for CSP activities so that if additional money becomes available, there is an established record of prioritized need. The group needs to look at what the CSP is suppose to be doing versus what it is

actually doing. The Committee discussed at length the purpose and funding needs for the CSP. After this discussion, **R. Lukens moved that the Committee develop a justification paper for increased funding for commercial statistics and if additional money becomes available, it be allocated via the established formula. He stated this paper will expand on the existing information concerning the components of the CSP and describe how the data are used and the types of decisions that are made using the data. In addition, the paper will address the activities that cannot be accomplished due to the lack of funding.** The motion was seconded and passed unanimously.

h. Establishment of Protocols for Updating State Dealer Lists

J. Poffenberger stated that each state needs to send an updated copy of their dealer list (in ASCII or dBase format) which include their name, address and dealer identification number. This needs to be done twice a year (January and July). To facilitate this process, J. Poffenberger will contact each state periodically to get this information.

**The meeting was recessed at 5:30 p.m.**

**September 27, 1994**

**The meeting reconvened at 9:05 a.m.**

Florida's Mercury Sampling Program

G. Henderson provided an overview of Florida's mercury sampling program. He stated that it has been found that there are dangerous levels of mercury in the Everglades and other water systems in Florida. There are advisories ranging from "be aware of the presence of mercury" to "do not eat anything from this body of water." Because of these concerns, FDEP began looking at mercury levels in marine organisms. The State of Florida and other states have developed a variety of advisory levels. Florida uses a three-tiered system based on total mercury levels. Florida's fisheries independent sampling program was used to collect data concerning mercury levels. This work was attempting to answer two main questions. The first is what is the current level and is it any worse than it was in earlier years, and the second is if a river has high mercury levels, do the organisms in the corresponding estuary also have high mercury levels. The analysis of the sampling work show that the levels of mercury are not increasing. Work is continuing on sampling the levels of mercury in marine organisms. Preliminary analysis shows that estuarine fish (sea trout, red drum, etc.) have levels which are at approximately 0.5 ppm total mercury. The program is currently trying to increase sampling in the Everglades and Florida Bay areas and begin getting species from the fish houses to examine such fish as the grouper-snapper complexes, king and Spanish mackerel and other coastal pelagics to determine their levels of mercury.

Discussion of Interstate Commercial Landing Reporting Requirements

S. Lazauski stated that the underlying problem related to reporting landings is catches which were caught in one state's waters and landed in another state. With the increased use of quotas in state waters, there is a potential problem which needs to be addressed. J. Shepard reported that this issue arose due to requirements that Alabama dealers need to report landings which are bought in Louisiana and processed in Alabama. It was also noted that there is the potential for double reporting of data by the states involved. S. Lazauski stated that personnel from Alabama, Louisiana and the GSMFC met to discuss this issue and came up with a short-term and long-term solution. The short-term solution was that Alabama personnel will collect the necessary information from their dealers and provide it to Louisiana. The long-term solution involves the possible modification of the processed products survey by identifying the state of origin from which the product came, thus providing the necessary information to the appropriate people.

Port Agent Issues

a. Meeting of Port Agents

J. O'Hop reported that the Florida port agents were not able to meet prior to this meeting and will probably meet later this year with NMFS agents. R. Lukens stated that the NMFS and Florida port agents usually met during the annual June meeting. However, due to a change in meeting schedule, the June meeting no longer occurs. He asked the Committee if there is a need for the port agents to meet to discuss issues and problems which are encountered in the field. In addition, a representative from this meeting could provide a report to the full Committee. J. Poffenberger stated that it may not be necessary to conduct a meeting but establish a mechanism for the agents to provide feedback related to changes and standards developed by the Committee. Several members believed that a formal meeting would be a good idea because it would allow the agents to exchange ideas and information concerning their work. It was suggested that the meeting could be broken down into regional areas and have small, more manageable meetings. The Committee directed the staff to draft a letter to Brad Brown to convey these ideas.

b. Compilation of State Port Agent Trends and Conditions Report

J. Poffenberger stated that each year, the federal port agents compile a brief narrative concerning the fishing conditions and trends for their area on a yearly basis. This information is compiled into a annual document and gives a general overview of environmental and other events which affected fisheries in the Southeast Region. J. Poffenberger noted that NMFS can expand the document to provide information from any of the states that are interested.

Discrepancies between General Canvass vs. Port Agent Reporting

J. Poffenberger stated that there was a fairly good correlation between the log book data and the data collected by the port agents. However, the data collected through general canvass and port agents showed some differences. There were differences between states and this could be explained by non-reported landings. J. Poffenberger plans to track these differences more closely in the coming year and begin looking at differences between dealers. By doing this, it may be possible to determine where the problems are occurring.

Discussion of ACFIN

R. Lukens stated the reason for having this discussion was to avoid any confusion with what CSP/ComFIN is attempting to do and the planning activities of ACFIN. ASMFC is currently in a preliminary planning stage for ACFIN. There was a perceived conflict between having a full Atlantic coast program and having the South Atlantic involved in the Southeast Cooperative Statistics Committee. R. R. Lukens stated that he does not see a conflict. The problem arose due to poor communication among people not directly involved in this process. L. Kline stated that the ASMFC has developed a statistics vision document and resolution which encompasses the concept of ACFIN, and this concept will be discussed by the ASMFC in October 1994. ASMFC is attempting to build consensus within the Commission to back ACFIN. In addition, ASMFC staff have met with NMFS-Washington and FWS personnel. The next step is to conduct meetings to include regional personnel from NMFS and the councils. The ASMFC is attempting to build consensus at the policy level.

R. Lukens stated that this type of issue may be addressed during a "FIN" meeting which would encompass topics that cover both commercial and recreational issues. This meeting would be held on the last day of the CSP meeting for about one or two hours to discuss these issues. The issue of a FIN meeting will also be discussed by the RecFIN(SE) Committee. If the Committee is interested in such a meeting, staff will schedule a FIN meeting during the next CSP/RecFIN meeting week. The Committee agreed that it was a good idea to conduct a FIN meeting during the next week of CSP/RecFIN meetings.

Presentation of Results for the Hardware/Software Questionnaire of CSP Participants

D. Donaldson presented the results of the hardware/software questionnaire to the Committee. The purpose of this activity was to get an idea of the computer capabilities of all the CSP participants. The next step would be to provide this document to J. Poffenberger and M. Camp for utilization in the development of a data management system. After some review, the Committee decided that a GIS category needed to be added and this document should be updated periodically (once a year). **There was a recommendation to adopt the report which was accepted.**

Discussion of Commercial Sampling Programs Description Document

D. Donaldson presented the commercial sampling programs description document. This document has evolved over the past several meetings. Initially, it was a compilation of the data elements for the CSP. It now includes data element description as well as a summary of other commercial sampling programs in the Southeast Region. The document should be used by the group to develop a list of needed data elements. **The Committee recommended that this document be used by the Data Collection Work Group to develop a list of minimum data elements needed for commercial statistics.**

Operations Plan

a. Status of 1994 Activities

D. Donaldson presented the identified tasks for 1994 and their status (attached) which was reviewed by the Committee. All tasks to be completed or started in 1994 have been addressed by the Committee, subcommittees, work groups, and/or staff.

b. Development of 1995 Operations Plan

The following tasks were identified as items to be addressed during 1995:

Task 1: Annual Operations Plan, 1996 (Goal 1, Objective 1)

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|---|---|
| Objective: | Develop 1996 Annual Operations Plan, including identification of available resources, that implements the Framework Plan. |
| Team Members: | Southeast Cooperative Statistics Committee. |
| Approach: | Through meetings and mail, the Committee will develop and complete an Annual Operations Plan for 1996. |
| Resources: | Travel/meeting costs, report costs, and inkind (time) and staff time. |
| Product: | 1996 Annual Operations Plan. |
| Schedule: | The Plan will be drafted by mid/late July 1995 and submitted for approval by the Committee at the fall 1995 meeting. |

Task 2: Information Dissemination (Goal 1, Objective 5)

| | |
|---|---|
| Objective: | Distribute program information to cooperators and interested parties. |

Team Members: Southeast Cooperative Statistics Committee and staff.

Approach: The Committee will distribute information concerning the structure, mission, goals and objectives, etc., to cooperators and interested parties documented by a request log. Each committee member is responsible for maintaining a list of information distributed and providing that list to the CSP administrative staff.

Resources: Copying and mailing expenses and inkind (time) and staff time.

Product: A report which compiles a record of information distributed and presentations given by the Committee and staff.

Schedule: This task is an ongoing activity.

Task 3: Current and Future Data Needs (Goal 2, Objective 1)

Objective: Annually compile a listing of current and future data needs for fisheries management.

Team Members: Data Collection Work Group

Approach: Begin collecting information concerning data needs through telephone contact and existing documentation including stock assessment reports. Accomplished by telephone and mail.

Resources: Telephone costs, report costs, possible travel/meeting costs, inkind support and staff time.

Product: A report which lists the current and future data needs necessary for fisheries management and recommendations.

Schedule: A preliminary report will be presented at the spring 1995 meeting. This is an ongoing activity.

Task 4: Compilation of Licensing Information (Goal 2, Objective 1)

Objective: Compile licensing information for marine commercial fisheries from each state and NMFS in the Region.

Team Members: Southeast Cooperative Statistics Committee

Approach: Each participant will provide licensing information for marine commercial fisheries concerning their jurisdiction to the CSP staff. This information will be compiled by staff and presented as a report. Accomplished by telephone and mail.

Resources: Telephone costs, report costs, inkind support and staff time.

Product: A report which describes each participant's licensing structure for marine commercial fisheries.

Schedule: The report will be presented at the spring 1995 meeting.

Task 5: TIP Sampling Protocols (Goal 2, Objective 2)

Objective: Review and make recommendations on TIP sampling protocols regarding target sampling levels by species.

Team Members: Southeast Cooperative Statistics Committee.

Approach: Via the mail, the Committee will review current protocols and provide recommendations to the appropriate personnel. These recommendations will be forwarded to stock assessment panels and TIP coordinators with a request that any reports developed by the groups include a section concerning data needs.

Resources: Mail costs, conference call costs, report costs, and inkind (time) and staff time.

Product: Report.

Schedule: Work began in 1994 and will continue this year. Periodic progress reports will be presented to the Committee. The final report will be ready for the fall 1995 meeting.

Task 6: Development of List of Necessary Data Elements (Goal 2, Objective 2)

Objective: Review of the Commercially-related Sampling Programs and the Data Elements Description document.

Team Members: Data Collection Work Group.

Approach: The staff will send the Commercially-related Sampling Programs and the Data Elements Description document to the work group for their review and recommendations. The group is charged with developing a minimum set of data elements which are necessary for fisheries management. Accomplished by mail, telephone, possible meeting.

Resources: Mail costs, telephone costs, possible travel/meeting costs, and inkind (time) and staff time.

Product: Minimum set of data elements.

Schedule: The initial phase of this activity has been completed. The next step is to distribute the resulting document to the work group and have them develop a list of needed elements. The list of elements will be compiled and presented to the Committee at the spring 1995 meeting.

Task 7: Non-reported Sources of Landings (Goal 2, Objective 3)

Objective: Identification of non-reported sources of landings in the Region.

Team Members: Geographic Subcommittees.

Approach: This will be an independent activity conducted by the geographic subcommittees. As sources are identified, each subcommittee will compile a listing and periodically mail the listings to CSP staff members. Accomplished by mail, conference calls, and meetings, if necessary.

Resources: Mail costs, conference calls costs, report costs, and inkind (time) and staff time.

Product: Report which lists sources of non-reported landings.

Schedule: This is an ongoing task. A preliminary draft will be presented to the committee in spring 1995.

Task 8: Incorporation of Processed Products Survey (Goal 2, Objective 4)

Objective: Evaluate the incorporation of the processed products survey in the CSP.

Team Members: Southeast Cooperative Statistics Committee.

Approach: This task will be addressed via a workshop. The workshop will discuss issues related to the processed products survey including possibly making it part of the CSP. The NMFS will provide a program description to members and be the main presenter at the workshop. The details of the workshop will be developed by the geographic subcommittees. Accomplished by workshop, mail, and telephone.

Resources: Travel/workshop costs, mail costs, conference calls costs, report costs, and inkind (time) and staff time.

Product: Report and recommendations

Schedule: The workshop is tentatively set for the spring 1995 meeting. It may have to be delayed until the fall 1995 meeting

Task 9: Confidentiality Workshop (Goal 2 & 3, Objective 5)

Objective: Conduct a work session concerning the confidentiality of commercial fisheries data.

Team Members: Southeast Cooperative Statistics Committee.

Approach: This task will be addressed via a workshop. The workshop will discuss issues such as definitions of confidentiality, protection of confidentiality versus enforcement use, confidentiality from data collection versus data management perspective, and others. The details of the workshop will be developed by the Committee. Prior to the workshop, a letter will be sent to each participant that requests they develop a list of questions that need to be addressed during this session. From these lists, the outline of the workshop will be developed. Accomplished by workshop, mail, and telephone.

Resources: Travel/workshop costs, mail costs, conference calls costs, report costs, and inkind (time) and staff time.

| | |
|---|---|
| Product: | Report and recommendations |
| Schedule: | The workshop is tentatively set for the spring 1995 meeting. It may have to be delayed until the fall 1995 meeting |

D. Donaldson stated that he would incorporate the changes to the Operations Plan for 1995 discussed at this meeting and the revised version would be sent to the Committee for their review and approval, via mail ballot.

Commercial Fisheries Information Network (ComFIN)

R. Lukens stated that the status of ComFIN is at the point of all participants finalizing the MOU and Framework. From discussions at this meeting, the Committee should come to some agreement about the program and begin to move forward with getting signatures on the MOU to establish ComFIN. After some discussion and minor editing, the Committee decided to delay action on the ComFIN MOU and Framework Plan until the next meeting. The Committee needs to thoroughly review these documents and be prepared to discuss them by the next meeting. The editing documents will be sent to the members prior to the meeting.

Time Schedule for Next Meeting

After some deliberation, the Committee decided the next meeting should be held during the week of February 27 - March 2, 1995. The possible locations are Jacksonville, Florida, Baton Rouge, Louisiana, and Atlanta, Georgia. The staff will conduct a cost travel analysis to determine the least expensive location.

Other Business

M. Camp distributed the status reports for the IT-95 computer and the status of SEAFIN. She stated that the SEAFIN document which outlines the proposed data management program for the new NMFS IT-95 system was also distributed at the last meeting. She asked the Committee to critically review this document and contact her with any comments or changes. The staff will send out a memo reminding the Committee to contact M. Camp with comments concerning the SEAFIN document.

**There being no further business, the meeting was adjourned at 5:00 p.m.**

RecFIN(SE) COMMITTEE MINUTES
September 28 - 29, 1994
St. Petersburg, Florida

Chairman Skip Lazauski called the meeting to order at 9:10 a.m. The following people were present:

Steven Atran, GMFMC, Tampa, FL
Mike Buchanan, MDMR, Biloxi, MS
Steven Candileri, Tampa, FL
David Donaldson, GSMFC, Ocean Springs, MS
Jack Dunnigan, ASMFC, Washington, DC
Lee Green, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, FWS, Raleigh, NC
Skip Lazauski, ADCNR, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Bob Mahood, SAFMC, Charleston, SC
Maury Osborn, NMFS, Silver Spring, MD
Walter Padilla, PRDNER, Mayaguez, PR
John Poffenberger, NMFS, Miami, FL
Ron Salz, NMFS, Silver Spring, MD
Tom Schmidt, NPS, Homestead, FL
Ron Schmied, NMFS, Tampa, FL
Joe Shepard, LDWF, Baton Rouge, LA
Mike Street, NCDMR, Morehead City, NC
William Tobias, VIDFW, St. Croix, VI
Tom Van Devender, MDMR, Biloxi, MS
Wayne Waltz, SCDNR, Charleston, SC

Adoption of Agenda

The agenda was approved with the following changes:

* Moving items 4 - 8 after items 9-11;
* Adding discussions regarding data technologies, election of officers, and results from North Carolina's private access point survey under Other Business.

Approval of Minutes

The minutes from the RecFIN(SE) meeting held on February 2-3, 1994 in Jacksonville, Florida were approved with minor editorial changes.

Work Group Reports

a. Biological/Environmental

* D. Donaldson reported for Work Group Leader, Steve Meyers that the group met via conference call on June 27, 1994. There were two issues that were discussed. The first was the metadata data base. M. Osborn stated that NMFS is working on developing a program to include this information whenever someone accesses the data. NMFS is currently evaluating software systems to determine the best software that will meet its needs for this activity. The Committee decided the data base should encompass both the recreational and commercial arenas. The Committee recommended that an introduction be added to the document which defines metadata and states the purpose of the document. The last recommendation was for the group to develop recommendations concerning using a licensing framework as a sampling protocol. The Committee charged the Work Group with refining the criteria for the data and cleaning up the document. The Work Group will schedule a meeting either before or after the RecFIN(SE) meeting in Spring 1995. The other issue that was discussed during the call was the QA/QC document This document was sent out for review by the Committee and needs final approval. The Committee briefly reviewed the document making minor changes but not changing the content. The group

believed the document was fine except that it appeared to be slanted towards the MRFSS. M. Osborn and D. Donaldson will modify the document to make it more generic. The QA/QC document will be revised and sent out to the Committee for their review and the document will be up for final approval at the next meeting. The Committee also charged the Social/Economic Work Group with developing a similar document. The Social/Economic Work Group can use the Biological/Environmental document as a starting point and add pertinent social and economic information. **The Committee moved to accept the report and its actions. The motion was seconded and passed unanimously.**

b. Data Base

* D. Donaldson stated that the Work Group met via conference call on August 30, 1994. The first order of business was to elect a work group leader. The group decided that the NMFS representative from the MRFSS program would be the appropriate leader. However, NMFS-HQ has not named a replacement for the Work Group. Thus, the group decided that once a replacement is named, that person will be the new Data Base Work Group Leader. Next, the Committee reviewed and discussed the results of the RecFIN(SE) hardware/software questionnaire. The recommendation from the Work Group is that this document should be forwarded to the MRFSS staff and the information should be incorporated into the design of the RecFIN data management system currently being developed. In addition, the MRFSS staff should develop a formal system design document which describes hardware/software requirements, capabilities, and other pertinent information for the RecFIN data management system. The Committee decided that the Hardware/Software document should be sent to NMFS with the intent of using it where it is applicable. The Committee also expressed their desire to be part of the design of the RecFIN data management system. **R. Lukens moved to accept the report and its actions. The motion was seconded and passed unanimously.**

c. Social/Economic

* R. Schmied reported that the Work Group has not met since the last Committee meeting. He distributed several documents concerning the collection of social and economic data. The Work Group has not made much progress concerning the tasks due to two main reasons. The first is there is a historical lack of information concerning social and economic data. Another task of the group pertains to the development of a list of data requirements and recommendations for social and economic data. The reason for delays regarding this task is that a lot of parallel work has been conducted and the Work Group believed that instead of reinventing the wheel, they could use the results from this similar work to help address the issue of social and economic data needs. He briefly outlined some of the parallel work that was being conducted in the field. Fisheries Statistics Strategic Plan (FSSP) process is continuing and emphasis is being placed on the need for social and economic data. There has been some work in the northeast region regarding identification of recreational fisheries economic data needs. A list of economic data items that are needed to estimate recreational fishing benefits and measure the impacts of management actions has been developed. The objective of this work was to develop a consensus on needed data elements. The MRFSS is using an add-on in the northeast to conduct an economic survey. The purpose of the survey is to collect descriptive information on recreational fisheries in the region and begin to develop economic models to evaluate changes in management actions. There will be add-ons to the intercept and telephone portions of the MRFSS. A plan for social and cultural data and analysis was developed in June 1994 by the Southeast Regional Office in cooperation with the region's three fishery management councils. The plan seeks to enable the Region to respond to an existing NMFS policy mandating that social impacts be fully considered along with economic and ecological

impacts in the fishery management process. Currently, plan implementation is scheduled for this fall pending funding availability. Due to the availability of these documents, the Work Group will move ahead to extract appropriate portions into a RecFIN document describing social and economic data needs. Input will be solicited from fishery managers, economists, and social scientists to assist in developing priorities. Further, the Work Group will modify the QA/QC document prepared by the Biological/Environmental Work Group and use this as a working draft for the social and economic data collection area. The ASMFC conducted a Social/Economic data workshop in June. Results of the workshop were a list of social and economic data elements and identification of how each element could be collected and the priority of each data element. **R. Lukens moved to accept the modified report (attached). The motion was seconded and passed unanimously.**

Operations Plan

a. Status of 1994 Activities

D. Donaldson provided a list of tasks from the 1994 Operations Plan. Their status was distributed and the Committee looked at the tasks individually. After reviewing the list, the Committee agreed that all the activities identified in the 1994 Operations Plan have been completed, or work is currently being conducted to complete them in the allotted time frame. The list of tasks and their revised status is attached.

b. Development of the 1995 Operations Plan

* A draft copy of the 1995 Operations Plan was distributed to the Committee. The Committee completed a thorough review of each task. For Task 1, Annual Operation Plan, 1996, there was some discussion concerning the Schedule section of the task in regards to the need for notation that this task will be done if the program continues past the pilot time frame. After some discussion, **R. Lukens moved to keep the section as written. The motion was seconded and passed with GMFMC, North Carolina and South Carolina voting against.** The review was completed and **R. Lukens moved to accept the 1995 Operations Plan as amended. The motion was seconded and passed unanimously.** The revised 1994 Operations Plan represents the administrative record for this portion of the meeting.

Evaluation of Adequacy of Current MRF Programs for RecFIN

At the last meeting, the Committee reviewed and evaluated MRFSS, NMFS Headboat and Charterboat, and Billfish Tournament and Non-tournament surveys. These surveys were reviewed based on the following criteria: statistical validity, statistical precision, data accessibility, timeliness of data, compatibility and comparability, spatial scope, and temporal scope. Based on these criteria, the following is a result of the discussion conducted regarding the evaluation of the adequacy of the Texas, Puerto Rico and U.S. Virgin Islands Surveys for RecFIN(SE).

a. Texas Surveys

Statistical validity: The purpose of the survey is to estimate daylight landings, CPUE, and size composition by species for sport boat fishermen in Texas bays and the Gulf of Mexico. The sampling year is split into two seasons: high and low use. It is also stratified by day type: weekend and weekday. There are 305 boat access sites on the site register and sampling occurs in eight different bay systems. The distribution of sampling sites is based on relative pressure for each site in each bay system. To determine where sampling will occur, roving counts are used and are based on the

particular bay system. This information is distributed into four different files: high and low use files and weekend and weekday files. Allocation of the survey sites is determined from all files and uses a proportional random sampling design. Survey sites are also spread evenly throughout the year. The survey time is from 10:00 a.m. to 6 p.m. and data are used from only completed trips. Any activity that occurs at a site is documented during this time frame. There is a quality control mechanism where the TPWD personnel go out to the interview site and evaluate the interview process and personnel. One of the possible biases of the survey include allotment of survey sites based on pressure, not landings. It is assumed that fishing pressure does not vary among sites within a bay system. Another bias is that the survey collects data only during daylight and at public access points. Another bias is that the mean daily estimates are adjusted to reflect the number of trips missed and the daylight hours where sampling does not occur. It is assumed that the interviews missed are the same as the interviews obtained.

Statistical precision: Due to budgetary and personnel constraints, it is not possible to design a program that estimates total fishing pressure for all segments of the Texas fishery, therefore key segments (boat access site fishermen) of the fishery are targeted to obtain long-term estimates. For sportboat landings for the major species, the coefficient of variances (CV) are approximately 10 percent. Over the last 10 years, CVs for estimates have been about 6-10% on a coast-wide basis. On a bay system basis, the CVs values are not quite as low. M. Osborn estimated that the CV levels for the bay systems are approximately 20 percent.

Data accessibility: Currently, only TPWD personnel can access the data. The data are available upon written request to TPWD. Annually, the raw survey data and estimates are sent to NMFS-Miami. In the near future, the data will be loaded into a GIS which will allow for a vast array of uses. Annual summary reports are published generally one year after the data are collected. Currently, the reports are one year behind because the method of data base storage has been changed. To rectify this problem, more than one year will be published at one time.

Timeliness of data: The estimates are generated in about 3-5 months after the data are collected. The data are sent to TPWD-Headquarters so the data can be keyed. Unfortunately, the data are not always entered in a timely manner. This process used to take 5-7 months but now the individual field stations have on-site editing capabilities and error-checking programs which has trimmed down the turn-around time for the data.

Compat. & compar.: The survey began in 1976 and the survey design has not changed since 1980. The data before 1980 have been reformatted and recalculated into the current form.

Spatial scope: The survey covers the entire Texas coast, split into eight major bay systems and five Gulf areas.

Temporal scope: The survey began in the mid-70s and is continuing to date. In addition, special surveys such as the wade and bank, and lighted pier fishermen surveys (shore-based) occurred in mid-70s, 1979-80, 1990-91. In addition, there have been a variety of short-term surveys conducted over the years.

b. Puerto Rico Surveys

W. Padilla stated that currently there are no data collection activities which occur in Puerto Rico. From 1985 to 1987, Puerto Rico conducted a marine sport fisheries creel survey which covered all big game tournaments as well as a roving creel survey to cover non-competitive shorefishing. He provided a listing of recent surveys which were conducted in Puerto Rico. Each survey is described based on the seven criteria outlined earlier (attached).

c. U.S. Virgin Islands Surveys

W. Tobias stated that the U.S. Virgin Islands has no statistical surveys conducted in their area; however, recreational port sampling data have been conducted since 1981. Through this activity, catch and effort information is collected to get CPUE data. Shore and pier anglers and inshore and offshore fishermen are sampled through this survey. This effort has been refined and is now referred to as the recreational fisheries assessment program. In addition to this program, logbooks and intercept interviews are used to collect data regarding recreational fishermen such as charter boat operators and avid fishermen in the area. If the information cannot be collected via the logbooks, telephone interviews are used to gather these data. The logbooks are voluntary and no validation studies have been conducted for the data. The Division regularly participates in the local tournaments, both billfish and non-billfish, conducted in the region. The Division provides a certified scale for weigh-out, thus enabling Division personnel to collect data on the species caught as well as interviewing fishermen. Approximately 50-100 interviews are conducted per month depending on the activity in the billfish fishery. The samplers primarily target high activity areas to ensure that they will be able to obtain data. The samplers work a rotating schedule which varies the days and locations where they will collect the data. Total effort estimates are obtained from the data. For the most part, the data are stored in hard copy only but work has begun to computerize the data. The Division submits annual and five-year reports regarding the effort estimates for finfish to the FWS.

M. Osborn presented a format for presenting the information that was given during these discussions. The Committee reviewed the format and believed that putting the presentations in this type of format would be useful when the Committee conducts the final evaluations of the programs. D. Donaldson will put all of the presentations in the format and distribute it to the Committee. This topic will be discussed at the next meeting in regards to review of the compiled information and what the next step will be.

**The meeting was recessed at 5:00 p.m.**

**September 29, 1994**

**The meeting reconvened at 8:15 a.m.**

Administrative Issues

S. Lazauski stated that RecFIN(SE) is a three-year project and the question is what does the group do after those three years. The Committee needs to examine some long-term planning regarding this program. R. Lukens asked the Committee to begin thinking about issues to be addressed in regards to some long-term planning for the program. The Committee needs to address development of new planning documents, the time frame of the program, etc. This issue needs to be addressed during 1995.

a. Status of Administrative Proposal

R. Lukens stated that the proposal has been formally resubmitted to NMFS for funding of ComFIN and RecFIN activities. There was positive feedback from NMFS, however, no decision can be made until the outcome concerning the 1995 budget is known. NMFS is waiting on the regional allocation of funds before an answer regarding the proposal can be given. GSMFC is dedicated to these programs and will continue to provide limited funding to support them. The total amount requested was $137,000 which covers full-time staff, travel for all committee and work group members, publication costs, and other miscellaneous costs. M. Osborn asked if the problem of overlap between the GSMFC and ASMFC has been resolved. R. Lukens stated that he has talked with J. Dunnigan and although the issue has not really been resolved, it is not an issue that will affect the programs. It is a complication which the two commissions need to resolve between themselves.

b. Discussion of FIN meeting

The Committee discussed the issue of having a meeting of both RecFIN and ComFIN to address mutual issues. During this meeting, issues which affect both sectors would be discussed so each committee would not have to discuss them separately. The meeting would be held in the afternoon of the CSP meeting. R. Lukens pointed out that this meeting would require the RecFIN Committee members to come in a little early so they could attend the meeting. The Committee agreed that this type of meeting would be beneficial and directed the staff to schedule such a meeting during the next CSP/RecFIN meeting week.

R. Lukens stated that the Regional Council members need to be told of the existence of RecFIN so they can utilize the framework established to address needs for data and other information necessary for fisheries management. M. Street suggested that industry members should be involved with the RecFIN and begin attending meetings of the Committee. Several members disagreed and believed that the use of existing advisory panels would be a better way of getting industry personnel involved with the program. Agreement was not reached on this issue.

Update on NMFS Fisheries Statistics Strategic Plan

M. Osborn stated that NMFS is still in the process of completing the plan. The various planning teams met in the fall of 1993 to begin development of the plan. An initial draft was developed from these meetings. Rollie Schmitten directed NMFS personnel to get feedback from the Red Team (regional directors, science center directors and office directors) regarding the plan. The NMFS personnel is currently in the process of collecting and collating this feedback from the various NMFS regions. Once all the feedback is received and processed, they will meet with R. Schmitten to discuss it. It is projected that a report will be presented at the next Board of Directors

meeting in December 1994. From this presentation, the top leadership of NMFS will provide some resolution and direction on what the next step will be in the development of the plan. It is envisioned that the infrastructures such as RecFIN, ComFIN, ACFIN, etc., would probably be the bodies that implement the NMFS plans for the future where it integrates with the states. S. Lazauski asked at what level the states will be involved in this process. M. Osborn stated that the NMFS planning process is geared toward fulfilling their mandates, and the states need to also examine their mandates. From that, you can look at the two pictures and see where there is intersect. J. Dunnigan stated that he disagreed with that type of planning and noted that the planning process will be more successful if NMFS involves the states from the beginning. M. Osborn reassured the Committee that NMFS will not proceed with the development of the plan without involvement and input from the states.

Discussion of Recalculation of MRFSS Data

R. Salz stated that the recalculation of the data is on schedule. The data back to 1979 will be revised by March 15, 1995. The 1991-1993 data have been reestimated and were distributed to the appropriate personnel. The NMFS is currently working on the 1988-1990 data, which should be ready by mid- to late-October 1994. The MRFSS staff is striving to deliver three years of data approximately every two months. There are problems with the 1979 data, and due to some missing variables, it will probably not be reestimated. R. Lukens asked if the MRFSS books will be republished with the reestimated data. M. Osborn stated that this issue has been discussed and has not been resolved. R. Lukens stated that the books need to be reprinted. M. Osborn agreed and there needs to be a change in how the information is presented. However, this change in format will take some time to develop. Several years ago, the ASMFC conducted a workshop regarding utilization of the MRFSS. As a product from the workshop, a user manual for all the coastal states is being developed. This manual will be in a loose leaf format and will provide information concerning how to conduct certain analyses and other pertinent information regarding the MRFSS.

Discussion of ACFIN

L. Kline stated that the ASMFC has postponed the MOU that would establish the Atlantic Coast Fisheries Information Network (ACFIN), and instead are building support within the member states of the Commission. There have been meetings with NMFS, FWS and ASMFC personnel to discuss this issue. As part of this building of support, a vision document and statistics resolution were developed by ASMFC. These documents outlines the structure, attributes, and framework of the program. It is believed that there is consensus among the ASMFC commissioners, and these documents will formalize that commitment. ASMFC is looking at the long-term approach regarding this issue. The ASMFC are in the early stages of the planning process, will need to determine how ACFIN will interact with other data programs (i.e., RecFIN and ComFIN). L. Kline stated that the member states of ASMFC decided it was time to proceed with ACFIN. The next step is to bring this issue to the policy board for their questions and comments.

Time Schedule for Next Meeting

The Committee decided that the week of February 27 - March 2, 1995 would be the time for the next meeting and directed the staff to examine the possibility of holding the meeting in either Jacksonville, Florida; Atlanta, Georgia; Baton Rouge, Louisiana; or Tampa, Florida. The Administrative Subcommittee and staff will conduct an analysis to determine the best location and contact the Committee with the final location at the appropriate time.

Other Business

D. Donaldson stated that Jane DiCosimo sent the GSMFC a fax concerning electronic reporting and record keeping in the Northwest. He and R. Lukens believed it was an interesting document and thought the Committee might be interested in the information. This activity falls under Goal 2, Objective 6, "Evaluation of Innovative Data Collection Technologies." There is no action needed from the Committee. The paper was distributed for information only.

* The election of officers was omitted from the agenda and was addressed at this time. As per the operating procedures of the Committee, the Vice-Chairman succeeds to the Chair. The Vice-Chairman, W. Padilla, however, was not able to accept the chairmanship of the Committee. The Committee discussed several different scenarios to address this issue but were not able to resolve it. Therefore, J. Dunnigan suggested that this issue be tabled and the Administrative Subcommittee should address it. **M. Street moved that this issue be tabled until the spring 1995 meeting and be the first order of business addressed by the Committee. The motion was seconded and passed unanimously.**

M. Street stated that in 1992, North Carolina conducted a study through additions to the MRFSS telephone survey on the differences between private/rental boat trips from public versus private access points. Historically, it has been assumed that data from trips initiated from private versus public access points are essentially the same. A series of questions concerning vessel, avidity, length of trip, etc. were asked of the fishermen. The preliminary findings from this study found that there are significant statistical differences between the two groups for such items as target species, length of trip, and number of trips per household per wave. Vessel size did not differ significantly between the groups. Once the final report is complete, it will be distributed to the Committee.

**There being no further business, the meeting was adjourned at 10:45 a.m.**

**PROGRESS REPORT**

**RecFIN (SE) SOCIAL & ECONOMIC DATA WORK GROUP**

**September 28, 1994**

Submitted By:

Ron Schmied
Work Group Chair
NMFS Southeast Regional Office
9721 Executive Center Drive, North
St. Petersburg, FL 33702

## Accomplishments - Tasks 6 & 7, 1994 Operations Plan

Progress in this work area has been slowed by two factors. First, the historical lack of emphasis given to the use and collection of social and economic data by fisheries management agencies provides a very lean knowledge base upon which to develop a meaningful prioritized listing of social and economic data needs. Second, on a rather positive note, there are thankfully a number of parallel efforts underway within NMFS and the ASMFC. Rather than duplicate, Work Group members have chosen to participate in these activities and utilize or expand on their results as appropriate to meet RecFIN (SE) purposes. Accordingly, this report describes and provides a status report on these parallel efforts.

### Development of the NMFS Fisheries Statistics Strategic Plan (FSSP)

NMFS Headquarters has initiated a process by which the agency will develop and implement a national plan for the collection of fisheries statistics needed to support fisheries management efforts. In spite of an initial rush of activity, progress seems to have slowed in this effort and there seems to be a near absence of mention or attention regarding social-cultural data needs. Notably, however, project personnel continue to provide updates on the FSSP at RecFIN meetings and emphasize that input and reviews will be solicited eventually from individuals outside of the FSSP planning team.

### Identification of MRF Economic Data Needs - NMFS Northeast Region

Economists at the NMFS Northeast Fisheries Science Center in Woods Hole, Massachusetts have produced a listing of economic data items needed for estimating marine recreational fishing benefits derived from the Nation's ocean resources and for measuring the impacts of fishery management decisions. As admitted by involved scientists, the document's chief goal is to

develop consensus on data needs. Eventually, priorities must be assigned to the data elements and a strategy developed for their long term collection.

Notably, the NEFSC has received $200K from NMFS Headquarters to fund an add-on to the MRFSS to collect economic data needed to: 1) collect descriptive information on recreational fisheries in the Northeast and, 2) develop economic models to evaluate how marginal changes in management affect angler's valuation of 7 recreational species. Survey methods include addition of key questions to the telephone and intercept surveys as well as a follow-up mail survey of participating anglers after the completion of their fishing trip. Pending analysis of the success of this effort, these methods could be used in the Southeast or elsewhere.

Development of a Social and Cultural Data and Analysis Plan for the Southeast

This plan was developed in June 1994 by the Southeast Regional Office in cooperation with the region's three fishery management councils. The plan seeks to enable the Region to respond to an existing NMFS policy mandating that social impacts be fully considered along with economic and ecological impacts in the fishery management process. Included in the plan is an outline of social and cultural data and analysis needs, a description of expected products, a list of organizational responsibilities for producing the products, and fiscal requirements for meeting minimal data collection requirements. Currently, plan implementation is scheduled for this fall pending funding availability.

Strategy for Addressing RecFIN Social and Economic Work Tasks

Based on the availability of these documents, the Work Group will move ahead to extract appropriate portions into a RecFIN document describing social and economic data needs. Input will be solicited from fishery managers, economists, and social scientists to assist in developing priorities. Further, the Group will modify the QA/QC document prepared by the Biological/Environmental Work Group and use this as a working draft for the social and economic data collection area.

## TASKS FROM THE 1994 OPERATIONS PLAN AND THEIR STATUS

Task 1: Annual Operations Plan, 1995 (G1, O3)

Objective: Develop 1995 Annual Operations Plan including identification of available resources, that implements the Strategic Plan.

Status: Operations Plan has been sent out to the Committee and will be completed by the fall 1994.

Task 2: Information Dissemination (G1, O4)

Objective: Distribute program information to cooperators and interested parties.

Status: This task is an ongoing activity.

Task 3: Planning Activities for Program Review (G1, O5)

Objective: Provide an outline of the method to be used to conduct the program review.

Status: The method for conducting the review has been developed and the Administrative Subcommittee is in the process of setting up the review for 1995.

Task 4: Biological/Environmental Data Elements (G2, O2)

Objective: Identify metadata events in the Southeast Region since 1980 and develop a data base of these events.

Status: The preliminary criteria for this data base was developed and each Committee member has sent in metadata events which occurred in their jurisdiction. The metadata information will be presented to the Committee for their approval during the fall 1994 meeting.

Task 5: Biological/Environmental Quality Assurance and Quality Control (G2, O3)

Objective: Identify and determine standards for biological and environmental data collection, including statistical, training, and quality assurance and quality control standards.

Status: A draft QA/QC document has been develop and will be presented to the Committee for their approval at the fall 1994 meeting.

Task 6: Social/Economic Data Elements (G2, O2)

Objective: Identify sociological and economic data elements required for each fishery component.

Status: Work has begun on this task and will continue. This task will be completed by the end of 1994.

Task 7: Social/Economic Quality Assurance and Quality Control (G2, O3)

Objective: Identify and determine standards for sociological and economic data collection, including statistical, training, and quality assurance and quality control standards.

Status: Schedule will be determined based on outcome of Task 6 and sufficiency of review findings.

Task 8: Identification and Evaluation of Current Programs (G2, O4)

Objective: Identify and evaluate the adequacy of current programs for meeting RecFIN(SE) requirements.

Status: This task will be addressed at the fall 1994 meeting.

Task 9: Coordination and Integration of Data Collection Efforts (G2, O5)

Objective: Encourage coordination, integration, and augmentation, as appropriate, of data collection efforts to meet the RecFIN(SE) requirements.

Status: This is an ongoing activity.

Task 10: Evaluation of Innovative Data Collection Technologies (G2, O6)

Objective: To evaluate and recommend innovative data collection technologies.

Status: This is an ongoing activity.

Task 11: Equipment and Software Needs (G3, O2)

Objective: Evaluate current hardware, software, and communication capabilities of program partners and make recommendations for support and upgrades.

Status: All information has been collected from the Committee members. The Data Base Work Group accepted the report and will present it to the Committee for their approval at the fall 1994 meeting.

Task 12: Design, Implementation and Maintenance of Data Management System (G3, O3)

Objective: To design, implement, and maintain an MRF data management system to accommodate fishery management/research and other needs (e.g., trade and tourism).

Status: Work on migrating MRFSS data bases to the IT-95 system will begin in 1994. Development of the Decision Support System will begin in 1994 or 1995.

Task 13: Standards/Protocols/Documentation for Data Management (G3, O4)

Objective: Develop standard protocols and documentation for data formats, input, editing, quality control, storage, access, transfer, dissemination, and application.

Status: Work is continuing on this activity and it related to Task 12.

Task 14: Data base Identification and Prioritization of Existing Data Bases (G3, O5)

Objective: Identify and prioritize existing historical data bases for integration into the centralized data base.

Status: The final list was accepted by the Committee at the spring 1994 meeting.

Task 15: Evaluation of Information Management Technologies (G3, O6)

Objective: To evaluate and recommend innovative, cost-effective information management technologies.

Status: This is an ongoing activity. The MRFSS program and North Carolina are in the process of testing data catch script writers.

Task 16: Long-term National Program Planning (G4, O1)

Objective: Provide for long-term national program planning.

Status: The planning aspect of this task is an ongoing activity.

Task 17: Coordination, Consistency & Comparability with Other RecFIN (G4, O2 & 3)

Objective: Coordinate RecFIN(SE) with other regional RecFIN programs and encourage consistency and comparability among regional programs over time.

Status: This task is an ongoing activity.

Evaluation of Adequacy of MRF Projects Carried Out in P.R. for RecFIN (SE)

| | |
|---|---|
| Project Title: | Developing Marine Recreational Fishing in Puerto Rico and the United States Virgin Islands |
| Statistical validity: | In the absence of a known population, the sample selection combined an intercept method with a systematic approach to field settings based on knowledge and experience of the islands' resources. Structural observations included a comprehensive questionare that was designed to determine primarily how, where and when recreational fishermen exploited the marine environments of Puerto Rico and the United States Virgin Islands. |
| Statistical precision: | Statistical analysis performed presents frequencies, correlations, percentages, etc. of some of the most basic features of the recreational fishing. There are no variance estimates for the data |
| Data accessibility: | Database is stored on a personal computer in IBM format. Contact Dr. David Griffith of the East Carolina University of North Carolina to access the data. |
| Timeliness of data: | Report may be requested to the P.R. Sea Grant College Program in Mayaguez, PR. |
| Compatability and comparability: | Unavailability of other surveys from PR and USVI hinder compatability and comparability. |
| Spatial scope: | Puerto Rico and the United States |

| | |
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| | Virgin Islands. |
| Temporal scope: | January 1987 to March 1988. |
| Project Title: | Developing Strategies to Enhance Charter Boat Fishing Operations in Puerto Rico and U.S. Virgin Islands. |
| Statistical validity: | The size and spatial distribution of the charter boat fleet and turnover trends in PR and USVI region was uncertain. A sample of charter and headboat operators and their customers, and local tourism organizations in P.R and USVI were interviewed (structured and unstructured interviews). A mail questionare was sent to a sample of charter boat customers (158). Of these, 90 responded for an overall response of 56.9%. |
| Statistical precision: | No variance estimates for data. Statistical analysis performed presents frequencies, percentages of some of the most basic features of the sector. |
| Data accessibility: | Data is stored on a personal computer in IBM format. Contact Ruperto Chaparro of the PR Sea Grant College Program in Mayaguez, PR to access data. |
| Timeliness of data: | Report may be requested to the PR Sea Grant College Program in Mayaguez, PR. |
| Compatability and comparability: | Compatability and comparability may be performed with similar reports from Louisiana, Florida and Texas. |
| Spatial scope: | Puerto Rico and the United States Virgin Islands |

| | |
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| Temporal scope: | February 1989 to June 1992. |
| Project Title: | Assessment of Access and Infrastructure Needs of Puerto Rico and the United States Virgin Islands in Order to Support Increased Marine Recreational Fishing |
| Statistical validity: | Methodological approach did not consist in a statistical sample survey. Information was gathered through field observations, on-site assessments, structured interviews with owners and managers, unstructured interviews with government officials, users of facilities and fishery resources, and members of organized groups. |
| Statistical precision: | Information sought was mostly open-ended. Information was turned into numerical variables for statistical analysis. The data files and analysis were elaborated in STATPAC. Data collected in the field through observations and interviews was also used to perform qualitative analysis and assessment of the status and potential for MRF development in PR and USVI. As an inventory, the data purports to be equivalent to the universe, but a margin of error must be allowed in analysis and description. |
| Data accessibility: | Data is stored in a personal computer in IBM format. Contact Ruperto Chaparro of the PR Sea Grant College Program in Mayaguez, PR to access the data. |
| Timeliness of data: | Published Research Report may be requested to the PR Sea Grant College Program in Mayaguez, PR. |

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| Compatability and comparability: | Most studies listing facilities and infrastructure are scattered and outdated, so compatability and comparability is difficult, mostly when there are no common terms and concepts to frame the inventory studies. |
| Spatial scope: | Puerto Rico and the United States Virgin Islands. |
| Temporal scope: | August 1986 to May 1988. |
| Project Title: | Marine Sport Fisheries Creel Survey |
| Statistical validity: | Survey covered all big game fishing tournaments sponsored by the Puerto Rico Sport Fishing Association, (especifically all billfish tournaments). To cover non-competitive shorefishing, the roving creel survey method with non-uniform probability sampling was used. Sampling design was randomized to avoid bias. |
| Statistical precision: | Analysis of data includes, length weight frecuencies of billfish, total harvest, catch, effort and CPUE, and estimates among others. Variances can be calculated. (Variances were originally calculated but not included in the report). |
| Data accessibility: | Data is available through the report. Copies of the report were sent to main libraries in P.R. Raw data was managed by softwares which are practically obsolete (Apple-works). |
| Timeliness of data: | Report may be requested to the P.R. Department of Natural and |

| | |
|---|---|
| | Environmental Resources. |
| Compatability and comparability: | Methodology used for big game fishing was similar to that used in other Gulf of Mexico and Atlantic States. Roving creel censuses were adapted from freshwater systems. No similar studies were found. Survey has not been repeated for further compatability and comparability. |
| Spatial scope: | Puerto Rico (Islandwide) |
| Temporal scope: | 1985 to 1987 |

APPROVED BY:
COMMITTEE CHAIRMAN

**TCC ANADROMOUS FISH SUBCOMMITTEE**
**MINUTES**
**Monday and Tuesday, October 17-18, 1994**
**New Orleans, Louisiana**

Chairman Gary Tilyou called the meeting to order at 1:15 p.m. The following were in attendance:

Members
Norman Boyd, TPWD, Port O'Connor, TX
Douglas J. Frugé, USFWS, Ocean Springs, MS
J. Alan Huff, FDEP, St. Petersburg, FL
Charles Mesing, FGFFC, Tallahassee, FL
Larry Nicholson, GCRL, Ocean Springs, MS
Tom Serota, USFWS, Corpus Christi, TX
Gary Tilyou, LDWF, Baton Rouge, LA

Staff
Ron Lukens, Assistant Director
Nancy Marcellus, Administrative Assistant

Others
John Brown, USFWS, Atlanta, GA
Gail Carmody, USFWS, Panama City, FL
Bob Cooke, USFWS, Atlanta, GA
John Forester, USFWS, Baton Rouge, LA

## Adoption of the Agenda

D. Frugé suggested that agenda item "FWS Funding Initiative" be held until Tuesday. The agenda was adopted as amended.

## Approval of Minutes

The minutes of the meeting held April 4-5, 1994 in Biloxi, Mississippi were approved with the following correction by L. Nicholson. On page 11 under Mississippi's report the sentence starting with "From 220,000 Phase 1 fish..." should be changed to "From 20,000 Phase 1 fish...". The minutes were approved with the suggested change without objection.

## 1994 GSMFC Sport Fish Restoration Administrative Program

R. Lukens asked that each state member update the Subcommittee on striped bass samples sent to Ike Wirgin:

**Louisiana** - G. Tilyou sent 20 samples from the Sabine River, 20 samples from Toledo Bend Reservoir and 10 samples from the Mississippi River.

**Florida** - C. Mesing sent 65 samples from the Apalachicola River.

**Texas** - N. Boyd explained that he did not have the information but would track it down and report back to Lukens.

**Alabama** - The Alabama Department of Conservation and Natural Resources/Marine Resources Division (ADCNR/MRD) was not represented at the meeting. G. Carmody, U.S. Fish and Wildlife Service, reported that she can get samples on the Alabama River but did not want to do so without permission from Vernon Minton or Walter Tatum (ADCNR/MRD). Lukens said that he would check to see if it will be acceptable for Carmody to collect those samples.

**Mississippi** - L. Nicholson reported that they have not caught any striped bass, therefore, no samples have been sent.

Lukens reported that a database is planned for these striped bass samples.

**Status of Proposed Pearl River Dredging Project**

D. Frugé reviewed the current status of the project. No action was taken by the Subcommittee. He suggested that the Subcommittee respond to the sturgeon monitoring plan, developed by the U.S. Army Corps of Engineers. It was agreed that the Subcommittee should review the program and get comments to draft a letter of opposition by November 4. G. Tilyou asked that he be sent a copy of all comments.

**Status of Gulf Sturgeon Recovery Plan**

Lukens indicated that he had recently met with Lorna Patrick, U.S. Fish and Wildlife Service, Panama City, Florida, who is in charge of completing the final draft of the recovery plan for the Gulf sturgeon. He indicated that the final draft will be sent out to the Recovery Team early in November for a final review. Following that review, the document will be sent to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for review and adoption by those agencies. At the same time, the document will be sent to the Technical Coordinating Committee and the State-Federal Fisheries Management Committee of the Gulf States Marine Fisheries Commission. Following that review, the Commissioners will consider adoption of the document. Lukens reminded the Subcommittee that it had already approved the draft plan pending minor editorial changes. When finalized, the plan will be a partnership among the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Gulf States Marine Fisheries Commission, and will be a recovery/management plan. No action was required for this issue.

**Lake Talquin Update**

Results are inconclusive at this time regarding the genetic differences between Gulf and Atlantic genotypes of striped bass. Dr. Wirgin, who is conducting the genetics work, indicates that there may be some overlap.

Lukens advised the subcommittee that the Striped Bass Committee of the American Fisheries Society's Southern Division is planning to host a mini-symposium titled "Management of Striped Bass and Striped Bass Hybrids" at the 1995 Southern Division Midyear Meeting. The Midyear Meeting will be held in Virginia Beach, Virginia on February 23-26, 1995, and the one-day symposium will likely be scheduled for Saturday, February 25 or Sunday, February 26. Lukens asked if the Subcommittee was interested in holding the Anadromous Fish Subcommittee Annual Spring Meeting in conjunction with that meeting if most members would be attending it already. The Subcommittee unanimously agreed to do this.

**1994 Striped Bass Production and Allocation - State and Federal**

D. Frugé distributed a report to the Subcommittee regarding distribution data of striped bass during FY94 for target waters identified at the Morone meeting, February 22 & 23, 1994. The data incorporates results, products, and information from cooperating States but is not all inclusive of their striped bass programs.

## ACF Restoration Plan

Gail Carmody reported that the restoration plan for the Apalachicola-Chatahoochee-Flint (A-C-F) River System is to establish measurable goals and objectives to restore the gulf striped bass. The partners in the A-C-F restoration program are now in the process of reviewing tasks and costs. Fourteen tasks have been identified and are to be ranked by the technical committee. Gail will send a copy to R. Lukens for distribution to the Subcommittee for their review and comments. Lukens will compile the comments and send back to Gail.

## FWS/State Cooperative Agreement on Gulf Striped Bass Restoration

D. Frugé distributed a draft of the Cooperative Agreement for Anadromous Striped Bass Restoration in Gulf of Mexico River Systems. The Agreement is among the Alabama Department of Conservation and Natural Resources, Florida Game and Fresh Water Fish Commission, Georgia Department of Natural Resources - Game and Fish Division, Gulf Coast Research Laboratory, Louisiana Department of Wildlife and Fisheries, Mississippi Department of Wildlife, Fisheries and Parks, Texas Parks and Wildlife Department, Gulf States Marine Fisheries Commission, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service. The purpose of the cooperative agreement is to restore the Gulf race striped bass in appropriate river systems of the Gulf of Mexico. The main reasons for the agreement are to increase the visibility of Gulf striped bass restoration and to force all parties to understand and acknowledge the serious nature of restoration of striped bass. Frugé asked the Subcommittee to review the document and send comments to him to be incorporated for review at the next meeting.

The Monday afternoon session adjourned at 5:00 pm.

Chairman Gary Tilyou called the Tuesday morning session to order at 9:00 am.

## FWS Funding Initiative

D. Frugé distributed draft copies of a budget initiative for Gulf of Mexico anadromous fish restoration. The funds, if they were budgeted and appropriated, would be earmarked for use by the Gulf States and the U.S. Fish and Wildlife Service on activities to restore striped bass in the Gulf region. There are still some details to address; however, he plans to compile this information for the next funding cycle.

## Gulf Striped Bass Fry Priorities and Needs for FY 95

D. Frugé indicated that the first priority for receiving Gulf genotype striped bass for stocking would be the Apalachicola River System.

Louisiana indicated that they will make the same request as last year (30,000 Phase 1 fingerlings).

Likewise, Mississippi will be requesting the same as last year.

Texas was represented by Norman Boyd who is a new appointee to the Subcommittee. Boyd indicated that he will have to check on pond space for fry before making any requests.

The Alabama Department of Conservation and Natural Resources/Marine Resources Division was not in attendance.

Priorities:

1. A reservoir in Texas to be identified.
2. Indian Creek in Louisiana.
3. L. Nicholson's comparative study. This study will require a commitment of 3-5 years.
4. Ross Barnett Reservoir in Mississippi.
5. Another Texas reservoir.

## Sabine River Striped Bass Radiotelemetry Study

John Forester presented a slide presentation on the results of the two-year radiotelemetry study on striped bass in the Sabine River below Toledo Bend Dam. His study indicated that there was a great deal of movement of striped bass, even perhaps movement out of the system into the Gulf; however, the majority of the movement of striped bass was in the upper part of the Sabine River just below the Toledo Bend dam.

## FWS Ecosystem Management Approach Update

Frugé reported that the FWS Director had instructed each FWS Region to develop an ecosystem plan, with goals, objectives, action strategies and budget needs for fiscal years 1995-1997, for each identified ecosystem unit by the end of September 1994. The ecosystem approach is being implemented at the field level through ecosystem field teams. In the FWS Southeast Region, five field teams have been established to develop ecosystem plans for the region's 15 ecosystem units. A list of the Southeast Region Ecosystem Teams was distributed to the Subcommittee. The Subcommittee also received a copy of a map indicating the jurisdictions of the teams and the ecosystem units for which each team is responsible.

J. Brown mentioned that the FWS has been criticized by the States for not involving the States in the coordination of this activity. Extremely short time constraints were the main reason and all efforts are being made to improve coordination with the States.

## Election of Officers

Doug Frugé was elected Chairman with Charlie Mesing to serve as Vice-Chairman.

## Other Business

John Brown announced that he will be retiring effective January 1, 1995. Lukens thanked Brown for his many years of service to the Subcommittee and the Commission.

D. Frugé asked whether the Alabama Shad status report was complete. Gail Carmody repsonded that the report is complete in draft but not yet finalized due to other priorities. Frugé also reported that he has submitted a pre-proposal to the EPA Gulf of Mexico Program to develop an educational video on the Gulf sturgeon. Copies of the pre-proposal were distributed to the Subcommittee.

Frugé mentioned that Susan Merrifield in his office recently updated the "Inventory and Profile of Existing Information and Education Programs on Gulf of Mexico Anadromous Fish". Copies were distributed to the Subcommittee.

Lastly, Frugé said he hopes to have the initial issue of the Gulf of Mexico anadromous newsletter out by late fall.

**There being no further business, the meeting adjourned at 11:55 am.**

**S-FFMC MENHADEN ADVISORY COMMITTEE**
**MINUTES**
**October 18, 1994**
**New Orleans, LA**

APPROVED BY:
COMMITTEE CHAIRMAN

The meeting was called to order at 1:30 p.m. by Chairman Borden Wallace. The following were in attendance.

Members
Dalton Berry, Zapata Protein (USA), Inc., Hammond LA (*proxy for Barney White*)
Vince Guillory, LDWF, Bourg, LA
Behzad Mahmoudi, FMRI, St. Petersburg, FL
Jerry Mambretti, TPWD, Port Arthur, TX
Joseph Smith, NMFS, Beaufort, NC (*proxy for John Merriner*)
Borden Wallace, Daybrook Fisheries, Inc., Covington, LA

Staff
Larry B. Simpson, GSMFC, Ocean Springs, MS
Richard L. Leard, GSMFC, Ocean Springs, MS

Others
Robert Ancelet, LDWF, New Orleans, LA
Kimberly Anglin, LSU, Baton Rouge, LA
Richard Condrey, LSU, Baton Rouge, LA
Janaka de Silva, LSU, Baton Rouge, LA
Jan Harper, GSMFC, Lake Jackson, TX
Gregory Holt, Daybrook Fisheries, Inc., Empire, LA
LCDR Mark Johnson, U.S. Coast Guard, New Orleans, LA
Albert King, GMFMC, Gulf Shores, AL
Wil Lapointe, Daybrook Fisheries, Inc., Empire, LA
Elton Levi, NMFS, Beaufort, NC
William S. "Corky" Perret, LDWF, Baton Rouge, LA
Nancy Rabalais, LUMCON, Chauvin, LA
Jeff Rester, LSU, Baton Rouge, LA
Brandt Savoie, LDWF, Baton Rouge, LA
Buck Sutter, NMFS, St. Petersburg, FL

Adoption of Agenda

*V. Guillory moved and D. Berry seconded that the agenda be adopted with delay of item 4 until a slide projector is acquired. The motion carried unanimously.

Adoption of Minutes

*D. Berry moved and V. Guillory seconded that the minutes be adopted with an editorial change in the affiliation of Representative Frank Patti. The motion carried unanimously.

Florida Net Referendum

R. Leard presented a sample ballot for a change in Florida's constitution that, if passed, would ban entangling nets and restrict the use of certain other nets. B. Mahmoudi reviewed previous regulatory changes in Florida and their effects on catches. It was noted that it was too early to determine impacts.

Review of 1994 Fishing Season

J. Smith reported that landings through September 1994 were 698,000 MT (48% over 1993, 45% over the previous 5 year average and 30% over the NMFS projection). Projected landings through October 1994 were expected to be approximately 765,000 MT (42% over 1993). He also noted that 6 plants and 55 vessels (3 more than 1993) were operating. Age 2 fish also made up a larger portion of landings in most plants due to a strong 1992 year class.

J. Smith stated that nominal fishing effort through August 1994 was about 339,000 vessel ton weeks, and he expected effort to be about 473,000 vessel tone weeks through October 1994. He also reported that CDFRs have been key entered for 4 of 6 plants for 1992, 5 of 6 for 1993, and all 6 plants for 1994. He also presented a preliminary analyses of 1993 and 1994 CDFR data regarding frequency of sets and areas.

B. Wallace described problems with funding for port samplers at the beginning of the season. In discussion, it was noted that these problems could occur in subsequent years as manpower is reduced; thus, potentially jeopardizing a data base of over 30 years.

*D. Berry moved to ask the S-FFMC to approve appropriate action requesting that the NMFS maintain full funding of these vital sampling programs. V. Guillory seconded, and the motion carried unanimously.

Update on the Hypoxic Area off Louisiana

N. Rabalais reported that with the exception of 1988, the hypoxic area (dead zone) has been monitored since 1985. She noted that the largest area was observed in 1993 and was attributed to flooding and the associated large volume of nutrients and freshwater exiting the Mississippi River. She stated that although the river flow in 1994 was basically average, the subsequent hypoxic phenomenon was almost identical to 1993, and she attributed this to residual effects of the 1993 floods and nutrients.

N. Rabalais observed that because the dead zone extends along the bottom (while menhaden are typically in surface waters) and since menhaden can move to avoid these areas, there is no direct impact on menhaden. Indirect effects included changes in plankton diversity and overall water quality that in the long-term could effect the food web for menhaden and possibly larval and juvenile stages. B. Wallace asked N. Rabalais to report to the MAC any future observations that she feels would potentially effect the menhaden stocks.

Status of Bycatch Studies

R. Condrey introduced J. de Silva who is using elements of the bycatch study to develop his Ph.D. dissertation. J. de Silva stated that the objectives of the study were to develop a sampling strategy (essentially the same as 1992 with retained and released components); to examine differences in species composition and bycatch rates by area (eastern and western ranges of the fishery); to examine differences in bycatch relative to school size and time of the year; and to study bycatch based on behavioral relationships with menhaden including: predator/prey, random distribution, and ecological relationships (i.e., cover).

J. de Silva reported that preliminary data on the occurrence of bycatch in menhaden catches (retained) were similar to the 1992 study. He noted that most often there was no bycatch (59%) followed by 1 or 2 species per set, and usually these were 100 to 200 mm SL. He stated that the rest of the year would be devoted to analytical analyses, and that in 1995, he planned to study the effects of large fish deflectors on bycatch. A report on 1995 sampling protocol will be presented at the spring MAC meeting.

Question of Sea Turtle Bycatch

D. Berry reported that based on a letter from J. Mambretti and observations by Dr. Roger Zimmerman (NMFS, Galveston), no sea turtles were found in the September fish spill off High Island, Texas.

Discussion of Methods to Prevent or Reduce the Incidence of Fish Spills

J. Mambretti asked the MAC for suggestions on ways to curb the incidental catch of particularly red drum and tarpon off Texas in late summer. It was noted that there were problems with knowing the contents of schools. The industry will work with Texas' personnel to define fishing methods and procedures in an effort to ameliorate the problem.

Discussion of Menhaden FMP Revision

*The MAC reviewed suggested changes to the FMP revision that had been submitted. V. Guillory moved to accept the changes as well as any additional comments on Section 12.0 (due November 4, 1994) and to give staff editorial license to develop a revised draft and proceed to the TCC for review and approval. D. Berry seconded, and the motion carried unanimously.

Election of Chairman

It was noted that the chairman rotation was to the NMFS, and J. Merriner was elected without dissention.

**There being no further business, the meeting was adjourned at 5:00 p.m.**

APPROVED BY:

Tom Wagner

COMMITTEE CHAIRMAN

**TCC CRAB SUBCOMMITTEE**
**MINUTES**
**October 18, 1994**
**New Orleans, Louisiana**

Tom Wagner, Chairman, called the meeting to order at 8:25 a.m. The following were in attendance:

Members
Vince Guillory, LDWF, Bourg, LA
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Harriet Perry, GCRL, Ocean Springs, MS
Phil Steele, FDEP, St. Petersburg, FL
Tom Wagner, TPWD, Rockport, TX

Others
Bob Angelet, LDWF, New Orleans, LA
Julie Massey, Marine Advisory Service, Angleton, TX
Charles Moss, Marine Advisory Service, Angleton, TX
Brandt Savoie, LDWF, Baton Rouge, LA
William Teehan, FMFC, Tallahassee, FL

Staff
Rick Leard, GSMFC, Ocean Springs, MS
Cindy Bosworth, GSMFC, Ocean Springs, MS

Adoption of Agenda

The agenda was adopted as presented.

Adoption of Minutes

The minutes of the meeting held April 4, 1994, in Biloxi, Mississippi, were adopted as presented.

State Reports

**Florida** - Bill Teehan, Florida Marine Fisheries Commission, presented a brief overview of Florida's program including the Commission's role on rule-making authority. The Commission was established by legislative act and has rule-making authority over gear specification; prohibitive gear; bag limits; size limits; species that may not be sold; protected species; closed areas; quality control except for oysters, clams, mussels, and crabs; seasons; and special considerations for egg-bearing female crabs. The Commission cannot make a management rule for crab based on health considerations or quality control; the FDEP directs those management rules. FMFC rules are in Chapter 46 of the Florida Administrative Code, and the FMFC presently deals with the following invertebrate species: stone crabs, queen conch, hard clams, bay scallops, spiny and slipper lobsters, oysters, sponges, shrimp, shells, ornamental marine life, and blue crabs.

Bill Teehan briefly reported on the movement by the Save Our Sealife Committee which resulted in a net ban referendum that goes to a popular vote on November 8. This constitutional amendment will prohibit the use of all gill and entangling nets, such as drift nets, stab nets, and trammel nets, in all Florida waters.

To help alleviate the problem of underreported landings, Florida has a restricted species endorsement which requires commercial fishermen to demonstrate $5,000 in sales per year, which equates to a status of a full-time commercial fisherman. In order to get the endorsement you must apply for it every year when you buy a commercial license. The Florida fishery management plan continued the 5" minimum size for commercial harvest of hard blue crabs. There is no minimum size limit on recreational harvest and harvest of peelers. There is a 5% tolerance on the 5" minimum size per container. The allowable gear for the harvest of blue crabs for any users are dip nets, landing nets, drop nets, fold-up traps, star traps, hook and line, push scrapes, and trot lines. Hard crab traps have a maximum size limit of 2' x 2' x 2' or the volumetric equivalent with a minimum mesh size of 1 1/2". For peeler traps, the maximum size limit is 2' x 2' x 2' with a minimum mesh of 1". A degradable panel for hard crab and peeler traps will be required in 1995. As recommended in the regional fishery management plan, an escape ring requirement (3 rings of 2 3/8" diameter) was established for 1995.

Phil Steele reported Florida hard blue crab landings for 1993 totalled 12,707,479 pounds which were valued at $5,782,494. Preliminary landings for 1994 total 9,042,143 pounds valued at $4,343,009. Florida projects include a submitted MARFIN grant to look at alternative shrimp gear and a project to examine trap configurations. He also noted that the ASMFC now has the power to regulate fisheries.

**Alabama** - Steve Heath reported that a series of workshops with various user groups have been held in conjunction with the development of a blue crab management plan for Alabama. Steve Thomas, a University of South Alabama socio-anthropologist, helped arbitrate these meetings. Alabama's largest problem is and continues to be user conflict, and more meetings between crab and shrimp fishermen to discuss conflicts and possible solutions will be held to help alleviate these problems. Harriet Perry noted that the fishery in Bayou La Batre has changed and asked whether an industry survey has been conducted. Steve Heath reported to his knowledge no survey has been conducted recently.

**Mississippi** - Harriet Perry distributed a *Menippe adina* manuscript which has been accepted for publication by *The North American Journal of Fisheries Management.* An annual progress summary for the project on development of low calcium system technology for commercial blue crab shedding systems was distributed. The project included the development of a recirculating seawater system for shedding blue crabs in low calcium seawater, and laboratory experiments were performed to quantify the operating range of calcium for use in low calcium system that retards mineralization in shedding crabs without increased mortality. Settlement patterns of *Callinectes sapidus* megalopae in Mississippi Sound in 1991 and 1992 were similar both years; there was a lack in settlement in the spring and early summer. Peak settlement events were associated with onshore winds and spring tides.

**Louisiana** - Vince Guillory reported 1993 landings at 45,613,000 pounds which was down from 51 million pounds in 1991 and 52 million pounds in 1992. The number of commercial crab fishermen in 1993 (resident and nonresident) was 2,854. The number of fishermen seems to have stabilized since 1987 when it reached 2,900. Since 1987, the number of fishermen has ranged from 2,600 in 1991 to 3,000 in 1989. In 1994, fishermen, dealers, and recreational fishermen report a bad year for crab landings. Prices were up throughout the summer. The main enforcement problem in Louisiana is possession of undersized crabs. Vince Guillory reported on a study of baited peeler traps. Mesh sizes and configurations were examined. A hot issue in Louisiana is the predation of crabs by red fish. Guillory investigated the feeding habits of red drum and abundance of blue crabs to investigate a possible correlation. He noted that blue crabs may be their own biggest predator.

**Texas** - Tom Wagner reported that due to computer problems, 1993 landings are not yet available but appear to be higher than 1992. Effort continues on the third year of the crab trap tag. Data is not computerized and could be difficult due to inconsistencies in information on tags. Regulation changes include for commercial purposes - no more than 200 crab traps may be used by any person, and crab traps may not be placed or fished within 100 feet of another crab trap, except when traps are secured to a pier

or dock. Crab research in Texas includes a salt box study next summer to determine salinity tolerance, and a study of shrimp trawl bycatch in its second year (data will be available at spring meeting).

The Texas Commercial Crabber's Association has met but probably does not have enough support to sustain the group. Petitions were circulated to ban shrimp trawl landed crabs and prohibit trap tags which cost $1.50 per trap per year. The Association would prefer a commercial crab license.

A series of user group conflict workshops were held by Steve Thomas. The meetings were conducted by individual user groups and then jointly. Users were able to hear all view points, and at the final meeting some opinions were reversed. By consensus, the subcommittee would like to propose a user group conflict discussion at the spring meeting and have speakers update the group on this issue. Possible speakers include Steve Thomas, Priscilla Weeks, and a perspective from law enforcement.

*M. adina* Profile

Rick Leard reported that the profile is nearing completion, and funds will be available for printing in January 1995. Harriet Perry agreed to contact a local artist for cover ideas.

Election of Chairman

Phil Steele nominated Tom Wagner, and Steve Heath seconded the nomination. Tom Wagner was elected Chairman by acclamation of the Crab Subcommittee.

**There being no further business, the meeting adjourned at 11:35 a.m.**

APPROVED BY:

COMMITTEE CHAIRMAN

DATA MANAGEMENT SUBCOMMITTEE
MINUTES
Tuesday, October 18, 1994
New Orleans, Louisiana

Chairman Skip Lazauski called the meeting to order at 9:10 a.m. The following members and others were present:

**Members**
Page Campbell, TPWD, Rockport, TX
Lee Green, TPWD, Rockport, TX
Joe Shepard, LDWF, Baton Rouge, LA
Ed Irby (proxy for F. Kennedy), FDEP, Tallahassee, FL
Tom Van Devender, MDMR, Biloxi, MS
John Poffenberger, NMFS, Miami, FL
Skip Lazauski, ADCNR, Gulf Shores, AL
Steven Atran, GMFMC, Tampa, FL

**Staff**
Larry Simpson, Executive Director
Ron Lukens, Assistant Director
David Donaldson, SEAMAP Coordinator

**Others**
Judd Pollard, LDWF, Baton Rouge, LA
Ed Moss, LDWF, Chauvin, LA
Clarence Luquet, LDWF, New Orleans, LA
Jill Dzuryachko, LDWF, New Orleans, LA
Joe Smith, NMFS, Beaufort, NC
Bezhad Mahmoudi, FMRI, St. Petersburg, FL

## Adoption of Agenda

The agenda was approved as written.

## Approval of Minutes

The minutes for the meeting held on April 5, 1994 in Biloxi, Mississippi were approved with slight editorial changes.

## State/Federal Reports

a. Mississippi

T. Van Devender reported that since the red snapper fishery is closed, Mississippi is currently collecting information on vermillion snapper and amberjack from dealers. These landings are beginning to decrease with the coming of winter so the focus will be moved to black drum and roe mullet.

The Subcommittee began discussing roe mullet regulations for each Gulf State. In Louisiana, there is a permit required to fish for mullet and there is a 3½ inch minimum size for gill net mesh. There is a season (September - January) where unlimited harvest is allowed. All other times, there is a 200-pound limit. In Mississippi, there is a 3¼ inch size limit for mesh except during October 15 through December 31 when the size limit is 3½ inches. In the past, fishermen used to discard mullet carcasses since there was no market for mullet,

however, this is no longer the situation. The Mississippi legislature passed a statute which made it illegal to purse seine during the mullet season, but did not establish a mullet season. In Texas, there is a 12 inch maximum size limit for mullet from October - January. In Alabama, there is a 3¾ inch size limit for mesh during October to December. Over the years, the data show that fishermen are using 4 to 4¼ inch mesh size since this size catches larger fish. As in Mississippi, initially, there was a problem with fishermen discarding the carcasses. A new regulation was passed which prohibits the catch of mullet north of I-10 and in certain rivers. The purpose for this regulation is to keep the fishermen in Mobile Bay.

T. Van Devender stated that Mississippi has ordered ~~some~~ an electronic measuring boards. These boards will be used in TIP and the state creel survey. A total of 50,000 marine recreational fishing licenses were sold during the first year. Approximately 42,000 of these licenses were sold to residents and the rest were non-resident or 3-day licenses. Effective July 1, the marine resources in Mississippi were under the control of a new agency, the Department of Marine Resources. One of the funding source for the agency is the tidelands funds which currently is approximately $3.2 million. However, this money can only be used to pay for marine tidelands projects. The money cannot be used for personnel, equipment, etc. The State is currently purchasing uplands adjacent to marshes, building artificial reefs, etc with this money. The oyster season opened on October 6 and harvest has been somewhat sluggish due to reef closures because of poor weather conditions. A trip ticket system is used to monitor this fishery.

b. Texas

L. Green reported that as of September 1, fishermen in Texas are able to keep one red drum over 28 inches with a red drum trophy tag. This tag is free with the purchase of a marine recreational fishing license. In addition, if the fisherman sends back the first tag with all the pertinent information, a bonus tag will be sent to that fisherman. L. Green presented some red drum length/frequency data which were compiled from information gather from the returned tags. Preliminary analysis show that there are two peaks in the information; one at 29 inches and another at 40 inches. Since the implementation of the tag, a new state record for red drum was established. The fish weighed 53 pounds and was 48 inches long. There has been a slight problem with who can get a tag. Since people over 65 years old do not have to buy a license, they also do not get a trophy tag. This group of people have expressed an interest in receiving tags and Texas is addressing this issue. As requested by the Council, Texas has increased the minimum size for red snapper from 13 inches to 14 inches. At the Palacios Laboratory, work is continuing on the stock and species identification studies. Analysis of genetic structure for spotted seatrout and red drum populations are completed. Similar studies for black drum and summer flounder are being conducted. Texas is continuing to build a library of identification profiles for marine fishes using the general proteins patterns. This database allows a user to identify the species for a particular fillet. There are several studies which are designed to evaluate and improve the current red drum and spotted seatrout stocking programs. Several age and growth studies are being conducted where age-length keys are being developed for red drum, spotted seatrout, and black drum. The recreational by-catch study has been completed and the data are being summarized and analyzed. Texas has a new computer system which is more user-friendly. The system allows for on-screen data entry and editing. Texas is continuing with the conversion process of their computerized estimation programs to SAS. Texas has undergone another reorganization. The coastal fisheries, inland fisheries, and wildlife branches have been elevated to division status. P. Campbell stated that Texas is continuing to study shrimp by-catch. During the first year, work was conducted in 3 bays. The next year three more bays were studied and the final year the first bays which were examined were addressed again for comparison purposes. As a result of attempting to pass regulations which require a 1¾ inch mesh size for shrimp trawls, there are some trawl comparisons being conducted to evaluate different mesh sizes (1⅝", 1½", 1¾") for the nets. This activity should be completed by December.

c. Louisiana

J. Shepard reported that there has been some renewed interest in the trip ticket system in Louisiana. The cost of the program will be reduced by targeting just finfish and not collect information for shrimp, crabs, etc. Another option would be to use the system for species that are managed by quotas, permits, etc. Also, the ticket will be designed so that it can be scanned into the computer. The Louisiana Department of Wildlife and Fisheries (LDWF) has decided that it is time to do something with this system or move onto something different. For the TIP, there are two port agents in the field. The LDWF has developed the TIP data entry screen in SAS and the data are shipped directly to Miami. Age/length keys are being developed for red drum and spotted seatrout. A species identification key has been developed which includes color pictures of approximately 90 commonly caught species. This key will be distributed to dealers, agents, fishermen, etc. There has been an influx of mullet fishermen due to

the roe season. In Louisiana, there never has been a meat fishery of mullet. The mullet fishery developed as a roe or bait fishery and was extremely small. In the past five years, the roe fishery has expanded and beginning last year, there has been some targeting of mullet for their meat.

d. Alabama

S. Lazauski reported that Alabama has deployed 100 surplus military tanks in their artificial reef areas. These areas cover approximately 800 miles which are available for deployment of the tanks. There were 6 tanks previously deployed as initial test of the tanks' effectiveness. The test tanks attracted fish and associated organisms. Additional money will be used to continue to study the test area. Alabama plans to deploy 100 tanks per year for the next five years. The sales of marine recreational fishing licenses is in its second full year. There appears to be an increase in the purchase of these licenses. Commercial data for CSP is continuing to be entered. Alabama is planning on sending some of its personnel to school concerning data entry techniques. Work continues with Bishop State regarding the GIS system. Alabama is in the process of mapping their oyster reefs and will produce an atlas. Alabama is considering developing a trip ticket system for the state which would be part of a Gulf-wide system. By implementing this type of system, there will be more personnel to collect TIP information. As part of their W/B project, Alabama is working on age and growth analysis of red and vermillion snapper as well as mullet. Alabama is anticipating an influx of Florida fishermen due to the impending net ban. Because of this situation, several different scenarios are being examined to help mitigate some of the potential problems. In addition, the out-of-state license sales are being closely monitored and to date, they are in line with previous years.

e. Florida

E. Irby reported that Florida has restructured their hatchery program. They have reduced stocking from 5 bays down to only 1 bay. A peer review team has examined the program and provided some useful recommendations. The critical fishery monitoring team has been expanded and structured a little bit differently. Trip samples for TIP has also been expanded. The Florida Department of Environmental Protection (FDEP) asked the Florida Marine Fisheries Commission to close the east coast turtle netting from Jupiter to Ponce Inlet. The FDEP is in its final stages of restructuring. The Department is working on upgrading their entire computer system although there is some division between people who like distributive vs centralized systems. The end result will probably be a combination of the two systems. The Department is continuing to examine the by-catch issue. Florida is conducting an audit of their trip ticket program. An audit is critical to the veracity and reliability of the data. The spiny lobster trap certificate program is in its fourth year. The industry is also exploring using a similar system for stone crabs. The new building for the Florida Marine Research Institute (FMRI) in St. Petersburg has been completed and the one in Cedar Key will be finished soon. The building in Cedar Key will house the critical fishery monitoring team and be used for educational purposes. Florida has also obtained some surplus military tanks and plans to deploy about 40 of them. The issue of establishing artificial reef permits areas in Florida was killed by the legislature due to some opposition in the southern part of the state. There has been a decrease in the saltwater products licenses when will directly impact the trip ticket program and other services. Oyster season will not open until November due to a high mortality (almost 100%) in Apalachicola Bay although it is not all bad. Due to the higher salinity, some of the oyster predators have been removed from the affected reefs. In addition, Joe O'Hop sent a written report concerning activities in Florida. This report is attached.

f. NMFS

J. Poffenberger reported that there has been a reassignment of port agents within NMFS. NMFS is currently monitoring 24 to 25 quotas. The port agent in Georgia has retired and there are no plans to hire a replacement. There is only one remaining federal port agent in the south Atlantic area. There is progress being made in getting the new computer system operating. An A-7 is scheduled to be installed by the beginning of November which will enable personnel to read Unisys tapes. This machine will provide some temporary computer processing ability if some of the systems are not immediately converted to the new system. As an intermediate step, the existing files (general canvass, TIP, etc.) will be converted into an Oracle database. After that, it will be more easily put into the proposed SEAFIN system. The concept of SEAFIN is that all the data will be housed into one large database.

g. GMFMC

S. Atran reported that discussed at the last meeting, the Council had implemented a moratorium on fish traps. The Council requested an emergency action due to some fishermen claiming they were not made aware of

the pending action. When it came time for final action, the Council reversed itself and decided not to proceed with the plan amendment and NMFS rejected the emergency action request. The NMFS should provide a report concerning fish traps to the Council by 1995. Also, discussed at the last meeting, there is a request from Alabama to designate some areas off that state as special management zones (SMZs). The SMZ team is analyzing the request and has produced a report. This issue has not been presented to the Council. It will be addressed at the November meeting. The Reef Fish Amendment number 9 is a data collection amendment which was implemented last summer. This amendment collect information from red snapper fishermen about their red snapper landings from 1990 -1992. If the Council decides to use a limited entry program for red snapper, the allocation will be based on landings during these years. This issue was be addressed in November and a final decision will be made in January 1995. There will be public hearings to address this issue. There are some new red snapper regulations pending. In recent years, the recreational sector of the red snapper fishery has exceed their allocation. Since a closed season is not considered a viable option, the Council decided to increase the size limits (from 14 inches to 15 inches) and reducing the bag limits (from 7 fish to 5 fish) for the recreational sector. The Council also decided to prohibit the retention of catch by the captain and crew for charter and headboats. The Council also examined the possible extension of the recovery program, however, this cannot be done due to the length of regeneration time for snapper. Work is continuing on the development of by-catch reduction devices (BRDs). The red snapper recovery program is predicated on achieving a 50% reduction in shrimp trawl by-catch of red snapper by 1994. This will not happen but the Council can stay on track with the recovery program if by-catch reduction is implemented by 1996. The Council received a report concerning current work regarding BRDs. Initial results show that there is a 50% reduction of red snapper using these devices but there was no information concerning the shrimp retention. Thus, the Council voted to begin the rule making process that requires the use of BRDs for shrimp trawls. There has been some turnover in the Council membership and Julius Collins is the new Chairman and Kenneth Roberts is the Vice-Chairman. The Council minutes are now available on the GMFMC BBS.

**RecFIN/ComFIN Discussion**

a. Processed Products Survey Work Session

Lazauski introduced the discussion regarding the processed products survey. He indicated that the survey is very important, and will likely become more important as states continue to try to determine the full value of fisheries resources, including landings and products that are brought in from other states and processed. A processed product is any product which has been purchased and has had anything done to it to enhance its value. Examples include heading, breading of shrimp and boiling crabs and picking meat, and filleting fish. Lazauski indicates that one of the problems with the survey is that it is conducted on an annual recall basis. He believes it should be conducted on a monthly basis. He also pointed out that it appears that dealer codes are being recycled, such that a new dealer may be assigned a code for a dealer that has previously gone out of business. He indicated that this can cause confusion. Lazauski pointed out that Steve Koplin, NMFS staff person on the processed products survey, provided the Southeast Cooperative Statistics Committee (SCSC) with a presentation regarding the survey during the September 1994 meeting. Lazauski then recommended that the SCSC sponsor a work session to address problems with the survey.

Lukens indicated that the issue had been placed on the agenda for the Subcommittee as a result of the discussions at the September SCSC meeting. He then cautioned that the group had already recommended that a work session be conducted during the next SCSC meeting to address issues related to data confidentiality. If both issues were addressed at the next meeting, there would be no time for SCSC or ComFIN business. He asked that the Subcommittee consider this conflict and determine which issue should be addressed first. Following further discussion, it was determined that a work session to address the processed products survey should be postponed indefinitely.

b. Universal Trip Ticket System: Planning

Within the Southeast Region, the States of Florida and North Carolina have trip ticket systems in place and operating, and the State of Louisiana has the legislative authority to implement a trip ticket system; however, no funding was made available to implement it. E. Irby defined a trip ticket as a report on the landings of a specific individual or vessel on a given trip, without subsampling. The Lukens explained that the SCSC or ComFIN Committee, depending on the completion of the ComFIN documents, will hold a general workshop to determine the

attributes and quirks of existing trip ticket systems. From that point, discussion should take place to identify problems that should be solved, and any additional items that should be covered under a universal program. The identified issues would then be funneled down to work groups or subcommittees to provide alternative ways to address the issues. That is generally how the RecFIN and ComFIN are designed to work.

In summary, it was agreed that at a minimum, the initial workshop should result in recommendations for how a trip ticket program is structured administratively, how to get legislative authority, how should a trip ticket program be structured technically, what are the hardware requirements, and what are the general cost categories. It was agreed that personnel requirements and costs would vary from state to state; however, existing programs can provide an idea of what these issues will entail. Lukens encouraged the state members of the Subcommittee to begin immediately to discuss the idea of the universal trip ticket system with their directors. Some indicated that they already are in the discussion stages. Lukens suggested that the Subcommittee provide the SCSC with a report of these and other issues and recommendations at the upcoming meeting in February 1995. The group agreed that that would be a good approach to get the ball rolling.

**Data Confidentiality**

a. Status of MOA

Lukens pointed out that efforts on the part of the Florida Department of Environment Protection to amend their legislation to allow exchange of confidential data with other states failed during the 1994 legislative session. Irby provided background on that issue, and indicated that there would be another effort mounted to amend the legislation during the 1995 legislative session which will start in January.

Lukens then informed the Subcommittee that there is a confidentiality issue related to amending the Magnuson Fishery Conservation and Management Act of 1976 (Magnuson Act). He pointed out that the Magnuson Act does not provide for staff of interstate marine fisheries commissions to have access to confidential data through the National Marine Fisheries Service data management process. He indicated that this is a serious issue for the Gulf States Marine Fisheries Commission (GSMFC), but is a even more serious issue for the Atlantic States Marine Fisheries Commission (ASMFC), in light of the Atlantic Coastal Fisheries Cooperative Management Act of 1994, which requires that states participate in joint fisheries management. Under this act, the ASMFC has hired a stock assessment scientist, and perhaps will hire more, for the purpose of assisting in the development of regulatory regimes for management. While no force of law exists for this in the Gulf of Mexico, it is imperative that the GSMFC staff be able to be involved in the stock assessment process, if for no other reason than to compile all existing data on selected species. He indicated that he did not expect objection to this amendment; however, it is easy for small, seemingly insignificant issues to be overlooked in such a volatile arena.

Finally, Lukens informed the Subcommittee that the NOAA Administrative Order #216-100 has been finalized and signed. In an informal review of #216-100 and the GSMFC Memorandum of Agreement (MOA) on Confidentiality, Lukens was told that the two are compatible. He reminded the Subcommittee that they, with the exception of Florida, had signed non-disclosure statements for the GSMFC MOA; however, through #216-100, a NOAA non-disclosure statement will also have to be signed. He indicated that he will provide those statements for signature.

b. ComFIN Work Session

Irby indicated that confidentiality is a subset or component of a trip ticket system. The question was then asked if confidentiality should be addressed separately or in concert with the work effort on a universal trip ticket. It was determined that final recommendations on a universal trip ticket system would require a good deal of time to formulate, and that there would be several discrete components that would probably have to be addressed separately, including data elements, auditing, and confidentiality, to name a few. It was also pointed out that issues related to confidentiality are important now, as they pertain to the collection of commercial statistics under the Cooperative Statistics Program.

Lukens pointed out that several issues related to data confidentiality arose during the brainstorming session for the development of the CSP Framework Plan. He also pointed out that the 1995 CSP Operations Plan contains a task to conduct a confidentiality work session during 1995. With these issues in mind, and the postponing of action on the processed products survey, the Subcommittee agreed that it would be appropriate to move ahead with implementing a work session on data confidentiality at the February 1995 ComFIN meeting. Following further

discussion, the Subcommittee determined that there should be a telephone conference call during November to allow the Subcommittee to make specific plans for the work session.

**Stock Assessment Training Workshop**

Lukens provided the Subcommittee with background on the next training workshop for stock assessments. He indicated that he had budgeted for a session during 1994; however, that session has been postponed due to other developments. Through participation in the Living Aquatic Resources Committee of the Environmental Protection Agency's Gulf of Mexico Program, funds have been made available to the NMFS Southeast Fisheries Science Center to address stock assessment training. The project is two-fold, the first aspect being related to the development of a stock assessment primer or basic workbook. The second aspect is to conduct a stock assessment training workshop. It was clear at the time the proposal was submitted that the GSMFC had an ongoing series of training workshops; consequently, the second part of the project was deferred to the GSMFC to apply to the next planned training session. Lukens pointed out that final approval for the funds has not yet been provided, but assurances have been made that the project will be funded.

Lazauski reminded the Subcommittee that earlier discussions on this issue resulted in the following recommendations for subject material for inclusion in the next workshop: A discussion of the "black box" syndrome, or what happens to the data once they are entered into a stock assessment model; the relationship between the results of a stock assessment and the management decision-making process; and a review and work session with models with which Dr. Bob Muller is currently working. Lukens informed the group that the GSMFC Spotted Seatrout Technical Task Force had recommended that the training workshop deal directly with the conduct of a stock assessment(s) for spotted seatrout as a training exercise and an operational exercise toward development of an interstate fishery management plan for spotted seatrout. He also indicated that the recommended items discussed above could easily be incorporated into the exercise of conducting the spotted seatrout stock assessment(s). Finally, Lukens pointed out that the GSMFC Stock Assessment Team will be meeting in the near future, and he will provide them with a brief overview of the issue and ask for their recommendations. The Subcommittee was satisfied with the approach.

**Alternative Methods of Controlling Fishing Pressure**

Lazauski introduced this issue, indicating that the process of controlling fishing pressure, particularly for the recreational harvest, is not necessarily working, especially in light of the reported overharvest of red snapper by the recreational sector for at least two years in a row. He indicated that it started him thinking about alternative methods to control harvest. He suggested the following scenario:

> Based on the existing regulations, determine how many fish are legal to harvest recreationally in a day. For argument's sake, use a number of 50. Then, analyze the available data, probably the NMFS Marine Recreational Fisheries Statistics Survey, to determine the average number of fish that are actually caught in a day by a recreational fisherman. Again, for the sake of discussion, use a number of eight (8) fish. Make several assumptions, including there will be increasing population in the Gulf region, there will be increasing pressure on fish stocks, there will still be a limited number of fish available, and, as a consequence of these assumptions, overharvest of fish under management is likely.
>
> The idea is to place an overall upper limit on the number of fish that a recreational fisherman can harvest in one day. For the sake of discussion, pick a number of ten (10), which is higher than the average number caught by recreational fishermen. This would eliminate individuals who go fishing to catch more fish than an individual can use, and would discourage recreational fishermen from selling their catch, because there would not be enough fish to effectively sell. All single species laws would still apply. For instance, within the 10 fish allowed, a fisherman could only have seven (7) red snapper, two (2) king mackerel, and so on, until a total of 10 fish is reached. This approach also facilitates enforcement, since an officer would not have to sort through more

than 10 fish to count individual species, and if there are more than 10 fish per person on board, there is a violation. Then as the status of stocks changes, up or down, the total catch number could be adjusted appropriately.

S. Atran indicated that the Gulf of Mexico Fishery Management Council will soon be considering a similar approach, which is bag limits for all species that are not already covered by regulation. The question is whether it should be one overall aggregate bag limit or a bag limit for individual species. Lazauski pointed out that there is already an aggregate bag limit for grouper, so the concept is already being used. He is suggesting that it be broadened. Two examples of fish that are not under bag limit are vermilion snapper and grey triggerfish. Currently, if a fisherman is fishing for snapper or grouper and reach their limit, such fish as vermilion snapper and grey triggerfish become default target species, and fishermen can then fill their ice chests with those on top of the bag limit species already caught. This scenario offers the real possibility of overharvesting those default species, which will then cause them to have to come under management.

S. Atran suggested that such an approach would focus the fishing pressure primarily on the "glamour" species. E. Irby indicated that Florida already has an aggregate bag limit for certain species as follows: A fisherman can have a total of 10 fish, two (2) of which can be snook, one (1) can be red fish, two (2) can be trout. Other legal fish can fill the remaining five. Irby indicated that the problem is with live baitfish. Lazauski indicated that the approach is not a panacea, but it is a way to cap the overall recreational harvest in the Gulf, and to keep from focusing pressure on default species. Another problem with the approach is "high sizing." If fishermen do not keep the first ten legal size fish they catch, the approach won't work. It is worth pointing out that "high sizing" already occurs in recreational fisheries with size and bag limits. The discussion pointed out that if there is an overall bag limit, most fishermen will adhere to the rule, since most do not catch 10 fish in a day anyway. The outlaws that "high size" or replace fish as they catch them will do that under existing laws. There is still the possibility of net gain or benefit.

Another method to limit harvest is to establish marine reserves within which harvest of any species is not allowed. Enforcement of this approach was discussed, and Lukens indicated that U.S. Coast Guard officers have indicated that enforcement of a complete ban on harvest within an area is easier than other types of regulatory measures, because there is no reason for a boat or vessel to be in the reserve. Another method is the point system such as that used for ducks. Most felt that that would be too complicated to get compliance from most recreational fishermen. The concept of using tags was discussed. Florida has a tag system for tarpon, in which fishermen purchase a tag for a single fish. Upon catching that fish, the tag is appended to the fish. It was pointed out that the method is used in a number of areas of the country for a variety of species. Limited entry for recreational fishermen was also briefly discussed. Though no conclusions were drawn from this discussion topic, it was generally agreed that alternative methods will have to be more fully explored in order to address the continuing growth in fishing activity and the continuing stress on fish populations.

**Election of Officers**

Skip Lazauski, Alabama, and Joe Shepard, Louisiana, were unanimously elected as Chairman and Vice-Chairman, respectively.

**Other Business**

Lukens indicated that there is a handout article in the Subcommittee folder relative to the relationship between science and policy-making. He asked the Subcommittee to be on the look out for articles of general interest that can be distributed to the Subcommittee or others.

Lazauski brought up the issue of the GIS Symposium. Lukens indicated that the proceedings of the GIS Symposium are nearing completion and will hopefully be available soon after the first of 1995.

Lazauski brought up the issue of "fuzzy logic" related to how people think. He indicated that he had read a book that addressed "fuzzy logic" very well and suggested that the Subcommittee look into the issue.

Lazauski suggested that the Subcommittee may want to develop a work group to address GIS since it is becoming a more prevalent technology for management. E. Irby indicated that the Florida Marine Research Institute is heavily involved in GIS. Lazauski indicated that a department within the State of Mississippi is attempting to

develop a state-wide GIS capability, and he felt that that was a good approach to take. Lukens suggested that he and Lazauski work on the idea and prepare a statement or outline regarding potential action on behalf of the Subcommittee.

**There being no further business, the meeting was adjourned at 5:00 p.m.**

APPROVED BY:
COMMITTEE CHAIRMAN

SEAMAP SUBCOMMITTEE
MINUTES
Tuesday, October 18, 1994
Clarion Hotel, New Orleans, Louisiana

Chairman Walter Tatum called the meeting to order at 1:40 p.m. The following members and others were present:

Members
Joanne L. Shultz, NMFS, Pascagoula, MS
Jim Hanifen, LDWF, Baton Rouge, LA
Richard Waller, GCRL, Ocean Springs, MS
Terry Cody, TPWD, Rockport, TX
Mark Leiby, FDEP, St. Petersburg, FL
Walter Tatum, MRD-ADCNR, Gulf Shores, AL

Others
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Terry Henwood, NMFS, Pascagoula, MS
Ken Savastano, NMFS, SSC, MS
Harriet Perry, GCRL, Ocean Springs, MS
Tom McIlwain, NMFS, Pascagoula, MS
Bob Cooke, USFW-Federal Aid, Atlanta, GA
Ken Edds, LDWF, Baton Rouge, LA
Jill Wisniwski, LDWF, Baton Rouge, LA
Marc Fugler, LDWF, Baton Rouge, LA
Ralph Allemad, LDWF, Baton Rouge, LA
Albert King, GMFMC, Gulf Shores, AL
Jan Harper, Commissioner, TX

Staff
Dave Donaldson, SEAMAP Coordinator
Cheryl Noble, Staff Assistant

Adoption of Agenda

The Reef Fish Work Group Report was moved after the Adult Finfish Work Group Report. The agenda was adopted with the change.

Approval of Minutes

The August 9 & 11, 1994 minutes were approved with minor editorial changes.

Administrative Report

D. Donaldson reported that the Fall Plankton survey took place from September 8 to October 4, 1994. Vessels from Florida, Alabama, Mississippi, Louisiana and NMFS surveyed Gulf waters from Florida Bay to Brownsville, Texas. Approximately 180 stations were sampled. The purpose of the survey is to assess abundance and distribution of king mackerel and red drum eggs and larvae in the Gulf of Mexico.

The Fall Shrimp/Groundfish Survey will be conducted from October to December 1994. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. Vessels from NMFS, Alabama, Mississippi, Louisiana and Texas will sample waters out to 60 fm from Mobile Bay, Alabama to the U.S./Mexican border.

The TCC Report, which covers FY94 activities and proposed FY95 activities was distributed to the Subcommittee members. The NMFS and GSMFC are working on a draft copy of the 1992 Atlas. The draft copy will be sent out for review by the Subcommittee and it will be published within the contract period. Work will start soon on the 1993 Atlas and will be ready at the first of the year for editing. D. Donaldson said that this will put the SEAMAP in a position to publish two Atlases in 1995. The publication of atlases will then be a year behind and that's the best that can be expected. He said he is still waiting on information from the South Atlantic and Caribbean components before he finalizes the Joint Annual Report.

* D. Donaldson informed the group that he attended the ASMFC Trawl Data Workshop concerning trawl data surveys conducted throughout the Atlantic. He said he and Ron Lukens discussed conducting a similar workshop for the Gulf of Mexico region. He asked the Subcommittee their feelings about this. After a lengthy discussion, Richard Waller moved that the SEAMAP Subcommittee sponsor a symposium regarding trawl data surveys and associated uses of the data in the Gulf of Mexico. This could be done as a general session at the GSMFC's 1995 Annual Fall Meeting. Jim Hanifen seconded the motion and it passed unanimously. Joanne Shultz offered to help Dave Donaldson in planning the general session.

D. Donaldson said that in 1995, Larry Simpson is going to focus on getting additional money for SEAMAP in the 1996 budget and hopefully, he'll be as successful next year as he was this year.

Comparative Tow Survey

Joanne Shultz distributed a report on the comparative towing between the TOMMY MUNRO and the PELICAN during the past summer (Attachment I). The report states that upon reviewing the results of the tows, there appears to be no appreciable difference in the fishing powers of the PELICAN and TOMMY MUNRO. J. Shultz, R. Waller and D. Donaldson will schedule the comparative tow surveys between the TOMMY MUNRO and OREGON II for the final year of the three year project. Everyone agreed that the comparative tow survey has been a good activity.

Work Group Reports

Adult Finfish - Terry Henwood, Work Group Leader, said the work group had a conference call on developing sampling protocol for a SEAMAP shark survey. The group decided he should contact various shark experts for recommendations on developing the protocol. The experts recommended using nylon longline gear which can be purchased for approximately $10,000 and is transferrable between boats. He suggested buying the gear during the first year of the survey and transfer it between the various state vessels.

* T. Henwood received a memo from Dick Stone who is the head of the National Marine Fisheries Management Plan for Sharks in the NMFS Washington Office. In

the memo, D. Stone states he has access to money to be used for shark research and indicated his office would possibly be interested in funding the Work Group at some level. D. Stone then informed him that NMFS is planning a meeting regarding an integrated shark research program to aid in the development of a sampling protocol for sharks. The meeting is still in the planning stages but they hope to have it sometime in January 1995. T. Henwood asked the Subcommittee if the Work Group should attend the meeting then have a work group meeting afterwards to discuss information obtained at the meeting. J. Shultz moved that the SEAMAP Adult Finfish Work Group attend the upcoming NMFS meeting dealing with integrated shark research. R. Waller seconded the motion and it passed unanimously. The Subcommittee asked T. Henwood to give a report on the meeting at the next SEAMAP Subcommittee meeting in March 1995.

Reef Fish Work Group - Richard Waller, Reef Fish Work Group Leader, stated that in reference to the charge of developing a protocol for sampling vertical habitat, they have come to the conclusion that ROVs, portable video gear or divers is the best ways to sample. NMFS submitted a proposal to MARFIN on developing such a protocol but it was not funded.

* J. Hanifen said that after reviewing his budget for next year, he should have some money to have a workshop on sampling vertical reefs. He stated there are a lot of ways to sample the reefs and the workshop could be used to decide how to sample and to determine what type of equipment is available for sampling vertical reefs. After some discussion, J. Hanifen moved that Louisiana sponsor a planning workshop for the Reef Fish Work Group to examine methods of conducting a reef fish fishery-independent survey including the availability of equipment, feasibility of its use, and funding requirements for surveys of man-made, vertically-distributed hard bottom habitats in the Gulf of Mexico. J. Shultz seconded the motion and it passed unanimously.

R. Waller stated that he is still having problems with the reef fish survey. The mapping part is working very well but the quality of the videos is quite bad. He said the nephloid layer is the main reason for the poor video quality. It costs $15,000 to do the survey and he asked if this is a good use of SEAMAP money because they are only getting five tapes which may or may not be usable. He said Mississippi waited until later in the year to sample to see if the water would be clearer but it didn't seem to make a difference. In 1992, twelve out of seventeen tapes were readable but since then most of the tapes have not been usable. W. Tatum said that Alabama has had extraordinary results using a monitor and an umbilical cord to the television camera and suggested Mississippi try using this technique. R. Waller said that this technique would not be feasible since Mississippi works in much deeper water and it would be very difficult to keep the vessel on site.

R. Waller suggested mapping 24 hours a day and not video at all. W. Tatum said to put that on the agenda for the next Work Group meeting and give the Subcommittee a recommendation on this issue.

Data Coordinating Work Group

Ken Savastano, Work Group Leader, submitted a Data Management Report (Attachment II) to the Subcommittee. The major accomplishments since August 1994 are:

- Status reports from SEAMAP years 1982-1994 are in Attachments 1-9 of the Data Management Report. All cruise data have been reformatted to SEAMAP versions 3.0 or 3.1. Data processing of 1994 Gulf and South Atlantic and 1993/1994 Caribbean data is in progress.

- Processing of the 1992 SEAMAP Atlas is complete and processing of the 1993 SEAMAP Atlas is approximately 20% complete.

- One hundred and forty-five SEAMAP requests have been received and one hundred and forty-four requests have been filled.

- The SEAMAP on-line data base now contains 240 cruises with a total of 1,630,216 records which is approximately 63 megabytes of data.

Environmental Data Work Group

Perry Thompson, the Work Group Leader, was unable to attend the meeting so J. Shultz gave his report. She stated the Work Group has very little to report since the March 1994 meeting. She said the work group requests funds for a meeting prior to March 1995 to review sampling procedures and to discuss calibration of environmental equipment and chlorophyll sampling. The work group is trying to put more effort into comparing the CTD fluorometer readings versus the water filtered for chlorophyll samples. The purpose of the analysis is to see if a correlation exists between the two methods of collecting chlorophyll. If a correlation exists, then the Work Group would make a recommendation to the Subcommittee to either continue with the present procedures or stop collecting the filtered chlorophyll samples and rely on the CTD fluorometer readings. The Subcommittee agreed the Work Group should have a meeting to discuss these issues and J. Hanifen suggested adding high salinities and oxygen readings to the agenda also.

Plankton Work Group

Joanne Shultz, Work Group Leader, said that work is continuing and they are summarizing the late summer/fall plankton data and hope to have a draft technical report by the spring of 1995 to present to the Subcommittee. She reviewed a letter (Attachment III) to the director of the Polish Sorting and Identification Center (PSIC) that listed the samples sent to the PSIC. She pointed out that a greater number of samples were generated during the Bluefin Tuna survey this year because of joint collections with Japanese research vessels. Extra funds were available to cover these sortings. She said samples are now being processed in just under a year and they are now getting the data, samples and larvae back from the PSIC.

Shrimp/Groundfish Work Group

Steven Heath, Work Group Leader, said that they continued their work with all the states participating. The Work Group had a conference call and they decided that unless something changes significantly in the procedure for the shrimp/groundfish sampling, another conference call in January will be sufficient to discuss the stations they will be sampling.

Election of Officers

* Jim Hanifen, the Nominating Committee Chairman, said he assembled a subcommittee to discuss nominations and after much discussion decided on a slate of officers. They nominated Walter Tatum for Chairman and Richard Waller for Vice Chairman and did not make any other nominations. J. Hanifen then moved nominations be closed and the nominees be elected by the Subcommittee. J. Shultz seconded the motion and it passed unanimously.

There being no further business the meeting adjourned at 4:35 p.m.

ATTACHMENT I

Draft
11 Oct 94

# Comparison of Relative Fishing Powers of Research Vessels *Pelican* and *Tommy Munro*

DRAFT

## ABSTRACT

Simple linear regression in arithmetic and natural logarithmic scales was used to analyze catch rates of twenty-nine taxa which comprised 90.0% of all organisms caught by research vessels *Pelican* and *Tommy Munro* in 40-ft shrimp trawls. Analyses resulted in significant relationships between vessels for all taxa with flounders, bigeye searobin, Atlantic brief squid, silver and sand seatrout, roughback shrimp, gulf butterfish, rock sea bass, Atlantic cutlassfish, bay and striped anchovy, dwarf sand perch, and least puffer showing significant differences between vessels. Although analyses indicated significant differences for 13 taxa there appeared to be no clear pattern of either vessel consistently outfishing the other. Seven of the thirteen taxa whose analyses resulted in significant differences in catch rates between vessels, also resulted in no significant differences upon considering alternative models. Analyses of one taxa considered to be benthic in behavior resulted in significantly greater catches for *RV Tommy Munro* and seven resulted in no significant differences between vessels. Analyses of five taxa considered to be demersal in behavior resulted in significant differences between vessels, one of which resulted in significantly greater catches for *RV Tommy Munro* and two for *RV Pelican*. Analyses of the two remaining demersal taxa were inconclusive due to the density dependent relationship between catches of the two vessels. Analyses of seven taxa considered to be pelagic in behavior resulted in significant differences

between vessels, three of which resulted in significantly greater catches for *RV Pelican* and two for *RV Tommy Munro*. Analyses of the remaining two taxa were inconclusive again due to the density dependent relationship between catches of the two vessels.

Considering models fit in the logarithmic scale with lines forced through the origin, analyses of seven taxa resulted in significant differences in catch rates between vessels. In another experiment in which similar nets were towed from one vessel thereby removing vessel effects, a similar proportion of analyzed taxa showed significant differences between nets.

Analytical results led to the conclusion that there was no appreciable difference in overall fishing powers of *RVs Pelican* and *Tommy Munro*. This conclusion was based on the following observations; 1) the absence of either vessel consistently outfishing the other, 2) for seven of thirteen taxa resulting in significant differences between vessels, no significant differences were found in considering alternative models, 3) and the inconsistent results with respect to taxa occuppying benthic, demersal and pelagic habitats.

## INTRODUCTION

The relative fishing power of research vessels (RVs) *Pelican* and *Tommy Munro* were compared to determine if significant differences existed between their respective catch rates of commonly caught species. These vessels are used to collect data under the Southeast Area Monitoring and Assessment Program (SEAMAP), a state and federal cooperative program for the collection, management and dissemination of fishery research data in state and federal waters in the Gulf of Mexico. Four vessels participating in the program, use identically constructed 40-ft shrimp trawls (within manufacturer's capability) to enhance data comparability. The *RV Pelican* collects data for the state of Louisiana, the *RV Tommy Munro* for Mississippi, and the *RV A. E. Verrill* for Alabama. The *NOAA Ship Oregon II* collects data in federal waters off these respective state coasts and Texas.

Although identically constructed 40-ft shrimp trawls are used by these vessels, the potential for differences in catch exists due to differences in vessel characteristics and sampling capabilities. Inter-vessel differences complicate direct use of catch data from several vessels for purposes of resource assessments. If significant differences are shown to exist, it would be necessary to quantify such differences so that conversion formulas could be computed. This study is the second of three which compares fishing powers between vessels used in SEAMAP. The first involved *RVs Tommy Munro* and *A. E. Verrill*. A final comparison will include *RVs Tommy Munro* and *Oregon II*.

## METHODS

The *RV Pelican* is a 32.0 m (105 ft) steel hull trawler powered by two 400 hp diesel engines. Trawling was conducted off the stern at a speed of 4.6 km/hr (2.5 kn). The *RV Tommy Munro* is a 29.3 m (98 ft) steel hull trawler powered by two 300 horsepower (hp) diesel engines. Trawls were towed from the 8.5 m (28 ft) starboard outrigger. Towing speed was 5.6 km/hr (3.0 kn). Both vessels towed 40 ft semi-balloon shrimp trawls, with 2.4 m by 110.6 cm (8 ft by 40 in) chain bracketed wooden doors to achieve horizontal spread. Towing warp for both vessels consisted of 1.3 cm (0.5 in) diameter cable which was connected to 54.9 m (30 fm) bridles of 1.3 cm (0.5 in) diameter cable. Standard free tickler chains cut 106.7 cm (42 in) shorter than the footrope were used to stimulate benthic organisms into the path of trawls. Towing warp to depth ratio was approximately 5:1.

Forty seven comparative tows were conducted from May 9$^{th}$ through 12$^{th}$, 1994. Fifteen-minute tows were simultaneously conducted in depths of 11 to 46 m (6 to 25 fm) near the Louisiana coast of the Mississippi River delta (Figure 1). Organisms were sorted, counted and weighed by species or to the lowest taxonomic level possible. Species were ranked in descending order of catch frequency, and those species whose cumulative percent composition comprised 90.0% of all organisms caught were selected for analyses.

Observations used in analyses were defined as paired tows in which a species of interest was caught by each vessel's net. Alternatively, paired tows where zero catch occurred in either or both nets could have been used; however, catch in both nets was considered a definite indicator that a species of interest was available for capture by each vessel's net. A concern in the analyses was that the catch of a species by one vessel's net and not the other's for a paired tow may be due to the patchy distribution of marine organisms rather than any real differences in fishing power between vessels. The approach chosen was considered conservative in that it guards against introducing bias into the data and minimizes the amount of lost information since any differences in fishing powers between vessels should be evident in paired tows without zero catches as well as tows with zero catches.

Catch rates were adjusted to represent catch per unit of fishing effort (i. e. number caught per hour fished at vessel speed equal to 5.6 km/hr) and compared using simple linear regression analyses in arithmetic and natural logarithmic scales. The arithmetic scale was used since it was the original scale of measurement and the logarithmic because this transformation tends to stabilize heterogeneous variances. The respective models were,

$$CPUE_{M,i} = \beta_0 + \beta_1 (CPUE_{P,i})$$
$$\log_e(CPUE_{M,i}) = \beta_0 + \beta_1 (\log_e(CPUE_{P,i}))$$

where CPUE represents the catch per unit of effort for the $i^{th}$ species for *RVs Pelican* (P) and *Munro* (M), $\beta_0$ the Y-intercept and $\beta_1$ the slope. Converting the logarithmic model to the arithmetic yields,

$$CPUE_{M,i} = e^{\beta_0} (CPUE_{V,i})^{\beta_1}$$

where e is Euler's constant (≈2.7183). Note that upon conversion, model components which were additive ($\beta_0$) and multiplicative ($\beta_1$) in the logarithmic scale become multiplicative (upon forming a constant by raising e to the power $\beta_0$) and exponential, respectively, in the arithmetic. In either case, no differences in catch rates between vessels implies slopes equal one and Y-intercepts equal zero.

Paired t-tests and ratio estimators were also considered but regression analyses was preferred due to greater flexibility of predictive models. The regression technique considers additive and multiplicative model components within respective mathematical scales; whereas, the other methods consider one or the other but not both.

The *RV Tommy Munro* was selected as the vessel representing the dependent variable since geographically it was centrally located of the four vessels, which facilitated rendezvous with the remaining three for comparative tows. A goal of SEAMAP is to determine if catch rates of the three state vessels differ significantly from the *NOAA Ship Oregon II*. SEAMAP's intent is

to incorporate data collected by state vessels with data collected by *NOAA Ship Oregon II* which has conducted resource assessment surveys in the northern Gulf of Mexico since 1972. The rationale chosen to achieve this objective was to select one state vessel to conduct comparative tows with remaining state vessels, then the selected state vessel would act as a representative of the three state vessels (based on comparative towing results) and conduct comparative tows with the *NOAA Ship Oregon II*. This approach isn't statistically ideal but the alternative was to conduct three sets of comparative tows between each state vessel and *NOAA Ship Oregon II*. The alternative approach was considered logistically impossible due to *NOAA Ship Oregon II*'s rigid schedule.

Three hypotheses of interest were tested; 1) significant regression ($H_0:\beta_1=0$), 2) Y-intercept equal to zero ($H_0:\beta_0=0$), and 3) slope equal to one ($H_0:\beta_1=1$). Fitted models were first tested for significant regressions, then Y-intercepts were tested for models resulting in significant regressions. If Y-intercepts in models resulted in being not significantly different from zero then models were refitted through the origin. Refitted models were then tested for significant regressions and slopes equal to one.

Taxa whose analyses resulted in significant regressions in one mathematical scale were retained for additional analyses. In cases where analyses of taxa resulted in significant regressions in both scales, a choice was necessary between two candidate models. In such cases residual plots were inspected for model

appropriateness (no structure or pattern to residuals, the difference between actual and predicted values), and generalized $r^2$-values ($Gr^2$) for strengths of relationships. Generalized $r^2$ was computed according to Anderson-Sprecher (1994) in order to compare $r^2$ values among all model forms (arithmetic and logarithmic scales; and, with estimated Y-intercepts and lines forced through the origin). Models based on the logarithmic transformation were converted to their arithmetic equivalents for $Gr^2$ comparisons between mathematical scale comparisons. $Gr^2$ was defined as,

$$Gr^2 = 1 - \frac{RSS(full)}{RSS(reduced)}$$

where RSS(full) was the residual sums of squares for; 1) models in the arithmetic scale, estimated Y-intercept, 2) arithmetic scale, line forced through the origin, 3) arithmetic equivalents of logarithmic models, Y-intercept estimated, and 4) arithmetic equivalents of logarithmic models, line forced through the origin. RSS(reduced) was the same for all four of the above cases and denotes the residual sums of squares of the reference model, E(Y)=0 (i. e. the expected value of Y equals zero and is computed as $\Sigma Y^2$).

If models appeared appropriate in only one scale, that scale was used. If fitted models appeared appropriate in both scales then the scale exhibiting the greater $Gr^2$-value was used.

Hypothesis testing was conducted at the $\alpha$=0.01 level of significance to control experimentwise error rate. Experimentwise error rate was estimated by,

$$\alpha' = 1 - (1-\alpha)^p$$

where $\alpha'$=experimentwise error rate, $\alpha$=significance level at which individual tests of hypotheses were conducted and $p$ is the number of hypothesis tests conducted.

## RESULTS AND DISCUSSION

Since vessel speed was the only measurable variable exhibiting obvious differences between vessels; starting and ending tow positions, and time fished were used to calculate actual vessel speeds. Mean towing speed for the *RV Pelican* was computed to be 6.3 km/hr (3.4 kn) and for the *Tommy Munro* 5.6 km/hr (3.0 kn). The mean speed for the *Pelican* was influenced by three large values of 10.0, 12.4, and 13.5 km/hr (5.4, 6.7 and 7.3 kn). These did not appear to be correct speeds but slight errors due to incorrect recordings of starting and/or ending towing positions. Therefore, theses three observations were deleted and the mean recomputed. The revised mean towing speed for the *Pelican* was 5.9 km/hr (3.2 kn). Since both vessels appear to have towed at similar speeds, no adjustment was made to standardize catches with respect to different vessel speeds.

Twenty-eight species and one genus comprised 90.0% of the total number of organisms caught by both vessels (Table 1,

Appendix 1). Two species of Syacium (flounders) were grouped together because *Syacium gunteri* and *S. papillosum* are difficult to differentiate in the field and personnel from one vessel identified them to the generic level only. Considering the location of sampling, most Syacium were probably *gunteri* (Hoese, 1990). Consequences of combining species at the generic level are the inability to perform analyses at the species level and bias introduced by possible behavior dissimilarities within genera. One vessel may catch significantly greater numbers of one species while the other vessel may catch significantly greater numbers of another. Combining two such species may mask real differences in catch rates between vessels.

Taxa selected for analyses represent niches throughout the water column and should provide a thorough comparison of net sampling performance. Two crab and six shrimp taxa are benthic organisms that rarely or never venture far above the substrate. Flounders (including fringed flounder and bay whiff), bigeye and blackwing searobins, rock sea bass, southern hake, dwarf sand perch, least puffer, inshore lizardfish, pancake batfish, ragged goby, bearded brotula, and Atlantic croaker are demersal organisms. Atlantic brief squid, silver and sand seatrouts, bay and striped anchovies, gulf butterfish, and Atlantic cutlassfish are pelagic organisms. Thus if either vessel's net possesses a greater ability to sample benthic, demersal or pelagic zones, the selected taxa should reveal such differences.

Cursory inspection of total numbers caught of selected taxa

reveals some noteworthy differences between vessels (Table 2). The *RV Pelican* caught greater numbers of 15 taxa, 3 of which exceeded a ratio of 2:1. The *RV Tommy Munro* caught greater numbers of 14 taxa, two of which exceeded 2:1. The greatest ratio for the *RV Pelican* was 4.9:1 for bay anchovy and for the *Tommy Munro*, 3.7:1 for gulf butterfish. Although differences were observed in total numbers caught, there does not appear to be a clear pattern of one vessel consistently outfishing the other considering the selected taxa collectively.

Regression analyses revealed that 16 taxa in the arithmetic scale and 19 in the logarithmic resulted in significant relationships between catch rates of the two vessels (Appendix 2). Of the models resulting in significant relationships, 12 Y-intercepts in both scales indicated no significant differences from zero. Since most models indicated that Y-intercepts contributed relatively little predictive information, regressions for all taxa were recomputed with lines forced through the origin to determine if this model form describes the relationship between vessels better than models with estimated Y-intercepts (Appendix 3). Upon refitting lines, regression analyses resulted in significant relationships between catch rates for 25 taxa in the arithmetic scale with 16 indicating significant differences between vessels. All refitted lines in the logarithmic scale resulted in significant relationships with seven resulting in significant differences between vessels. Estimated model parameters and 99% confidence intervals are shown in appendices 4

and 5.

Upon selecting significantly fitting models from either mathematical scale, analyses of 13 taxa resulted in significant differences between vessels, and 16 in no significant differences (Table 3). Although analyses of a relatively large number of taxa resulted in significant differences between vessels, closer inspection of the data reveals conflicting results. Analysis of flounders indicated a significant difference in catch rates between vessels. However, Table 1 indicates that both vessels caught nearly the same number of individuals. The data for flounders were plotted along with the fitted line in an attempt to explain the achieved significant difference (Figure 2). The fitted line indicates that in densities less than approximately 175 individuals per hour (ind/hr) the *RV Tommy Munro* outfished the *RV Pelican* but in densities greater than 175 ind/hr the *RV Pelican* outfished the *RV Tommy Munro*. This explains why overall total catches between vessels were similar but hypothesis testing indicated significant differences between vessels. Apparently in relatively low density areas the *RV Tommy Munro* outfishes the *RV Pelican* but in relatively high density areas the trend is reversed but with little overall difference between vessels. This is a perplexing result when trying to assess the relative fishing powers of the two vessels. Biologically one must ask if it's important to be able to detect fluctuations in relative fishing powers between vessels with respect to varying densities, or is it sufficient to be able to detect only overall differences

between vessels regardless of densities. Also, it is difficult to explain biologically why changes in relative fishing powers between vessels appear to be density dependent. Under the context of this experiment it seems that any observed differences between vessels should be independent of density. Perhaps with an increase in sample size, the relationship between vessels for this taxa may indeed approach linearity as was observed for most other taxa.

An alternative model to consider for flounders is the logarithmic with the line forced through the origin. Although there is no statistical support for forcing the line through the origin (i. e. hypothesis testing indicates that the Y-intercept contributed a significant amount of predictive information), there may be biological support for doing so. Biologically, regardless of actual relative fishing powers between vessels, it could be argued that fitted lines should pass through the origin. As densities decrease, so should catches of both vessels until densities reach zero whereby neither vessel should achieve catch (i. e. even if a vessel's fishing power is greater than another's, neither will catch organisms that are simply not available for capture). Thus, it appears appropriate to force fitted lines through the origin in both mathematical scales. Choosing the logarithmic model with the line forced through the origin for flounders results in no significant difference in catch rates between vessels (Appendix 3). This result is in agreement with the overall catches of flounders listed in Table

2. However, it is also important to note that the arithmetic model forced through the origin results in a significant difference between vessels. This phenomenon may be a reflection of the stabilizing effect of the logarithmic transformation. Two data points in the arithmetic scale appear to be extreme values and therefore heavily influence the slope of the fitted line. These points no longer appear extreme upon transforming to the logarithmic scale (Figure 3). Inspection of $Gr^2$ values indicated relatively similar values for all four model forms (Appendix 6). Thus, there's conflicting evidence indicating significant differences in catch rates of flounders between vessels.

Relationships between vessels for Atlantic brief squid, silver seatrout and rock sea bass were similar to flounders (Table 3, Figures 4-6). In areas of relatively low densities *RV Tommy Munro* outfished the *RV Pelican* and in relatively high densities the trend was reversed. Considering the logarithmic model forced through the origin, results indicated no significant differences between vessels (Appendix 3). In the arithmetic scale forced through the origin, analyses of Atlantic brief squid and rock sea bass resulted in significant differences between vessels but silver seatrout did not. Significant differences observed in the arithmetic scale may again be due to extreme values. One data point for Atlantic brief squid and three for rock sea bass appear to have heavily influenced the fitted line in the arithmetic scale but appear to be less extreme in the logarithmic (Figures 7 and 8). Thus the logarithmic

transformation appears to have again stabilized extreme data points.

Analyses of bigeye searobin, sand seatrout, gulf butterfish, striped and bay anchovy, and least puffer resulted in exponential relationships in catch rates between vessels (Figures 9-14). Exponents equalled values near 0.8 (indicating significantly greater catches for *RV Pelican*) except for gulf butterfish whose exponent was greater than one (indicating significantly greater catches for *RV Tommy Munro*). These results are puzzling insofar as *RV Pelican* caught significantly greater numbers of three pelagic taxa (sand seatrout, and striped and bay anchovy), and *RV Tommy Munro* caught significantly greater numbers of one (gulf butterfish). Analyses of these taxa in the arithmetic scale with fitted lines forced through the origin yielded significant differences for all taxa except bay anchovy which resulted in no relationship in catch rates between vessels (Appendix 3).

Analyses of three taxa resulted in linear relationships between vessels (roughback shrimp, Atlantic cutlassfish and dwarf sand perch) (Figures 15-17). In all cases the *RV Tommy Munro* outfished the *RV Pelican*. Of these three taxa, dwarf sand perch was the only one to result in significant differences in both scales. Analysis of roughback shrimp resulted in no significant difference in the logarithmic and Atlantic cutlassfish indicated no difference in the arithmetic.

Analysis of Atlantic cutlassfish yielded interesting results in that no significant relationship was found between vessels in

the arithmetic scale but in the logarithmic scale hypothesis testing indicated that the Y-intercept was significantly different from zero and the slope not significantly different from one. Therefore, the logarithmic model was refitted with the slope restricted to a value of one. Final results indicated a significant difference in catch rates between vessels with *RV Tommy Munro* catching significantly greater numbers. But upon considering the arithmetic scale with the fitted line forced through the origin, analysis resulted in no significant difference between vessels.

Although analyses of 13 taxa resulted in significant differences between vessels, it is difficult to attribute observed differences in catch rates to vessel effects or behavior characteristics of selected organisms. Regression analyses of some organisms exhibiting similar biological behavior resulted in significant differences between vessels while others did not. Analyses of flounders and bigeye searobins resulted in significant differences but analyses of fringed flounder and blackwing searobins did not. Similarly, analyses of one benthic taxa resulted in significant differences between vessels and six did not. Five demersal taxa resulted in significant differences and seven did not, and seven pelagic taxa did and one did not. A pattern appears evident in taxa occuppying the pelagic habitat as 7 of the 13 taxa indicating significant differences between vessels were pelagic. However, two of the seven pelagic taxa resulted in significantly greater catch rates for *RV Tommy Munro*

and three in significantly greater catches for *RV Pelican*.

Deciding the biological significance of observed differences in catch rates between vessels was difficult at best. Analyses of thirteen taxa resulted in concluding significant differences between vessels (44.8% of the total taxa considered). This percentage of significant differences is substantially greater than the 19.1% reported by Pellegrin (1994, in preparation) in comparing similar nets towed from the same vessel thereby removing vessel effects. However, results of this experiment were inconsistent. Seven of the thirteen taxa resulting in significant differences in catch rates between vessels also resulted in no significant differences upon considering an alternative model. Nor were there consistencies among taxa occuppying the benthic, demersal and pelagic habitats. Analyses of one benthic taxa resulted in significant differences in catch rates between vessels and seven did not. Analyses of five demersal taxa resulted in significant differences in catch rates between vessels and nine did not. Of the five demersal taxa resulting in significant differences, one resulted in significantly greater catches for *RV Tommy Munro* and two for *RV Pelican*. Analyses of two taxa were inconclusive due to the density dependent relationship in catches between vessels. Analyses of all pelagic taxa (seven) resulted in significant differences in catch rates between vessels but analyses of three taxa resulted in significantly greater catches for *RV Pelican* and two for *RV Tommy Munro*. Again, analyses of two taxa were

inconclusive due to the density dependent relationship between vessels.

Upon reviewing the results there does not appear to be a clear pattern of one vessel consistently outfishing the other. Furthermore, upon considering the logarithmic scale with fitted lines forced through the origin as the preferred mathematical scale and model form, the proportion of taxa resulting in significant differences in catch rates between vessels (7 of 29, 24.1%) becomes similar to the proportion of 19.1% reported by Pellegrin (1994, in preparation) in analyzing catch rates of similar nets pulled from the same vessel.

A possible explanation for the observed significant differences may be due to inflated experimentwise error rate (i. e. the probability of rejecting *at least* one true null hypothesis). Although each hypothesis test was conducted at the 0.01 level of significance, the overall error rate was much greater due to the number of tests conducted. Considering the entire experiment which consisted of 218 tests of significance, the probability of rejecting at least one true null hypothesis is 0.8882. Thus if the true state of nature were revealed and it was determined that at least one true null hypothesis was rejected, such a result would not be surprising considering the relatively large probability of such an event occurring.

Two options were available for controlling experimentwise error rate; 1) multivariate techniques and 2) performing each hypothesis test at a reduced level of significance. Multivariate

techniques were not appropriate in this experiment since equal sample sizes are required for each variate (i. e. taxa). Therefore, each hypothesis test was conducted at a reduced level of significance. A concern in performing hypothesis tests at reduced levels of significance is a corresponding reduction in the power of tests (i. e. the test's ability to detect significant differences). The estimated significance level required to achieve an overall experimentwise error rate of $\alpha$=0.05 in this experiment was about 0.0002. However, such a reduction in the significance level caused an unacceptable reduction in the power of tests; therefore, a significance level of 0.01 was considered an acceptable compromise.

A statistical approach was used to decide whether or not significant differences existed in catch rates between vessels. That is; a hypothesis was stated (that there's no real difference in catch rates between vessels for most frequently caught species), data were analyzed, then a decision was made as to whether the data were sufficiently contrary to warrant rejection of the stated hypothesis. Although regression analyses revealed 13 of 29 taxa resulted in significant differences in catch rates between vessels, there appeared to be no clear pattern of either vessel consistently outfishing the other. Analyses of some taxa occuppying the demersal and pelagic habitats resulted in significant differences in catch rates between vessels while other members of the respective habitats did not. Inconsistencies were also evident within taxa whose analyses

resulted in significant differences in catch rates between vessels. Analyses of some taxa occuppying the same habitat resulted in significantly greater catch rates for *RV Pelican* and others for *RV Tommy Munro*.

## SUMMARY AND CONCLUSIONS

Twenty nine taxa comprising 90.0% of all organisms caught in trawl collections by *RVs Pelican and Tommy Munro* were used to determine if significant differences in catch rates exist between two research vessels. Simple linear regression was used on catch rates adjusted to number caught per hour fished. Models were fitted in arithmetic and logarithmic scales, and were simplified by dropping parameters which tested to be insignificant contributors.

Analyses of thirteen taxa resulted in significant differences between vessels. Although the proportion of taxa exhibiting significant differences between vessels appears relatively large, neither vessel appeared to consistently outfish the other. Analyses of four taxa were inconclusive in that significant differences were detected in catch rates between vessels but the relationships appeared to be density dependent with *RV Tommy Munro* outfishing *RV Pelican* in relatively low densities and *RV Pelican* outfishing *RV Tommy Munro* in relatively high densities. Analyses of seven taxa resulting in significant differences in catch rates between vessels also resulted in no significant differences between vessels when considering

alternative models. Upon considering the logarithmic scale with fitted lines forced through the origin, analyses of 24.1% of the taxa analyzed resulted in significant differences in catch rates between vessels. This proportion is in agreement with the proportion observed upon comparing similar nets towed from the same vessel. Upon reviewing the results, there appears to be no appreciable difference in the fishing powers of *RVs Pelican* and *Tommy Munro*.

## Literature Cited

Hoese, H. D., R. H. Moore and V. F. Sonnier. 1990. Fishes of the Gulf of Mexico , Texas, Louisiana, and adjacent waters. (W. L. Moody, Jr. natural history series; no. 1). Texas A&M University Press, College Station, Tex.

Anderson-Sprecher, R. (1994), "Model Comparisons and $R^2$," *The American Statistician*, 48,113-117.

Table 1. Most frequently caught organisms which comprised 90.0% of the total number caught in 40-ft trawls towed by research vessels *Pelican* and *Tommy Munro*. Organisms are ranked in descending order of catch frequency and catches are adjusted to number of individuals caught per hour fished (n=94 tows).

| | Name | Catch frequency | Number caught | Percent of total number caught |
|---|---|---|---|---|
| 1 | Flounders | 90 | 22,535 | 3.5 |
| 2 | Bigeye searobin | 89 | 36,395 | 5.7 |
| 3 | Atlantic brief squid | 87 | 30,057 | 4.7 |
| 4 | Silver seatrout | 84 | 14,711 | 2.3 |
| 5 | Common mantis shrimp | 83 | 43,352 | 6.8 |
| 6 | Roughback shrimp | 82 | 210,113 | 33.2 |
| 7 | Brown shrimp | 81 | 2,409 | 0.3 |
| 8 | Sand seatrout | 78 | 9,019 | 1.4 |
| 9 | Lesser blue crab | 69 | 8,174 | 1.2 |
| 10 | Fringed flounder | 68 | 2,712 | 0.4 |
| 11 | Rock sea bass | 66 | 6,061 | 0.9 |
| 12 | Striped anchovy | 60 | 15,625 | 2.4 |
| 13 | Gulf butterfish | 59 | 10,660 | 1.6 |
| 14 | Southern hake | 58 | 3,816 | 0.6 |
| 15 | Lesser rock shrimp | 58 | 21,654 | 3.4 |

Table 1. continued

| | Name | Catch frequency | Number caught | Percent of total number caught |
|---|---|---|---|---|
| 16 | Atlantic cutlassfish | 56 | 21,967 | 3.4 |
| 17 | Dwarf sand perch | 55 | 6,272 | 0.9 |
| 18 | Least puffer | 52 | 2,372 | 0.3 |
| 19 | Inshore lizardfish | 51 | 1,120 | 0.1 |
| 20 | Iridescent swimming crab | 51 | 5,427 | 0.8 |
| 21 | Pancake batfish | 50 | 3,437 | 0.5 |
| 22 | Bay anchovy | 49 | 21,071 | 3.3 |
| 23 | Ragged goby | 49 | 9,516 | 1.5 |
| 24 | Bearded brotula | 44 | 1,734 | 0.2 |
| 25 | Mantis shrimp | 41 | 5,696 | 0.9 |
| 26 | Atlantic croaker | 40 | 49,061 | 7.7 |
| 27 | Blackwing searobin | 40 | 1,015 | 0.1 |
| 28 | Bay whiff | 40 | 836 | 0.1 |
| 29 | Pink shrimp | 40 | 1,564 | 0.2 |
| Totals | | | 568,381 | 90.0 |

Table 2. Organisms selected to investigate differences in catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro*. Catches are adjusted to number of individuals caught per hour fished. Catch frequency indicates the number of tows respective organisms were caught in both vessel's nets (n=47 paired tows).

| Name | Catch frequency | Number caught | |
|---|---|---|---|
| | | R/V *Pelican* | R/V *Tommy Munro* |
| Flounders | 43 | 10,979 | 10,744 |
| Bigeye searobin | 42 | 23,791 | 12,024 |
| Atlantic brief squid | 42 | 15,809 | 13,900 |
| Silver seatrout | 38 | 6,147 | 7,868 |
| Common mantis shrimp | 38 | 21,276 | 21,900 |
| Roughback shrimp | 36 | 92,780 | 116,792 |
| Sand seatrout | 35 | 5,315 | 3,308 |
| Brown shrimp | 35 | 965 | 1,172 |
| Fringed flounder | 27 | 1,372 | 1,108 |
| Lesser blue crab | 26 | 2,500 | 4,584 |
| Gulf butterfish | 25 | 2,176 | 8,036 |
| Rock sea bass | 24 | 3,201 | 2,200 |
| Atlantic cutlassfish | 24 | 6,499 | 14,464 |
| Lesser rock shrimp | 24 | 10,414 | 10,124 |

Table 2. continued

| Name | Catch frequency | Number caught | |
|---|---|---|---|
| | | R/V *Pelican* | R/V *Tommy Munro* |
| Striped anchovy | 22 | 10,841 | 4,316 |
| Southern hake | 22 | 2,308 | 1,152 |
| Dwarf sand perch | 21 | 1,952 | 3,508 |
| Ragged goby | 20 | 5,756 | 3,596 |
| Pancake batfish | 20 | 1,453 | 1,676 |
| Least puffer | 19 | 1,304 | 804 |
| Iridescent swimming crab | 19 | 2,348 | 2,552 |
| Inshore lizardfish | 18 | 424 | 448 |
| Bay anchovy | 17 | 10,759 | 2,204 |
| Atlantic croaker | 17 | 19,705 | 29,304 |
| Mantis shrimp | 16 | 2,400 | 2,772 |
| Bearded brotula | 13 | 716 | 564 |
| Pink shrimp | 13 | 960 | 440 |
| Bay whiff | 7 | 144 | 200 |
| Blackwing searobin | 4 | 140 | 84 |

Table 3. Taxa for which significant differences were found between catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro*.

| Name | Arithmetic model |
|---|---|
| Flounders | $CPUE_M=6.1(CPUE_P)^{0.6562}$ |
| Bigeye searobin | $CPUE_M=(CPUE_P)^{0.8650}$ |
| Atlantic brief squid | $CPUE_M=11.4(CPUE_P)^{0.5609}$ |
| Silver seatrout | $CPUE_M=11.6(CPUE_P)^{0.5614}$ |
| Roughback shrimp | $CPUE_M=1.3(CPUE_P)$ |
| Sand seatrout | $CPUE_M=(CPUE_P)^{0.8129}$ |
| Gulf butterfish | $CPUE_M=(CPUE_P)^{1.1781}$ |
| Rock sea bass | $CPUE_M=5.5(CPUE_P)^{0.5236}$ |
| Atlantic cutlassfish | $CPUE_M=2.4(CPUE_P)$ |
| Striped anchovy | $CPUE_M=(CPUE_P)^{0.8242}$ |
| Dwarf sand perch | $CPUE_M=1.6(CPUE_P)$ |
| Least puffer | $CPUE_M=(CPUE_P)^{0.8396}$ |
| Bay anchovy | $CPUE_M=(CPUE_P)^{0.7688}$ |

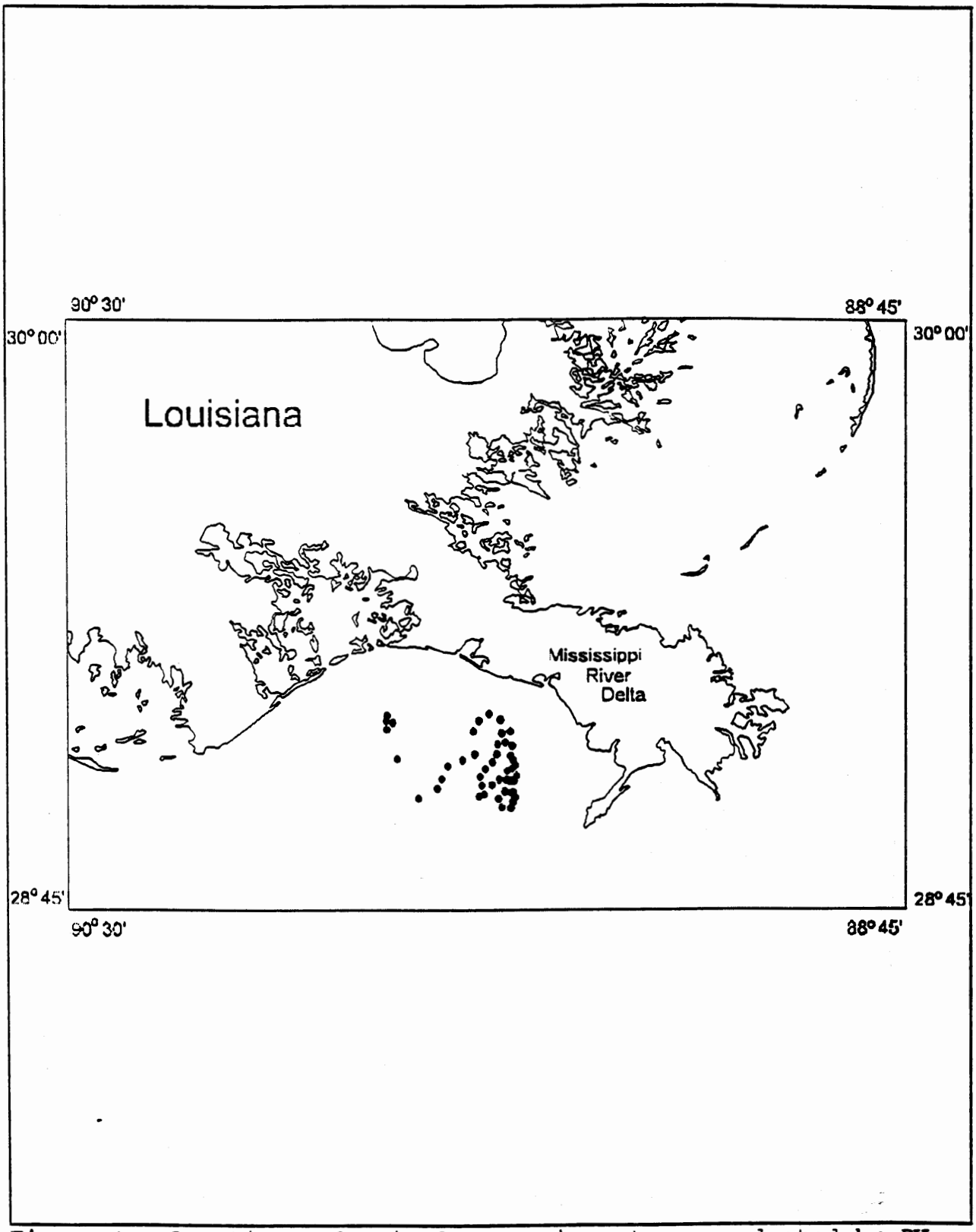



**Figure 1.** Locations of paired comparison tows conducted by *RVs Pelican* and *Tommy Munro*.

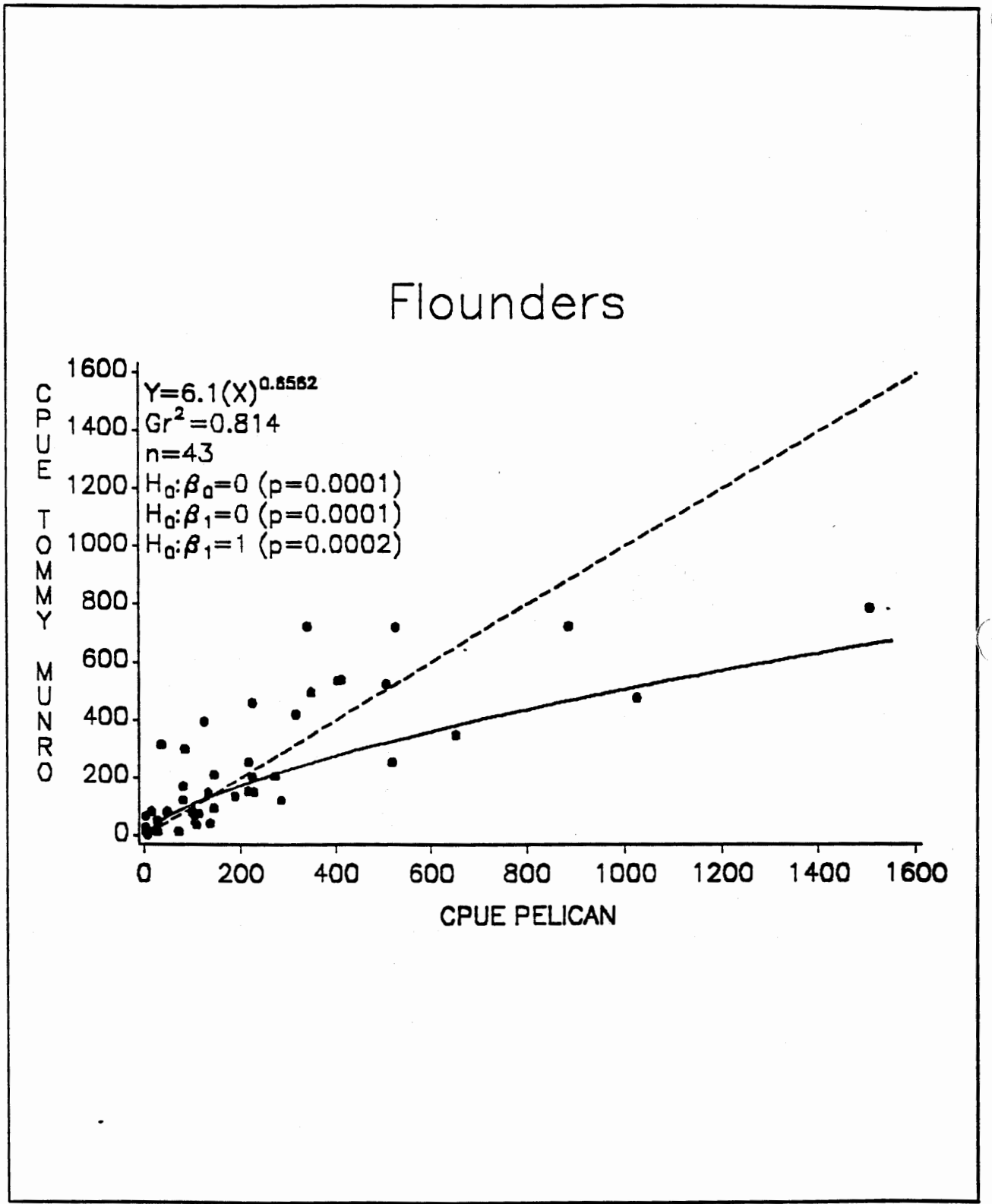



**Figure 2.** Catch rates and fitted line of flounders caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

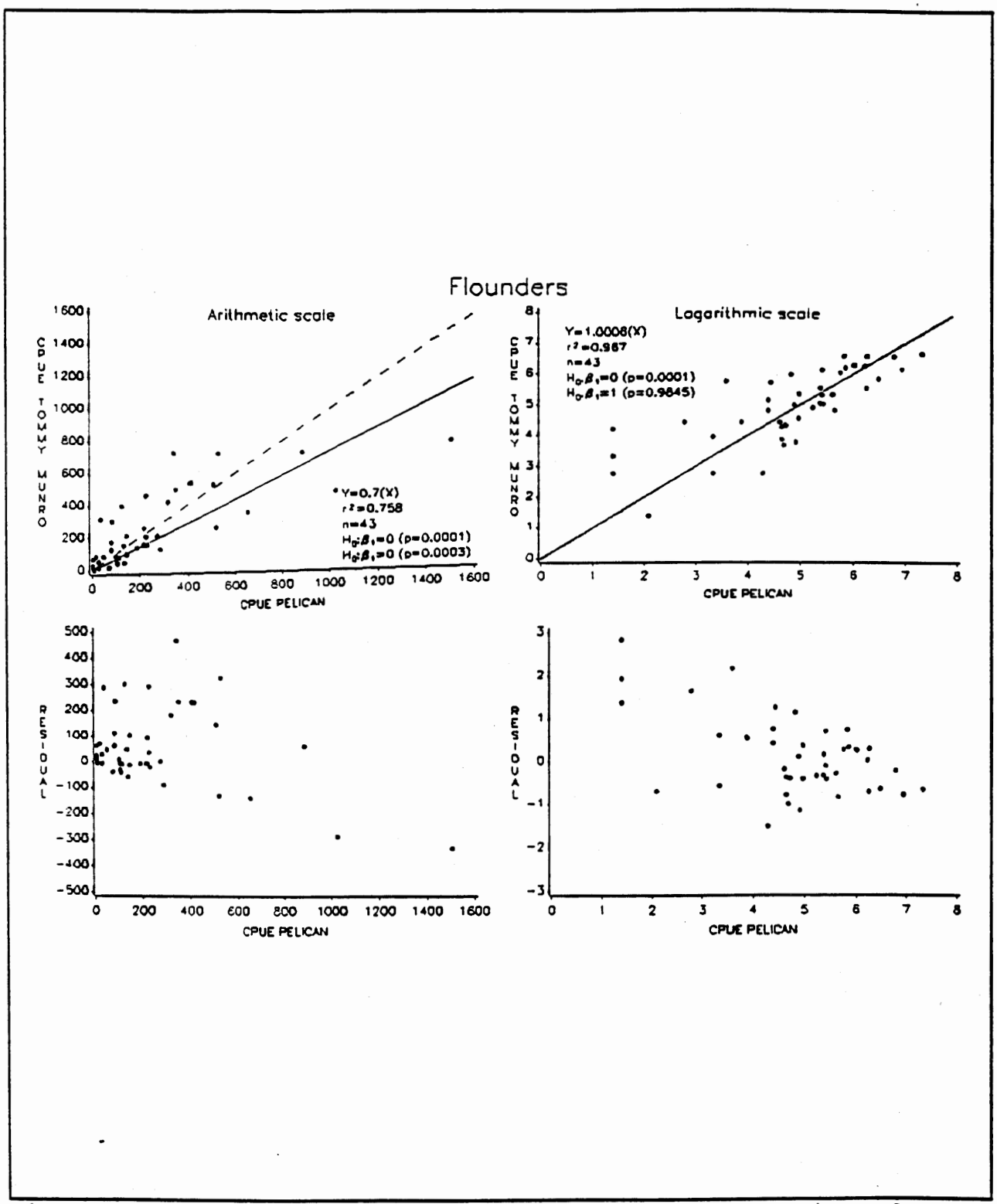



**Figure 3.** Catch rates and residual plots in arithmetic and logarithmetic scales of flounders caught by RVs Pelican and Tommy Munro. Solid lines represent fitted models and broken lines the hypothesized relationship.

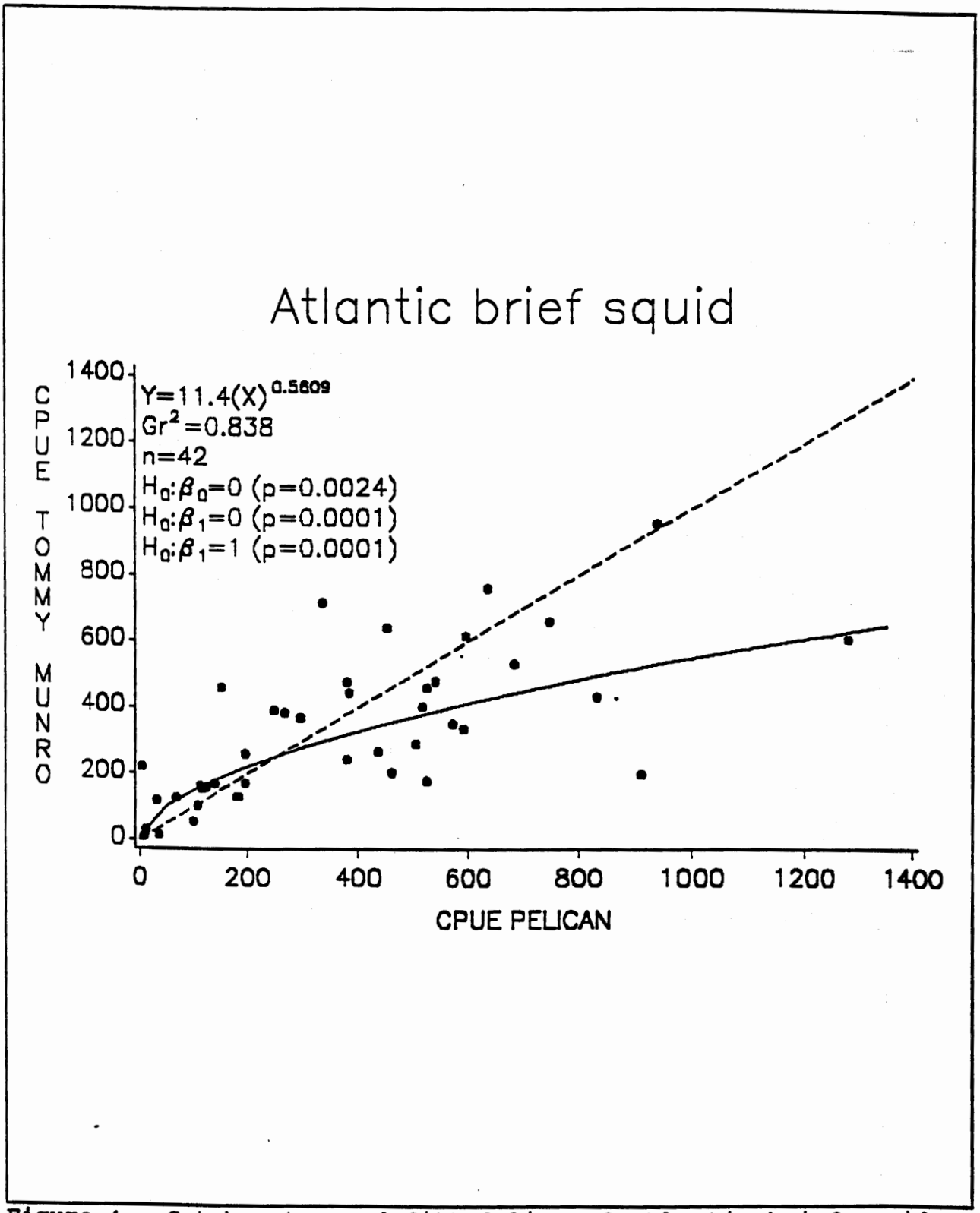



**Figure 4.** Catch rates and fitted line of Atlantic brief squid caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

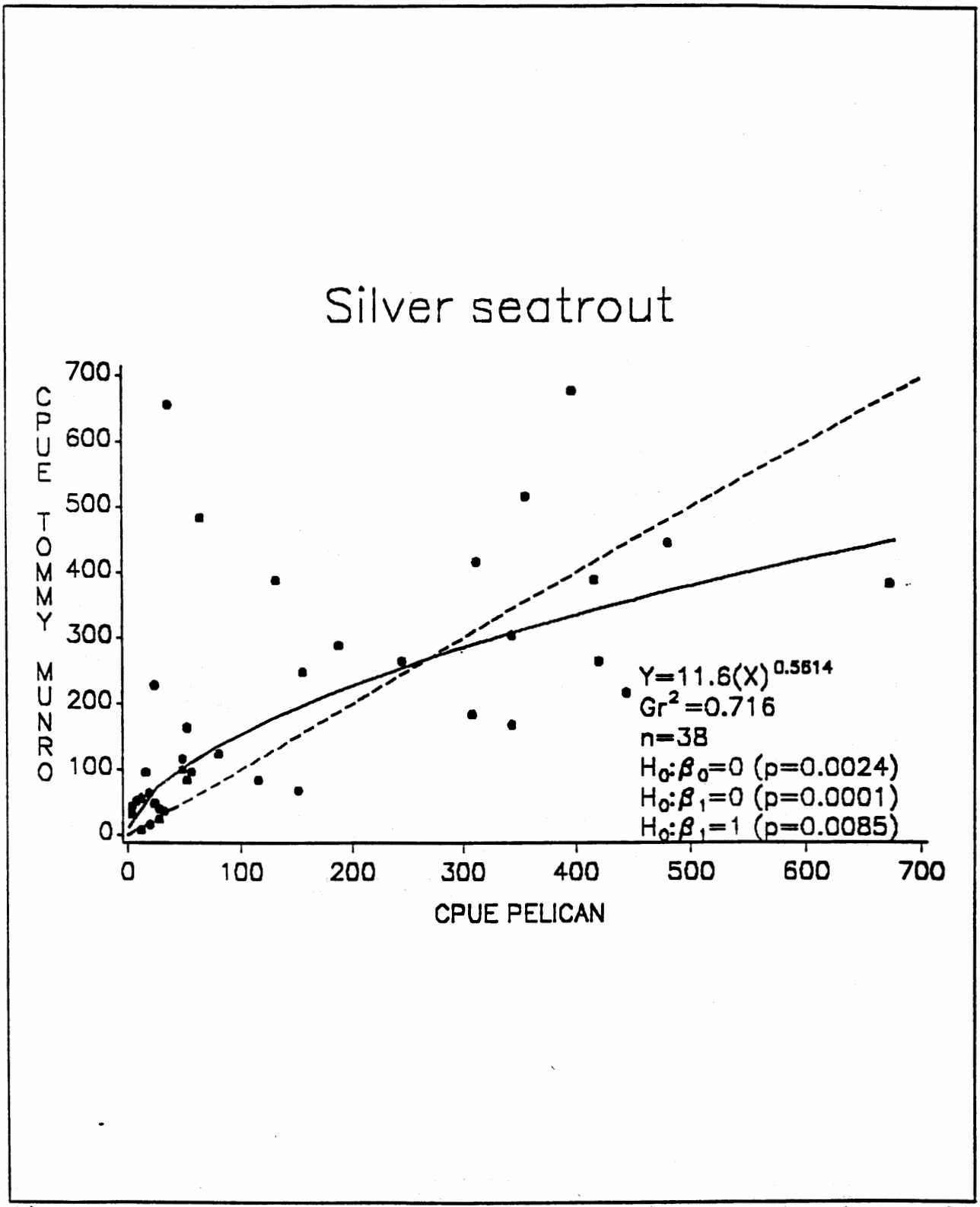



**Figure 5.** Catch rates and fitted line of silver seatrouts caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

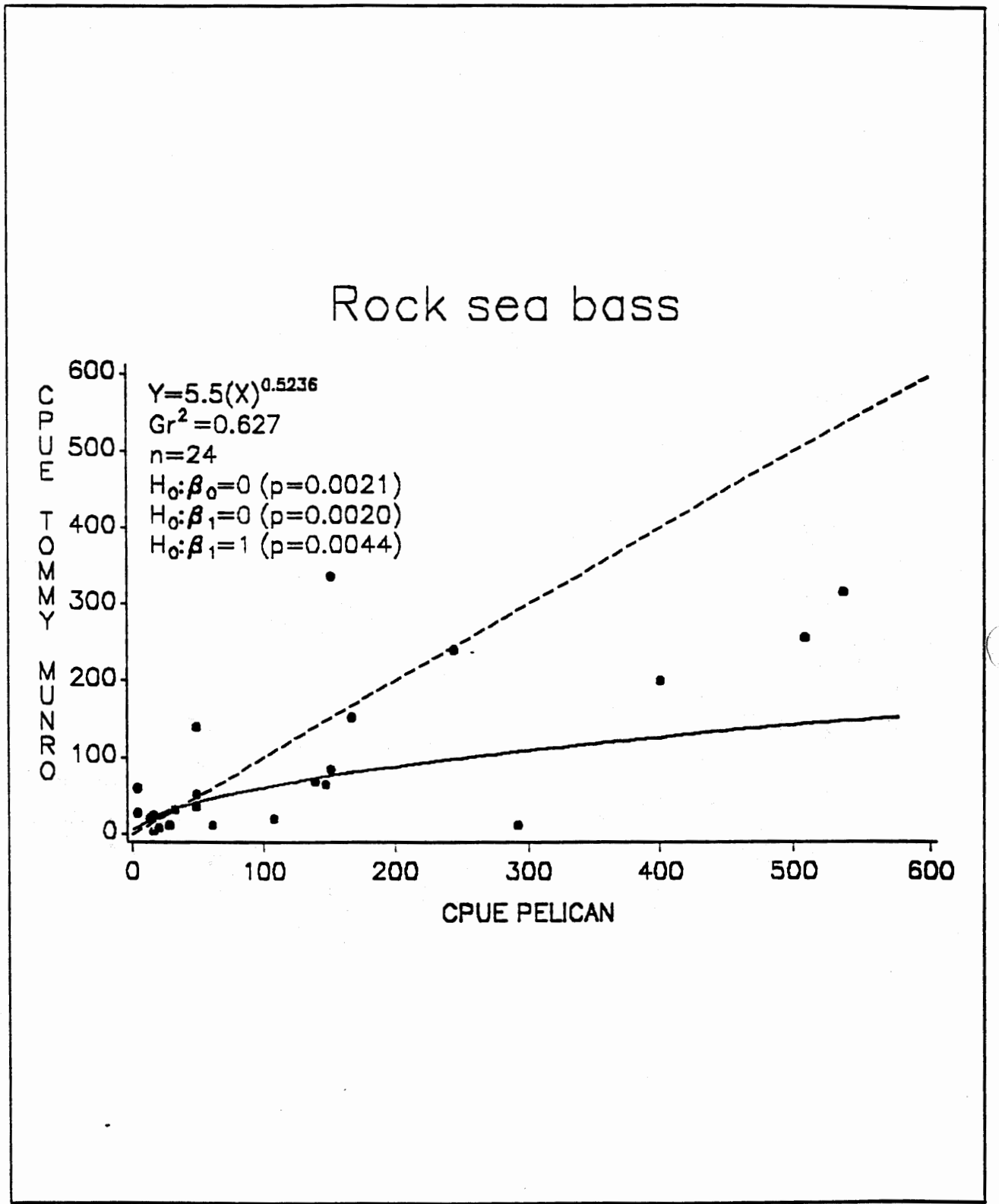



**Figure 6.** Catch rates and fitted line of rock sea bass caught by RVs Pelican and Tommy Munro. Solid line represents fitted model and broken line the hypothesized relationship.

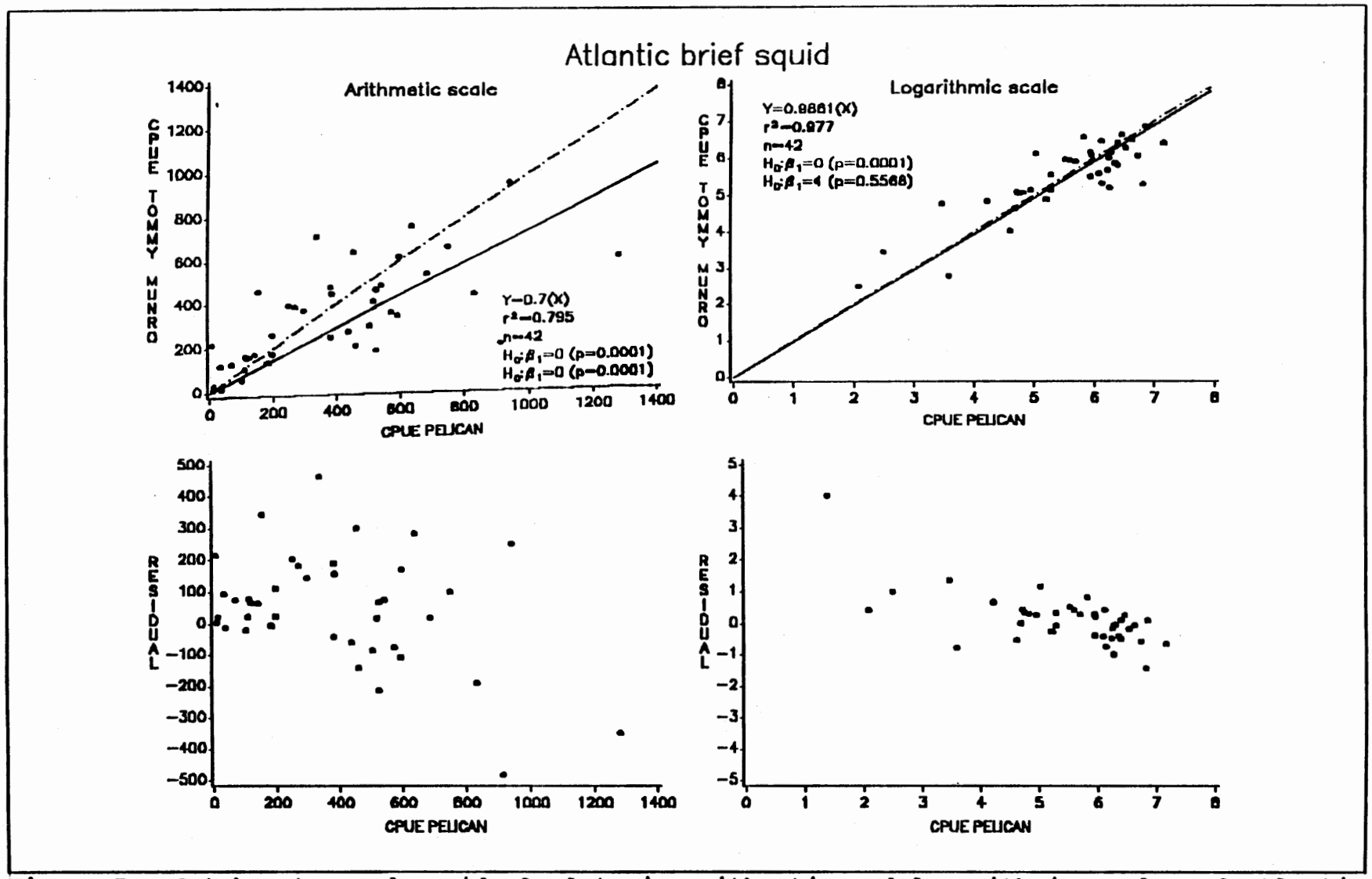



**Figure 7.** Catch rates and residual plots in arithmetic and logarithmic scales of Atlantic brief squid caught by RVs Pelican and Tommy Munro. Solid lines represent fitted models and broken lines the hypothesized relationship.

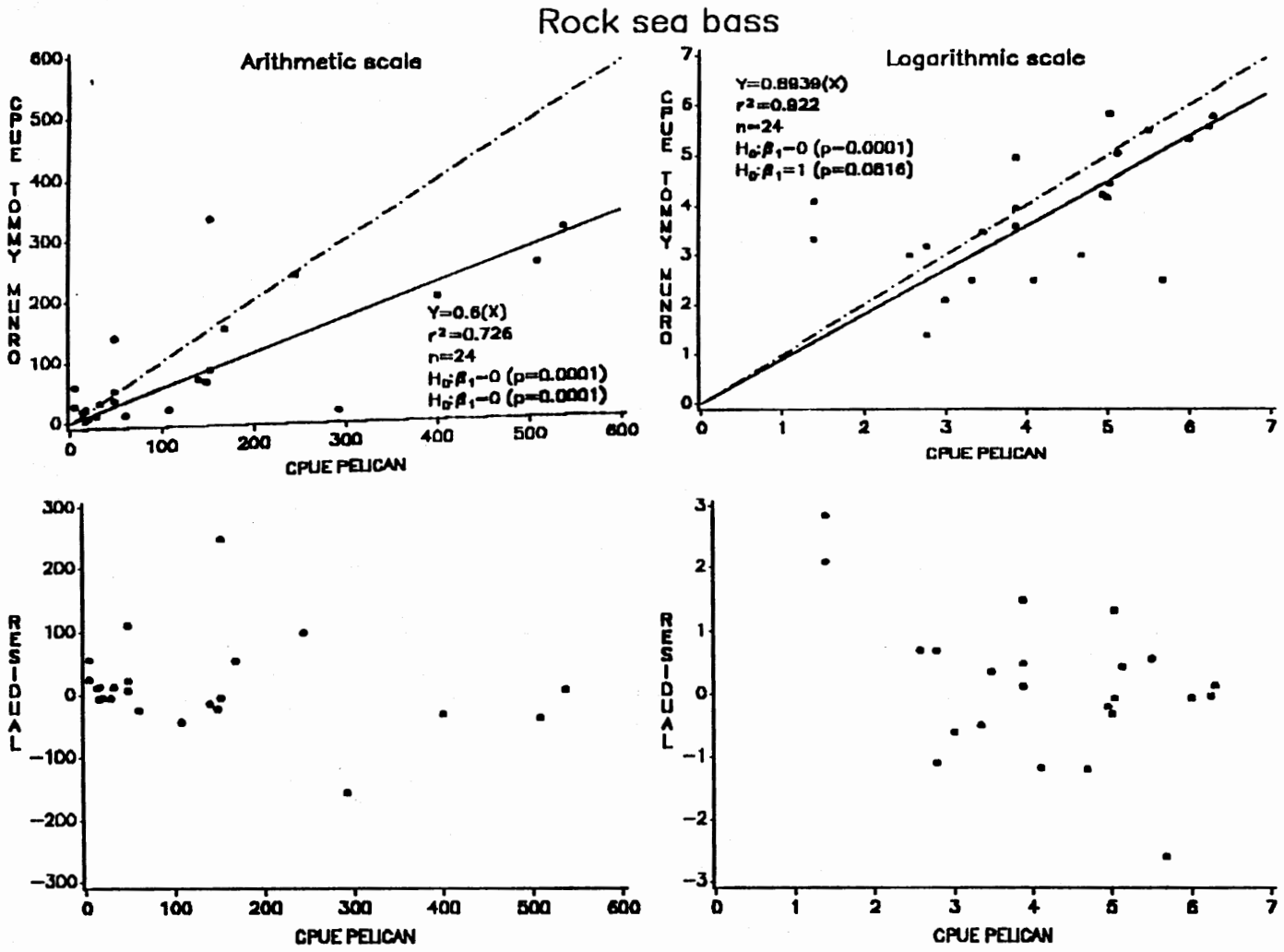



**Figure 8.** Catch rates and residual plots in arithmetic and logarithmic scales of rock sea bass caught by RVs Pelican and Tommy Munro. Solid lines represent fitted models and broken lines the hypothesized relationship.

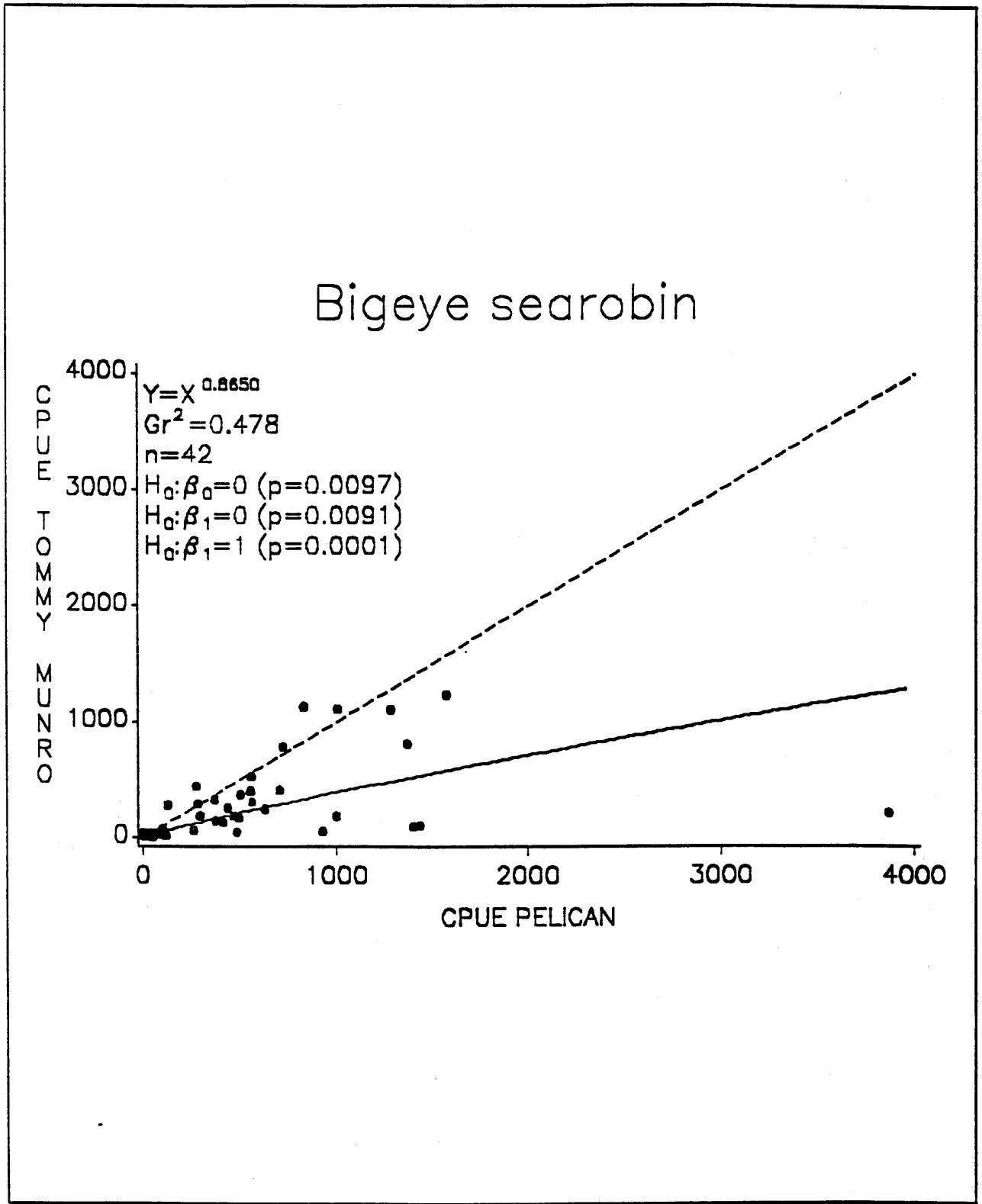



**Figure 9.** Catch rates and fitted line of bigeye searobins caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

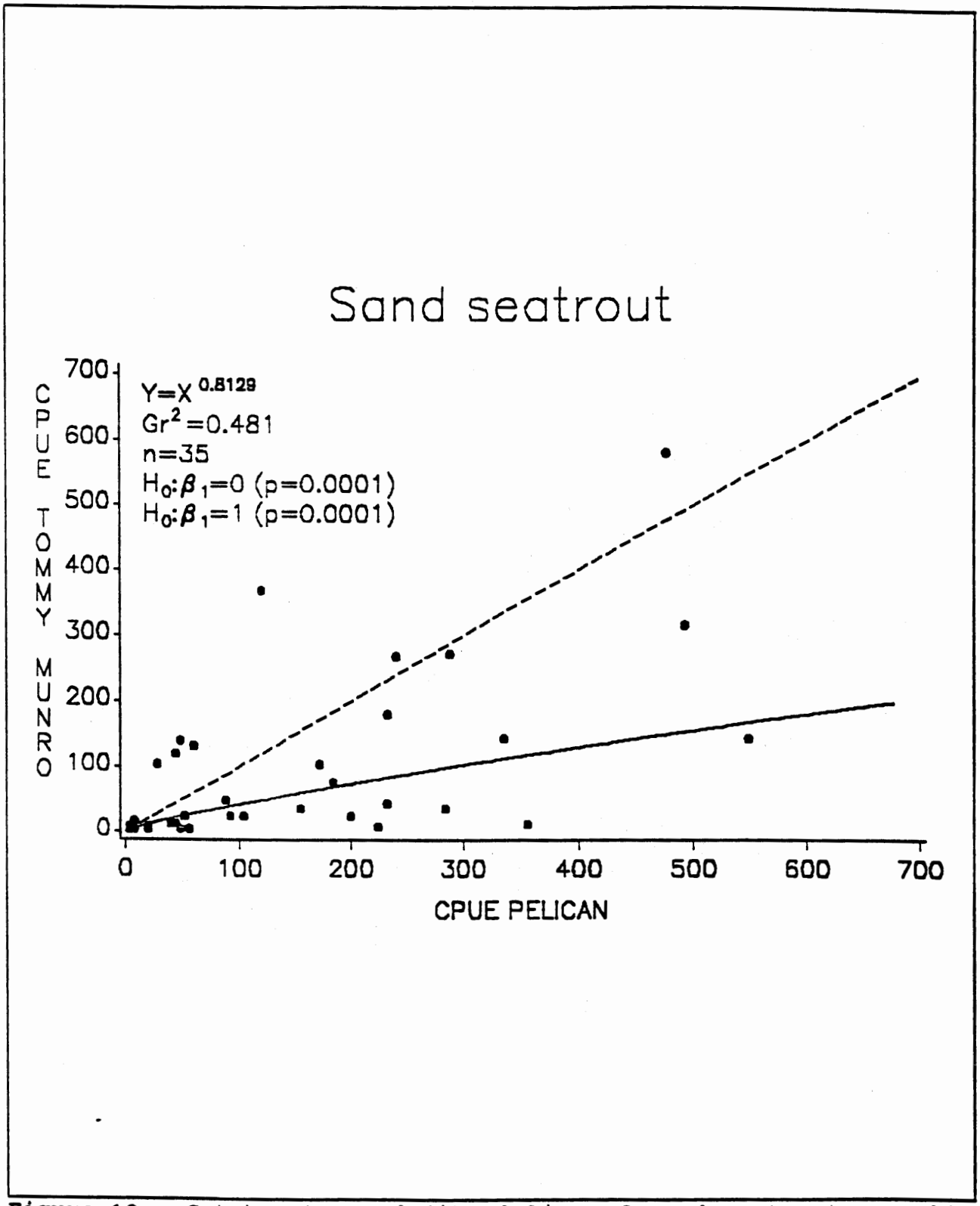



**Figure 10.** Catch rates and fitted line of sand seatrouts caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

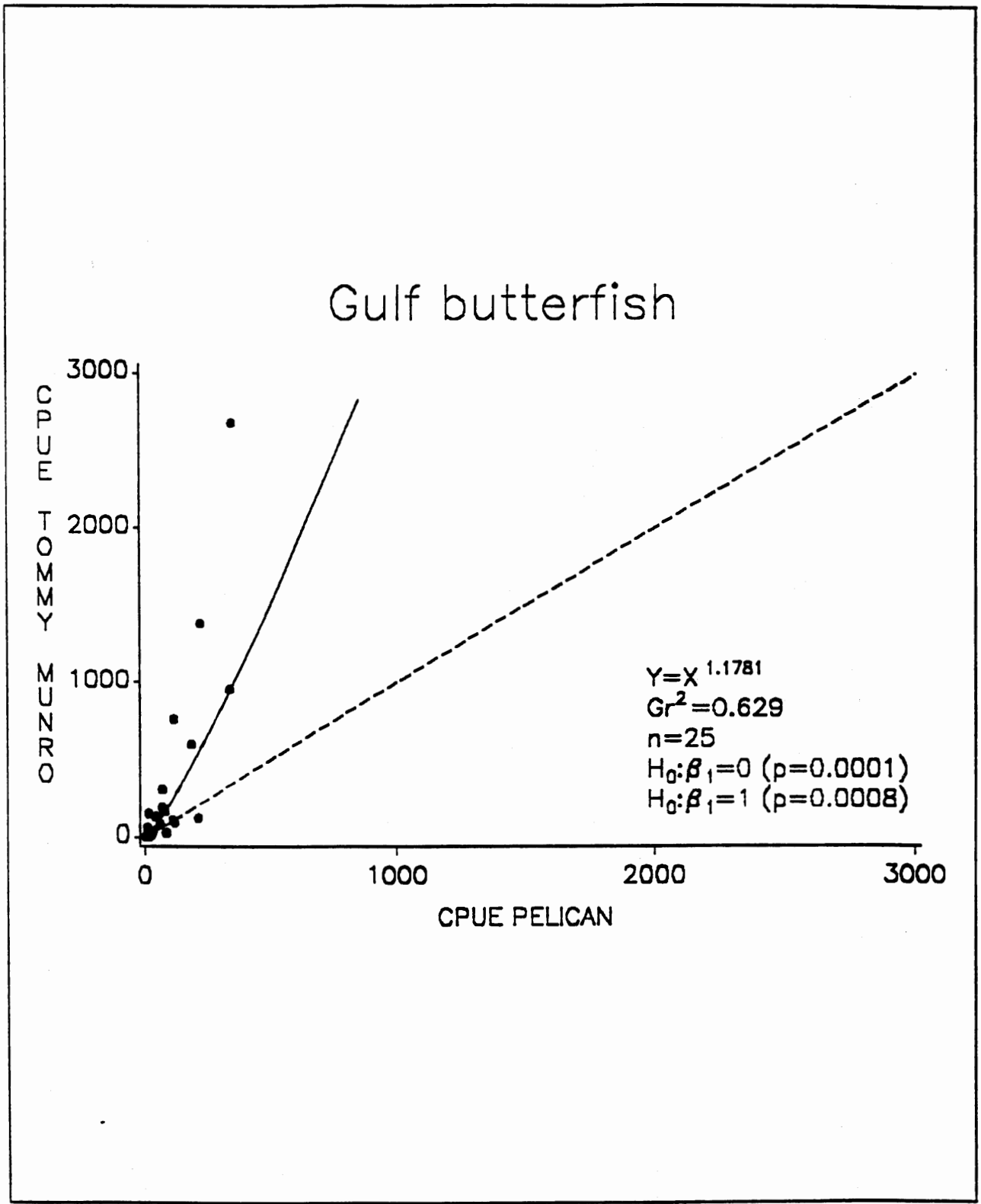



**Figure 11.** Catch rates and fitted line of gulf butterfish caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

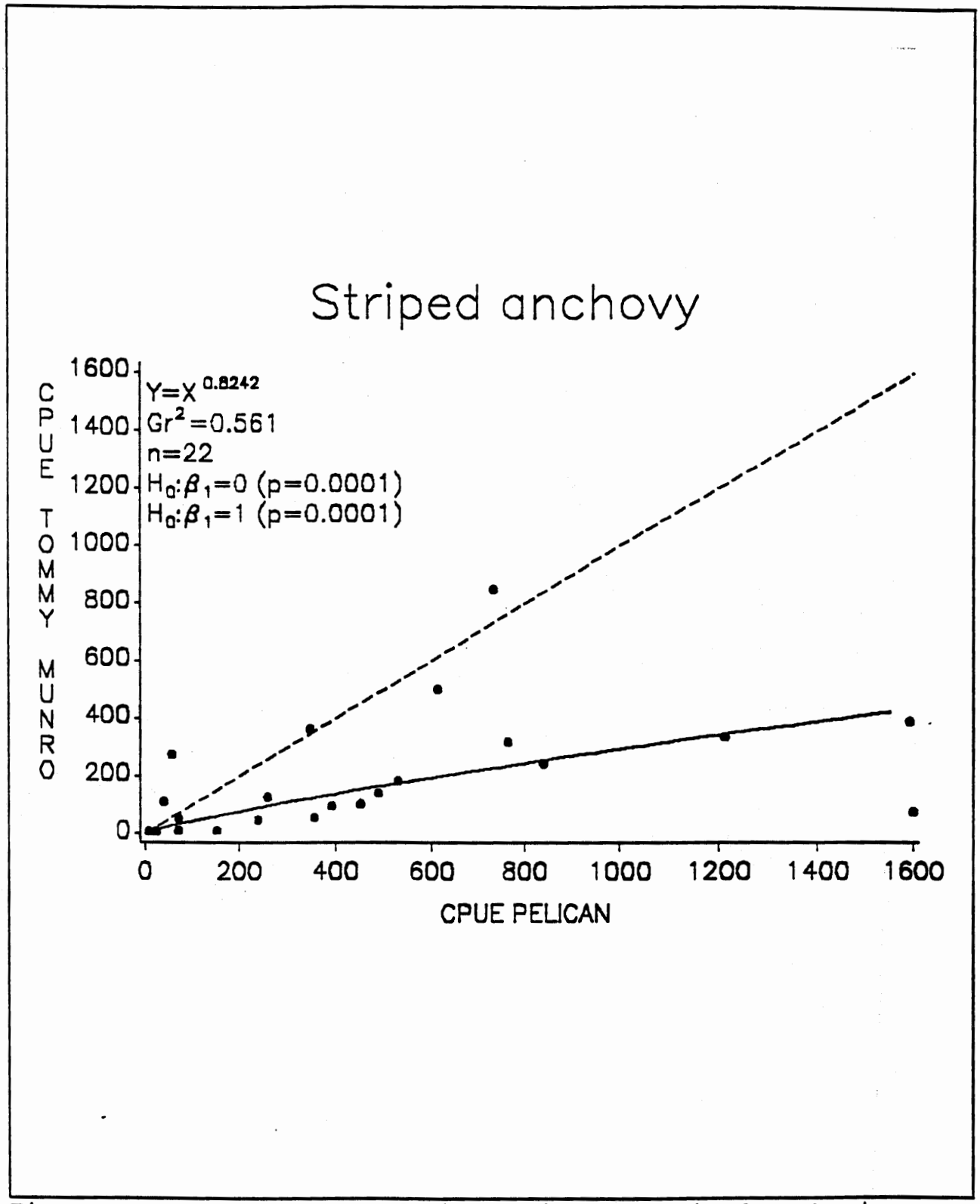



**Figure 12.** Catch rates and fitted line of striped anchovies caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

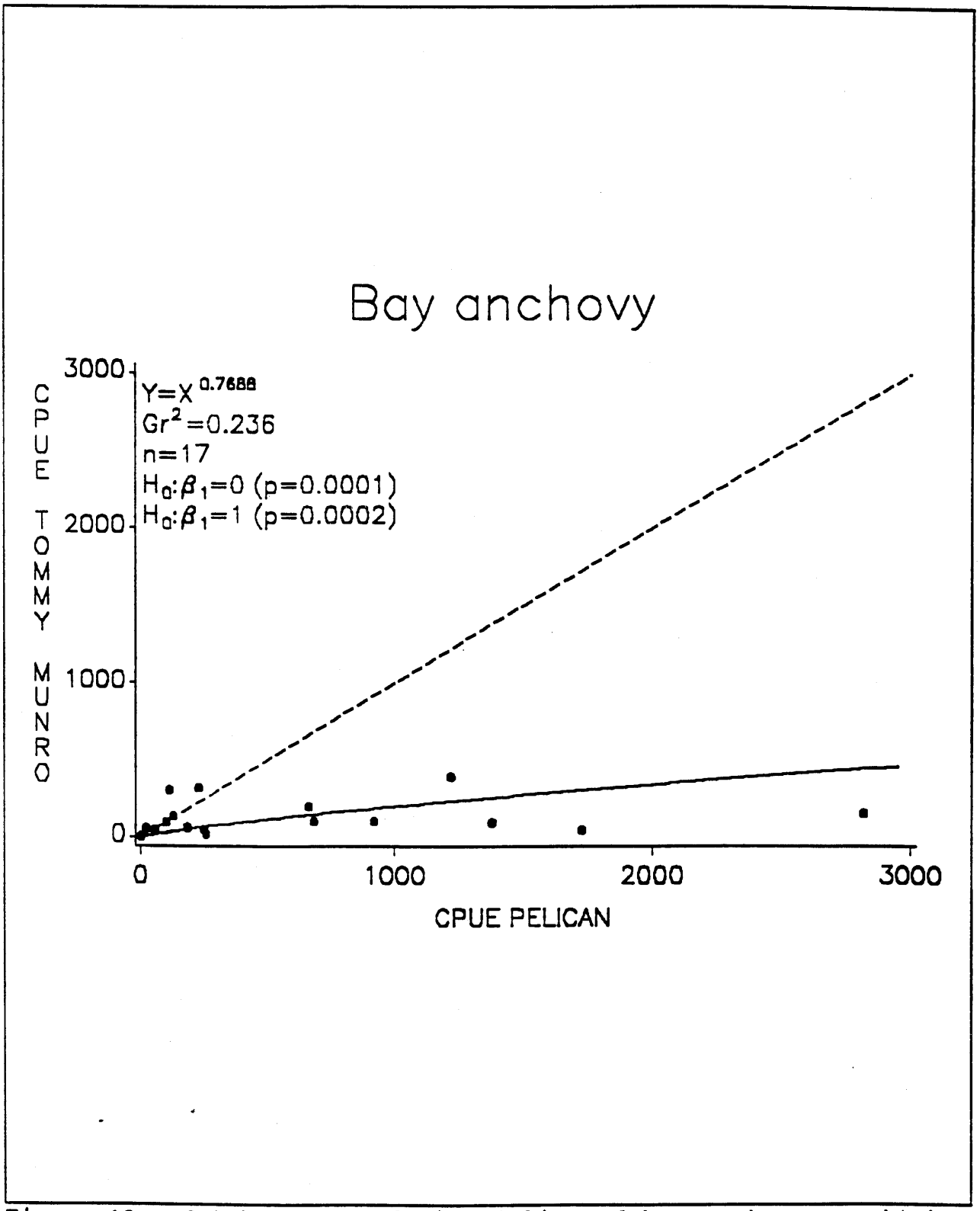



**Figure 13.** Catch rates and fitted line of bay anchovy caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

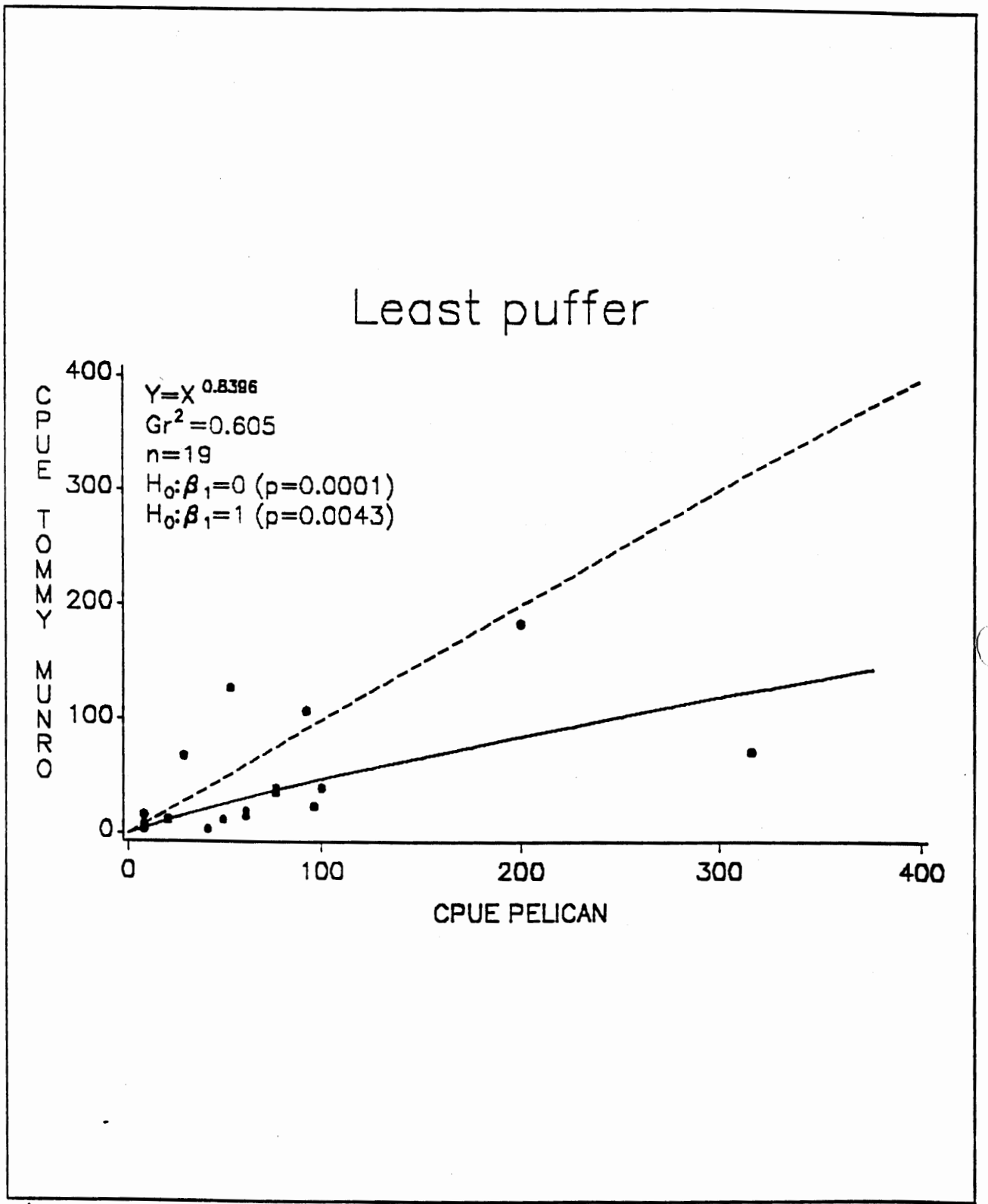



**Figure 14.** Catch rates and fitted line of least puffer caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

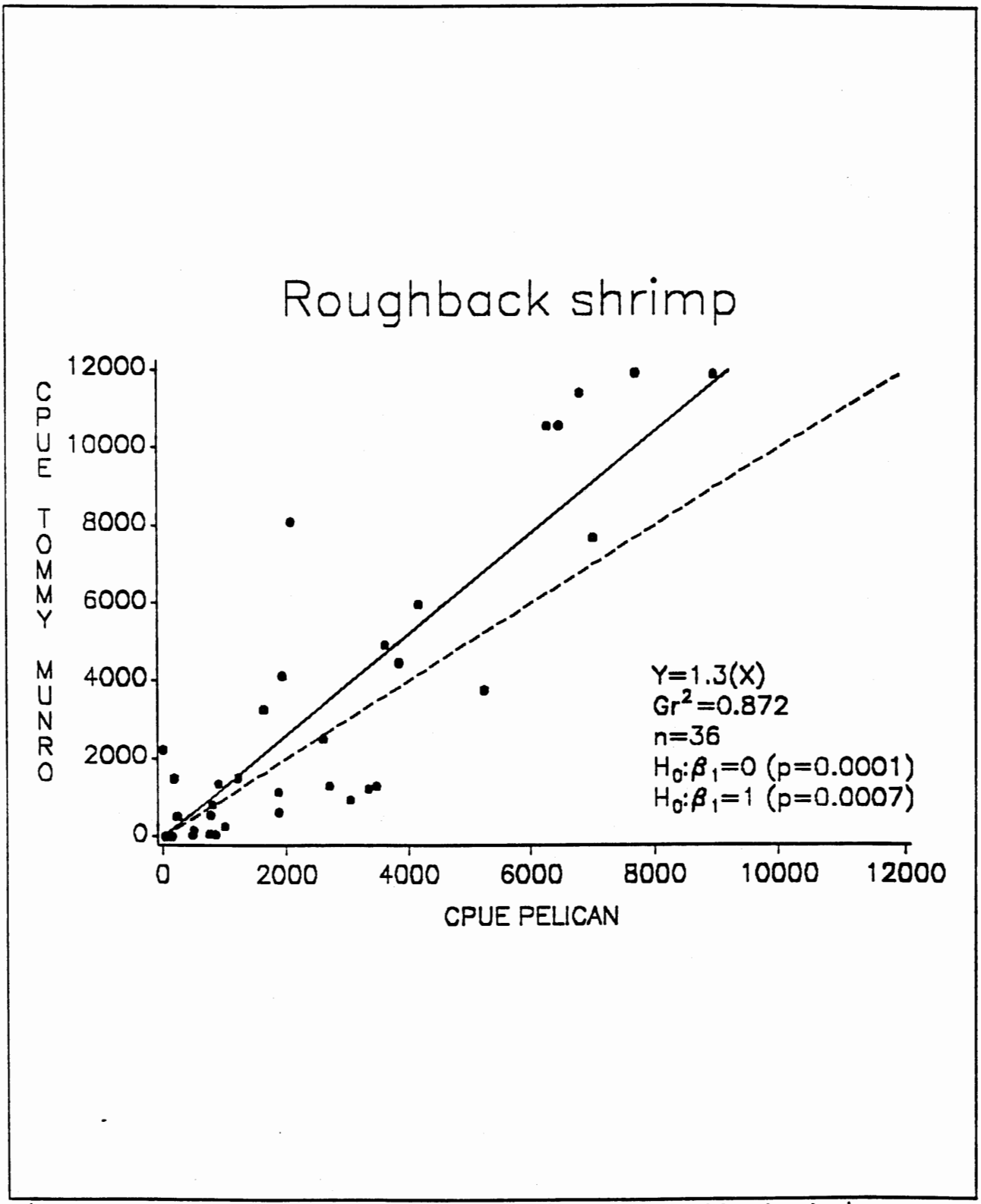



**Figure 15.** Catch rates and fitted line of roughback shrimp caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

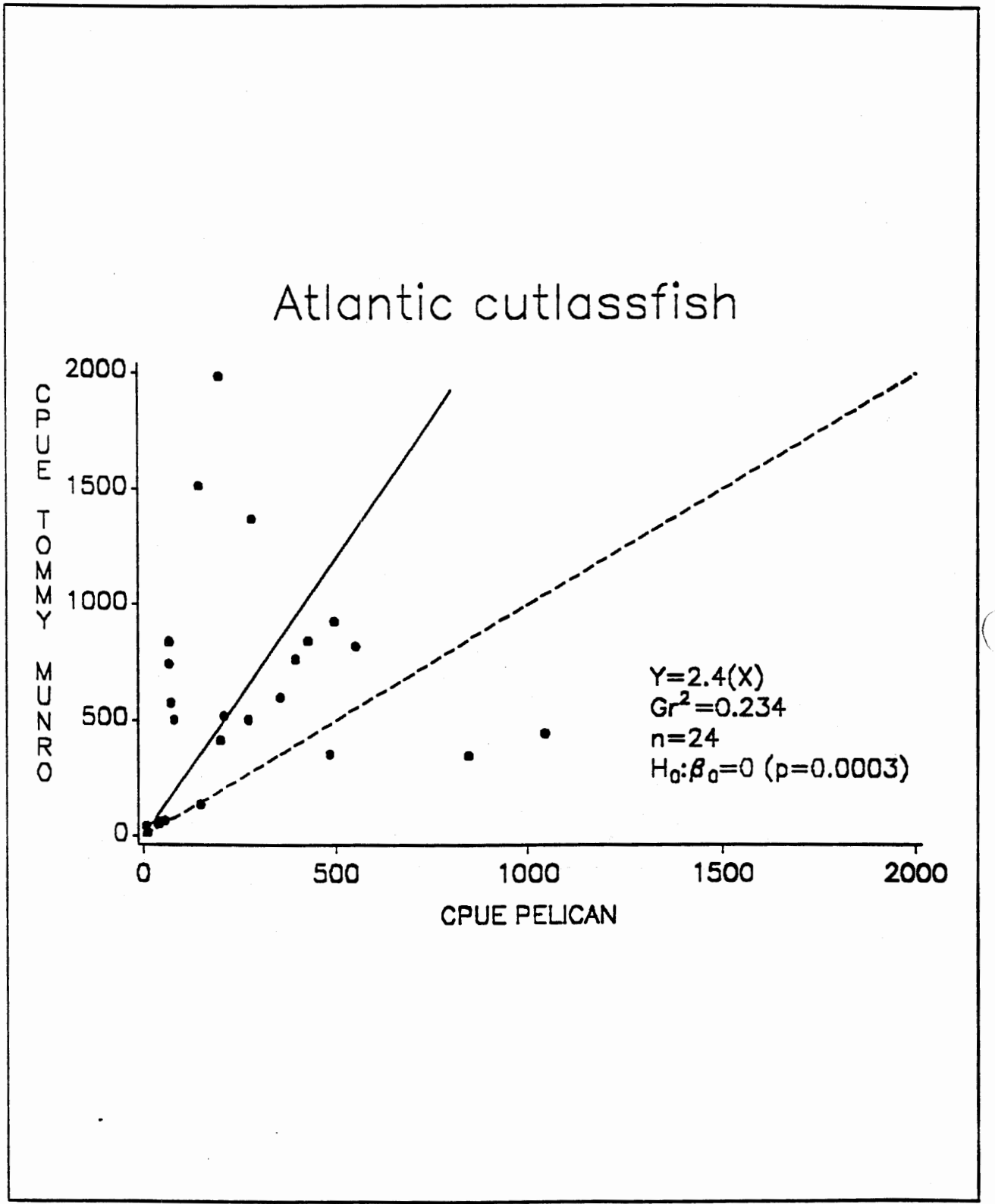



**Figure 16.** Catch rates and fitted line of Atlantic cutlassfish caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

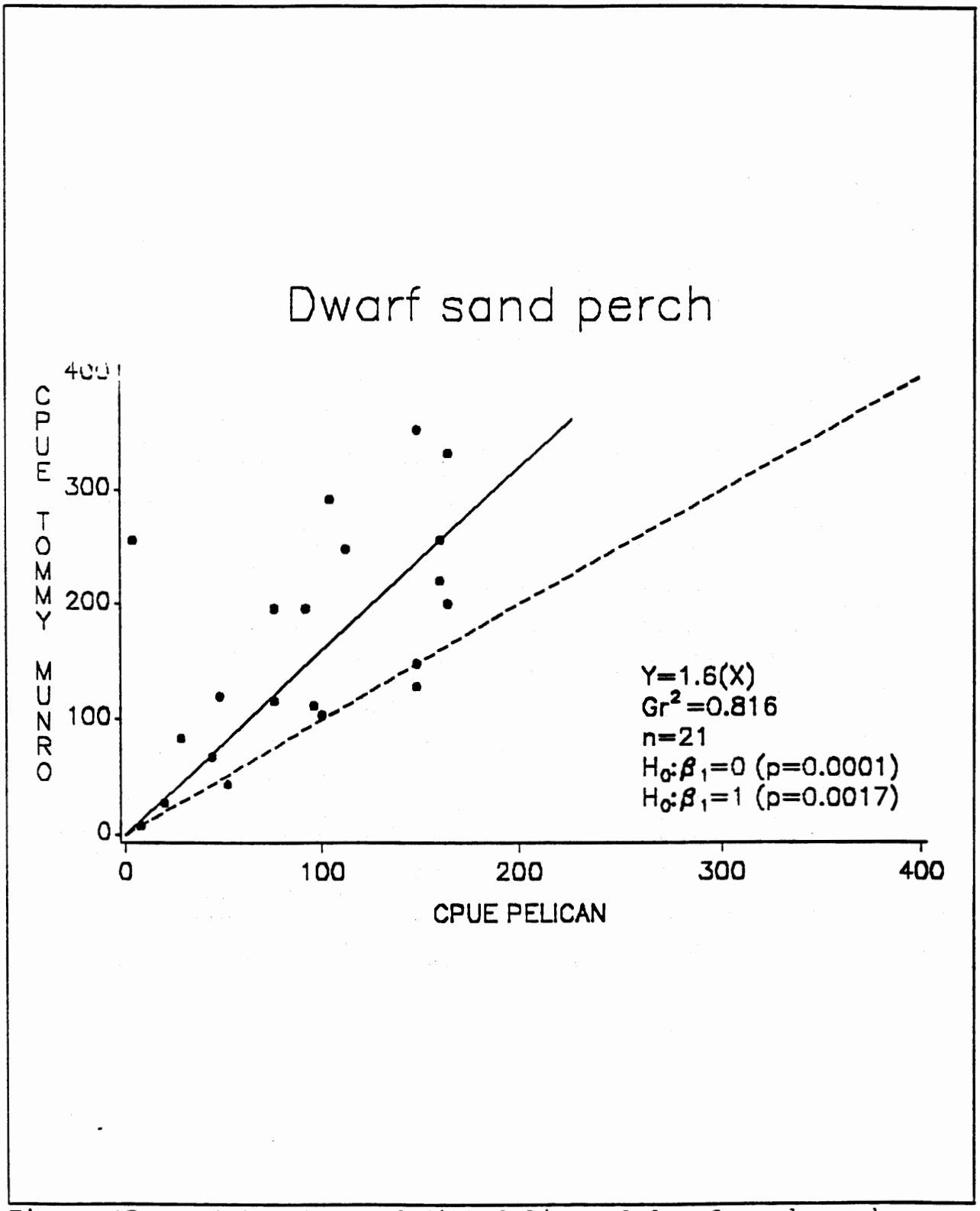



**Figure 17.** Catch rates and fitted line of dwarf sand perch caught by *RVs Pelican* and *Tommy Munro*. Solid line represents fitted model and broken line the hypothesized relationship.

Appendix 1. Common and scientific names of organisms used to compare catch rates of 40-ft nets towed by RVs *Pelican* and *Tommy Munro*.

| Common name | Scientific name |
|---|---|
| Flounders | *Syacium* sp. |
| Bigeye searobin | *Prionotus longispinosus* |
| Atlantic brief squid | *Lolliguncula brevis* |
| Silver seatrout | *Cynoscion nothus* |
| Common mantis shrimp | *Squilla empusa* |
| Roughback shrimp | *Trachypenaeus similis* |
| Sand seatrout | *Cynoscion arenarius* |
| Brown shrimp | *Penaeus aztecus* |
| Fringed flounder | *Etropus crossotus* |
| Lesser blue crab | *Callinectes similis* |
| Gulf butterfish | *Peprilus burti* |
| Rock sea bass | *Centropristis philadelphica* |
| Atlantic cutlassfish | *Trichiurus lepturus* |
| Lesser rock shrimp | *Sicyonia dorsalis* |

Appendix 1. continued

| Common name | Scientific name |
|---|---|
| Striped anchovy | *Anchoa hepsetus* |
| Southern hake | *Urophycis floridanus* |
| Dwarf sand perch | *Diplectrum bivittatum* |
| Ragged goby | *Bollmannia communis* |
| Pancake batfish | *Halieutichthys aculeatus* |
| Least puffer | *Sphoeroides parvus* |
| Iridescent swimming crab | *Portunus gibbesii* |
| Inshore lizardfish | *Synodus foetens* |
| Bay anchovy | *Anchoa mitchilli* |
| Atlantic croaker | *Micropogonias undulatus* |
| Mantis shrimp | *Squilla chydae* |
| Bearded brotula | *Brotula barbata* |
| Pink shrimp | *Penaeus duorarum* |
| Bay whiff | *Citharichthys spilopterus* |
| Blackwing searobin | *Prionotus rubio* |

Appendix 2. Regression analyses of taxa selected to investigate differences in catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro* (Y-intercepts unrestricted). Shaded cells indicate significant differences at the $\alpha$=0.01 level of significance.

| Name | Arithmetic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0:\beta_0=0$ | $H_0:\beta_1=0$ | $H_0:\beta_1=1$ | |
| Flounders | 103.7 | 0.6 | 0.578 | 0.0013 | 0.0001 | 0.0001 | 43 |
| Bigeye searobin | 173.9 | 0.2 | 0.158 | 0.0097 | 0.0091 | 0.0001 | 42 |
| Atlantic brief squid | 134.6 | 0.5 | 0.473 | 0.0024 | 0.0001 | 0.0001 | 42 |
| Silver seatrout | 108.2 | 0.6 | 0.347 | 0.0024 | 0.0001 | 0.0085 | 38 |
| Common mantis shrimp | 64.3 | 0.9 | 0.753 | 0.3824 | 0.0001 | 0.3343 | 38 |
| Roughback shrimp | -301.1 | 1.4 | 0.784 | 0.5006 | 0.0001 | 0.0047 | 36 |
| Sand seatrout | 17.9 | 0.5 | 0.345 | 0.4900 | 0.0002 | 0.0003 | 35 |
| Brown shrimp | 14.1 | 0.7 | 0.190 | 0.1454 | 0.0088 | 0.2453 | 35 |
| Fringed flounder | 32.3 | 0.2 | 0.041 | 0.0070 | 0.3116 | 0.0001 | 27 |
| Lesser blue crab | 11.1 | 1.7 | 0.714 | 0.7740 | 0.0001 | 0.0035 | 26 |
| Gulf butterfish | -110.4 | 5.0 | 0.663 | 0.2607 | 0.0001 | 0.0001 | 25 |
| Rock sea bass | 27.1 | 0.5 | 0.541 | 0.1747 | 0.0001 | 0.0001 | 24 |
| Atlantic cutlassfish | 546.1 | 0.2 | 0.013 | 0.0012 | 0.5990 | 0.0554 | 24 |
| Lesser rock shrimp | 165.3 | 0.6 | 0.345 | 0.1603 | 0.0025 | 0.0279 | 24 |

Appendix 2. continued

| Name | Arithmetic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0: \beta_0=0$ | $H_0: \beta_1=0$ | $H_0: \beta_1=1$ | |
| Striped anchovy | 105.0 | 0.2 | 0.184 | 0.0897 | 0.0465 | 0.0001 | 22 |
| Southern hake | 48.0 | 0.0 | 0.012 | 0.0008 | 0.6199 | 0.0001 | 22 |
| Dwarf sand perch | 64.4 | 1.1 | 0.376 | 0.0820 | 0.0031 | 0.7519 | 21 |
| Ragged goby | 88.5 | 0.3 | 0.180 | 0.2286 | 0.0620 | 0.0004 | 20 |
| Pancake batfish | 31.6 | 0.7 | 0.648 | 0.0510 | 0.0001 | 0.0373 | 20 |
| Least puffer | 17.2 | 0.4 | 0.318 | 0.2081 | 0.0118 | 0.0001 | 19 |
| Iridescent swimming crab | 86.3 | 0.4 | 0.088 | 0.3067 | 0.2167 | 0.0595 | 19 |
| Inshore lizardfish | 9.7 | 0.6 | 0.144 | 0.3887 | 0.1204 | 0.3780 | 18 |
| Bay anchovy | 115.9 | 0.0 | 0.022 | 0.0061 | 0.5670 | 0.0001 | 17 |
| Atlantic croaker | 117.2 | 1.4 | 0.925 | 0.6978 | 0.0001 | 0.0018 | 17 |
| Mantis shrimp | 115.7 | 0.4 | 0.203 | 0.0244 | 0.0796 | 0.0088 | 16 |
| Bearded brotula | 33.6 | 0.2 | 0.098 | 0.0851 | 0.2977 | 0.0004 | 13 |
| Pink shrimp | 15.6 | 0.2 | 0.691 | 0.0721 | 0.0004 | 0.0001 | 13 |
| Bay whiff | 4.8 | 1.2 | 0.347 | 0.7906 | 0.1644 | 0.8354 | 7 |
| Blackwing searobin | 6.9 | 0.4 | 0.228 | 0.7852 | 0.5224 | 0.3718 | 4 |

Appendix 2. continued

| Name | Logarithmic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0: \beta_0 = 0$ | $H_0: \beta_1 = 0$ | $H_0: \beta_1 = 1$ | |
| Flounders | 1.8075 | 0.6562 | 0.595 | 0.0001 | 0.0001 | 0.0002 | 43 |
| Bigeye searobin | 1.3535 | 0.6384 | 0.550 | 0.0132 | 0.0001 | 0.0003 | 42 |
| Atlantic brief squid | 2.4367 | 0.5609 | 0.567 | 0.0001 | 0.0001 | 0.0001 | 42 |
| Silver seatrout | 2.4496 | 0.5614 | 0.544 | 0.0001 | 0.0001 | 0.0001 | 38 |
| Common mantis shrimp | 0.3677 | 0.9034 | 0.583 | 0.6149 | 0.0001 | 0.4532 | 38 |
| Roughback shrimp | -0.2455 | 0.9945 | 0.503 | 0.8437 | 0.0001 | 0.9744 | 36 |
| Sand seatrout | 0.4236 | 0.7242 | 0.427 | 0.5287 | 0.0001 | 0.0674 | 35 |
| Brown shrimp | 2.1370 | 0.2883 | 0.072 | 0.0004 | 0.1180 | 0.0004 | 35 |
| Fringed flounder | 2.8288 | 0.1534 | 0.028 | 0.0003 | 0.4068 | 0.0001 | 27 |
| Lesser blue crab | 1.1971 | 0.7711 | 0.421 | 0.1223 | 0.0003 | 0.2268 | 26 |
| Gulf butterfish | 0.2202 | 1.1256 | 0.713 | 0.7139 | 0.0001 | 0.4075 | 25 |
| Rock sea bass | 1.6968 | 0.5236 | 0.356 | 0.0021 | 0.0020 | 0.0044 | 24 |
| Atlantic cutlassfish | 2.4840 | 0.6794 | 0.463 | 0.0055 | 0.0003 | 0.0518 | 24 |
| Lesser rock shrimp | 2.6559 | 0.4970 | 0.281 | 0.0090 | 0.0077 | 0.0071 | 24 |

Appendix 2. continued

| Name | Logarithmic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0: \beta_0=0$ | $H_0: \beta_1=0$ | $H_0: \beta_1=1$ | |
| Striped anchovy | 0.8771 | 0.6754 | 0.492 | 0.3301 | 0.0003 | 0.0474 | 22 |
| Southern hake | 2.4090 | 0.3060 | 0.211 | 0.0003 | 0.0316 | 0.0001 | 22 |
| Dwarf sand perch | 2.6936 | 0.5113 | 0.328 | 0.0015 | 0.0067 | 0.0090 | 21 |
| Ragged goby | 1.7365 | 0.5416 | 0.365 | 0.0504 | 0.0048 | 0.0140 | 20 |
| Pancake batfish | 1.3196 | 0.7002 | 0.495 | 0.0458 | 0.0005 | 0.0887 | 20 |
| Least puffer | 0.3596 | 0.7501 | 0.529 | 0.5927 | 0.0004 | 0.1635 | 19 |
| Iridescent swimming crab | 0.3272 | 0.8324 | 0.529 | 0.6775 | 0.0004 | 0.3913 | 19 |
| Inshore lizardfish | 1.7472 | 0.3497 | 0.074 | 0.0800 | 0.2761 | 0.0523 | 18 |
| Bay anchovy | 2.7314 | 0.3149 | 0.281 | 0.0024 | 0.0285 | 0.0001 | 17 |
| Atlantic croaker | 1.0788 | 0.8677 | 0.812 | 0.0586 | 0.0001 | 0.2382 | 17 |
| Mantis shrimp | 2.7279 | 0.4196 | 0.176 | 0.0259 | 0.1052 | 0.0311 | 16 |
| Bearded brotula | 1.4550 | 0.5231 | 0.330 | 0.0780 | 0.0400 | 0.0573 | 13 |
| Pink shrimp | 1.6770 | 0.4386 | 0.402 | 0.0092 | 0.0200 | 0.0052 | 13 |
| Bay whiff | 1.8861 | 0.3636 | 0.043 | 0.4353 | 0.6540 | 0.4426 | 7 |
| Blackwing searobin | 1.3431 | 0.4240 | 0.335 | 0.4377 | 0.4209 | 0.3056 | 4 |

Appendix 3. Regression analyses of taxa selected to investigate differences in catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro* (Y-intercepts forced through the origin). Shaded cells represent significant differences at the $\alpha$=0.01 level of significance.

| Name | Arithmetic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0:\beta_0=0$ | $H_0:\beta_1=0$ | $H_0:\beta_1=1$ | |
| Flounders | - | 0.7 | 0.758 | - | 0.0001 | 0.0003 | 43 |
| Bigeye searobin | - | 0.3 | 0.418 | - | 0.0001 | 0.0001 | 42 |
| Atlantic brief squid | - | 0.7 | 0.795 | - | 0.0001 | 0.0001 | 42 |
| Silver seatrout | - | 0.9 | 0.635 | - | 0.0001 | 0.4969 | 38 |
| Common mantis shrimp | - | 1.0 | 0.859 | - | 0.0001 | 0.6060 | 38 |
| Roughback shrimp | - | 1.3 | 0.872 | - | 0.0001 | 0.0007 | 36 |
| Sand seatrout | - | 0.6 | 0.572 | - | 0.0001 | 0.0001 | 35 |
| Brown shrimp | - | 1.0 | 0.480 | - | 0.0001 | 0.8982 | 35 |
| Fringed flounder | - | 0.6 | 0.447 | - | 0.0001 | 0.0010 | 27 |
| Lesser blue crab | - | 1.8 | 0.791 | - | 0.0001 | 0.0003 | 26 |
| Gulf butterfish | - | 4.4 | 0.726 | - | 0.0001 | 0.0001 | 25 |
| Rock sea bass | - | 0.6 | 0.726 | - | 0.0001 | 0.0001 | 24 |
| Atlantic cutlassfish | - | 1.2 | 0.372 | - | 0.0012 | 0.4661 | 24 |
| Lesser rock shrimp | - | 0.8 | 0.585 | - | 0.0001 | 0.0828 | 24 |

Appendix 3. continued

| Name | Arithmetic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0:\beta_1=0$ | $H_0:\beta_1=0$ | $H_0:\beta_1=1$ | |
| Striped anchovy | - | 0.3 | 0.519 | - | 0.0001 | 0.0001 | 22 |
| Southern hake | - | 0.3 | 0.389 | - | 0.0015 | 0.0001 | 22 |
| Dwarf sand perch | - | 1.6 | 0.816 | - | 0.0001 | 0.0017 | 21 |
| Ragged goby | - | 0.4 | 0.407 | - | 0.0019 | 0.0002 | 20 |
| Pancake batfish | - | 0.9 | 0.775 | - | 0.0001 | 0.2674 | 20 |
| Least puffer | - | 0.5 | 0.576 | - | 0.0001 | 0.0001 | 19 |
| Iridescent swimming crab | - | 0.5 | 0.178 | - | 0.0635 | 0.1018 | 19 |
| Inshore lizardfish | - | 0.9 | 0.540 | - | 0.0003 | 0.7688 | 18 |
| Bay anchovy | - | 0.1 | 0.323 | - | 0.0139 | 0.0001 | 17 |
| Atlantic croaker | - | 1.4 | 0.937 | - | 0.0001 | 0.0004 | 17 |
| Mantis shrimp | - | 0.7 | 0.527 | - | 0.0010 | 0.1383 | 16 |
| Bearded brotula | - | 0.3 | 0.278 | - | 0.0526 | 0.0010 | 13 |
| Pink shrimp | - | 0.3 | 0.749 | - | 0.0001 | 0.0001 | 13 |
| Bay whiff | - | 1.3 | 0.713 | - | 0.0084 | 0.3815 | 7 |
| Blackwing searobin | - | 0.5 | 0.610 | - | 0.1191 | 0.1584 | 4 |

Appendix 3. continued

| Name | Logarithmic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0: \beta_0=0$ | $H_0: \beta_1=0$ | $H_0: \beta_1=1$ | |
| Flounders | - | 1.0006 | 0.967 | - | 0.0001 | 0.9845 | 43 |
| Bigeye searobin | - | 0.8650 | 0.959 | - | 0.0001 | 0.0001 | 42 |
| Atlantic brief squid | - | 0.9861 | 0.977 | - | 0.0001 | 0.5568 | 42 |
| Silver seatrout | - | 1.0759 | 0.955 | - | 0.0001 | 0.0563 | 38 |
| Common mantis shrimp | - | 0.9657 | 0.956 | - | 0.0001 | 0.3185 | 38 |
| Roughback shrimp | - | 0.9616 | 0.954 | - | 0.0001 | 0.2869 | 36 |
| Sand seatrout | - | 0.8129 | 0.911 | - | 0.0001 | 0.0001 | 35 |
| Brown shrimp | - | 0.9555 | 0.858 | - | 0.0001 | 0.5099 | 35 |
| Fringed flounder | - | 0.9001 | 0.900 | - | 0.0001 | 0.1026 | 27 |
| Lesser blue crab | - | 1.0531 | 0.932 | - | 0.0001 | 0.3593 | 26 |
| Gulf butterfish | - | 1.1781 | 0.964 | - | 0.0001 | 0.0008 | 25 |
| Rock sea bass | - | 0.8939 | 0.922 | - | 0.0001 | 0.0616 | 24 |
| Atlantic cutlassfish | - | 1.1457 | 0.968 | - | 0.0001 | 0.0027 | 24 |
| Lesser rock shrimp | - | 0.9621 | 0.928 | - | 0.0001 | 0.5033 | 24 |

Appendix 3. continued

| Name | Logarithmic scale | | | | | | |
|---|---|---|---|---|---|---|---|
| | Model parameters | | $r^2$ | *p*-value | | | n |
| | $\hat{\beta}_0$ | $\hat{\beta}_1$ | | $H_0: \beta_0=0$ | $H_0: \beta_1=0$ | $H_0: \beta_1=1$ | |
| Striped anchovy | - | 0.8242 | 0.959 | - | 0.0001 | 0.0001 | 22 |
| Southern hake | - | 0.8490 | 0.898 | - | 0.0001 | 0.0245 | 22 |
| Dwarf sand perch | - | 1.1168 | 0.962 | - | 0.0001 | 0.0286 | 21 |
| Ragged goby | - | 0.8748 | 0.916 | - | 0.0001 | 0.0541 | 20 |
| Pancake batfish | - | 1.0335 | 0.929 | - | 0.0001 | 0.6164 | 20 |
| Least puffer | - | 0.8396 | 0.942 | - | 0.0001 | 0.0043 | 19 |
| Iridescent swimming crab | - | 0.9090 | 0.931 | - | 0.0001 | 0.1361 | 19 |
| Inshore lizardfish | - | 0.9123 | 0.884 | - | 0.0001 | 0.2887 | 18 |
| Bay anchovy | - | 0.7688 | 0.939 | - | 0.0001 | 0.0002 | 17 |
| Atlantic croaker | - | 1.0562 | 0.949 | - | 0.0001 | 0.3717 | 17 |
| Mantis shrimp | - | 0.9944 | 0.900 | - | 0.0001 | 0.9486 | 16 |
| Bearded brotula | - | 0.9238 | 0.879 | - | 0.0001 | 0.4568 | 13 |
| Pink shrimp | - | 0.8883 | 0.868 | - | 0.0001 | 0.2865 | 13 |
| Bay whiff | - | 0.9991 | 0.892 | - | 0.0004 | 0.9951 | 7 |
| Blackwing searobin | - | 0.8070 | 0.920 | - | 0.0099 | 0.2560 | 4 |

Appendix 4. Parameter estimates and 99% confidence limits in arithmetic and logarithmic scales for taxa selected to investigate differences in catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro* (Y-intercepts unrestricted).

| Name | Arithmetic scale | | | | | |
|---|---|---|---|---|---|---|
| | Lower bound | $\hat{\beta}_0$ | Upper bound | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Flounders | 22.9 | 103.7 | 184.5 | 0.4 | 0.6 | 0.8 |
| Bigeye searobin | 0.9 | 173.9 | 346.9 | 0.0 | 0.2 | 0.4 |
| Atlantic brief squid | 22.5 | 134.6 | 246.7 | 0.3 | 0.5 | 0.7 |
| Silver seatrout | 18.0 | 108.2 | 198.4 | 0.2 | 0.6 | 1.0 |
| Common mantis shrimp | -133.5 | 64.3 | 262.1 | 0.7 | 0.9 | 1.1 |
| Roughback shrimp | -1,507.8 | -301.1 | 905.6 | 1.1 | 1.4 | 1.7 |
| Sand seatrout | -52.2 | 17.9 | 88.0 | 0.2 | 0.5 | 0.8 |
| Brown shrimp | -11.8 | 14.1 | 40.0 | 0.0 | 0.7 | 1.4 |
| Fringed flounder | 1.7 | 32.3 | 62.9 | -0.3 | 0.2 | 0.7 |
| Lesser blue crab | -95.4 | 11.1 | 117.6 | 1.1 | 1.7 | 2.3 |
| Gulf butterfish | -379.3 | -110.4 | 158.5 | 2.9 | 5.0 | 7.1 |
| Rock sea bass | -27.4 | 27.1 | 81.6 | 0.2 | 0.5 | 0.8 |
| Atlantic cutlassfish | 130.9 | 546.2 | 961.5 | -0.9 | 0.2 | 1.3 |
| Lesser rock shrimp | -155.3 | 165.3 | 485.9 | 0.1 | 0.6 | 1.1 |

Appendix 4. continued

| Name | Arithmetic scale | | | | | |
|---|---|---|---|---|---|---|
| | Lower bound | $\hat{\beta}_0$ | Upper bound | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Striped anchovy | -62.6 | 105.0 | 272.6 | 0.0 | 0.2 | 0.4 |
| Southern hake | 13.3 | 48.0 | 82.7 | -0.2 | 0.0 | 0.2 |
| Dwarf sand perch | -35.9 | 64.4 | 164.7 | 0.2 | 1.1 | 2.0 |
| Ragged goby | -115.9 | 88.5 | 292.9 | -0.2 | 0.3 | 0.8 |
| Pancake batfish | -11.9 | 31.6 | 75.1 | 0.3 | 0.7 | 1.1 |
| Least puffer | -20.9 | 17.2 | 55.3 | 0.0 | 0.4 | 0.8 |
| Iridescent swimming crab | -151.0 | 86.3 | 323.6 | -0.5 | 0.4 | 1.3 |
| Inshore lizardfish | -22.3 | 9.7 | 41.7 | -0.5 | 0.6 | 1.7 |
| Bay anchovy | 8.8 | 115.9 | 223.0 | -0.1 | 0.0 | 0.1 |
| Atlantic croaker | -754.8 | 117.2 | 989.2 | 1.1 | 1.4 | 1.7 |
| Mantis shrimp | -20.9 | 115.7 | 252.3 | -0.2 | 0.4 | 1.0 |
| Bearded brotula | -21.5 | 33.6 | 88.7 | -0.3 | 0.2 | 0.7 |
| Pink shrimp | -8.7 | 15.6 | 39.9 | 0.0 | 0.2 | 0.4 |
| Bay whiff | -64.4 | 4.8 | 74.0 | -1.7 | 1.2 | 4.1 |
| Blackwing searobin | -213.7 | 6.9 | 227.5 | -4.8 | 0.4 | 5.6 |

Appendix 4. continued

| Name | Logarithmic scale | | | | | |
|---|---|---|---|---|---|---|
| | Lower bound | $\hat{\beta}_0$ | Upper bound | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Flounders | 0.6573 | 1.8075 | 2.9577 | 0.4277 | 0.6562 | 0.8847 |
| Bigeye searobin | -0.0580 | 1.3535 | 2.7650 | 0.3918 | 0.6384 | 0.8850 |
| Atlantic brief squid | 1.2678 | 2.4367 | 3.6056 | 0.3513 | 0.5609 | 0.7705 |
| Silver seatrout | 1.3966 | 2.4496 | 3.5026 | 0.3286 | 0.5614 | 0.7942 |
| Common mantis shrimp | -1.6026 | 0.3677 | 2.3380 | 0.5572 | 0.9034 | 1.2496 |
| Roughback shrimp | -3.6156 | -0.2455 | 3.1246 | 0.5381 | 0.9945 | 1.4572 |
| Sand seatrout | -1.3948 | 0.4236 | 2.2420 | 0.3249 | 0.7242 | 1.1235 |
| Brown shrimp | 0.6429 | 2.1369 | 3.6309 | -0.2026 | 0.2883 | 0.7792 |
| Fringed flounder | 0.9715 | 2.8288 | 4.6861 | -0.3534 | 0.1534 | 0.6602 |
| Lesser blue crab | -0.8931 | 1.1971 | 3.2873 | 0.2551 | 0.7711 | 1.2871 |
| Gulf butterfish | -1.4457 | 0.2202 | 1.8861 | 0.7076 | 1.1256 | 1.5436 |
| Rock sea bass | -0.1416 | 1.6968 | 3.5352 | 0.0999 | 0.5236 | 0.9473 |
| Atlantic cutlassfish | 0.2104 | 2.4840 | 4.7576 | 0.2400 | 0.6794 | 1.1188 |
| Lesser rock shrimp | 0.0423 | 2.6559 | 5.2695 | 0.0192 | 0.4970 | 0.9748 |

Appendix 4. continued

| Name | Logarithmic scale | | | | | |
|---|---|---|---|---|---|---|
| | Lower bound | $\hat{\beta}_0$ | Upper bound | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Striped anchovy | -1.6231 | 0.8771 | 3.3773 | 0.2384 | 0.6754 | 1.1124 |
| Southern hake | 0.8412 | 2.4090 | 3.9768 | -0.0704 | 0.3060 | 0.6824 |
| Dwarf sand perch | 0.6137 | 2.6936 | 4.7735 | 0.0307 | 0.5113 | 0.9919 |
| Ragged goby | -0.6471 | 1.7365 | 4.1201 | 0.0566 | 0.5416 | 1.0266 |
| Pancake batfish | -0.4504 | 1.3196 | 3.0896 | 0.2207 | 0.7002 | 1.1797 |
| Least puffer | -1.5155 | 0.3596 | 2.2707 | 0.2528 | 0.7501 | 1.2474 |
| Iridescent swimming crab | -1.9137 | 0.3272 | 2.5681 | 0.2803 | 0.8324 | 1.3845 |
| Inshore lizardfish | -0.9831 | 1.7472 | 4.4775 | -0.5563 | 0.3497 | 1.2557 |
| Bay anchovy | 0.5225 | 2.7314 | 4.9403 | -0.0679 | 0.3149 | 0.6977 |
| Atlantic croaker | -0.4738 | 1.0788 | 2.6314 | 0.5503 | 0.8677 | 1.1851 |
| Mantis shrimp | -0.5320 | 2.7279 | 5.9878 | -0.3017 | 0.4196 | 1.1409 |
| Bearded brotula | -0.8703 | 1.4550 | 3.7803 | -0.1748 | 0.5231 | 1.2210 |
| Pink shrimp | 0.0263 | 1.6770 | 3.3277 | -0.0627 | 0.4386 | 0.9399 |
| Bay whiff | -7.0846 | 1.8861 | 10.8568 | -2.7153 | 0.3636 | 3.4425 |
| Blackwing searobin | -12.5199 | 1.3431 | 15.2061 | -3.7653 | 0.4240 | 4.6133 |

Appendix 5. Parameter estimates and 99% confidence limits in arithmetic and logarithmic scales for taxa selected to investigate differences in catch rates of 40-ft trawls towed by RVs *Pelican* and *Tommy Munro* (Y-intercepts forced through the origin).

| Name | Arithmetic scale | | |
|---|---|---|---|
| | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Flounders | 0.5 | 0.7 | 0.9 |
| Bigeye searobin | 0.1 | 0.3 | 0.5 |
| Atlantic brief squid | 0.5 | 0.7 | 0.9 |
| Silver seatrout | 0.6 | 0.9 | 1.2 |
| Common mantis shrimp | 0.8 | 1.0 | 1.2 |
| Roughback shrimp | 1.1 | 1.3 | 1.5 |
| Sand seatrout | 0.4 | 0.6 | 0.8 |
| Brown shrimp | 0.5 | 1.0 | 1.5 |
| Fringed flounder | 0.3 | 0.6 | 0.9 |
| Lesser blue crab | 1.2 | 1.7 | 2.2 |
| Gulf butterfish | 2.9 | 4.4 | 5.9 |
| Rock sea bass | 0.4 | 0.6 | 0.8 |
| Atlantic cutlassfish | 0.2 | 1.2 | 2.2 |
| Lesser rock shrimp | 0.4 | 0.8 | 1.2 |

Appendix 5. continued

| Name | Arithmetic scale | | |
|---|---|---|---|
| | Lower bound | $\beta_1$ | Upper bound |
| Striped anchovy | 0.1 | 0.3 | 0.5 |
| Southern hake | 0.1 | 0.3 | 0.5 |
| Dwarf sand perch | 1.1 | 1.6 | 2.1 |
| Ragged goby | 0.0 | 0.4 | 0.8 |
| Pancake batfish | 0.6 | 0.9 | 1.2 |
| Least puffer | 0.2 | 0.5 | 0.8 |
| Iridescent swimming crab | -0.3 | 0.5 | 1.3 |
| Inshore lizardfish | 0.3 | 0.9 | 1.5 |
| Bay anchovy | 0.0 | 0.1 | 0.2 |
| Atlantic croaker | 1.1 | 1.4 | 1.7 |
| Mantis shrimp | 0.2 | 0.7 | 1.2 |
| Bearded brotula | -0.2 | 0.3 | 0.8 |
| Pink shrimp | 0.2 | 0.3 | 0.4 |
| Bay whiff | 0.0 | 1.3 | 2.6 |
| Blackwing searobin | -0.9 | 0.5 | 1.9 |

Appendix 5. continued

| Name | Logarithmic scale | | |
|---|---|---|---|
| | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Flounders | 0.9235 | 1.0001 | 1.0767 |
| Bigeye searobin | 0.7891 | 0.8650 | 0.9409 |
| Atlantic brief squid | 0.9226 | 0.9861 | 1.0496 |
| Silver seatrout | 0.9714 | 1.0759 | 1.1804 |
| Common mantis shrimp | 0.8736 | 0.9657 | 1.0578 |
| Roughback shrimp | 0.8649 | 0.9616 | 1.0583 |
| Sand seatrout | 0.6939 | 0.8129 | 0.9319 |
| Brown shrimp | 0.7732 | 0.9555 | 1.1378 |
| Fringed flounder | 0.7362 | 0.9001 | 1.0640 |
| Lesser blue crab | 0.8945 | 1.0531 | 1.2117 |
| Gulf butterfish | 1.0483 | 1.1781 | 1.3079 |
| Rock sea bass | 0.7423 | 0.8939 | 1.0455 |
| Atlantic cutlassfish | 1.0239 | 1.1457 | 1.2675 |
| Lesser rock shrimp | 0.8057 | 0.9621 | 1.1185 |

Appendix 6. Table of generalized $r^2$ values for models fitted in arithmetic and logarithmetic scales, with estimated Y-intercepts and intercepts forced through the origin.

| Name | Arithmetic scale | | Arithmetic equivalent of logarithmic | |
|---|---|---|---|---|
| | Y-intercept estimated | Y-intercept through origin | Y-intercept estimated | Y-intercept through origin |
| Flounders | 0.812 | 0.758 | 0.814 | 0.666 |
| Bigeye searobin | 0.509 | 0.418 | 0.519 | 0.478 |
| Atlantic brief squid | 0.838 | 0.795 | 0.838 | 0.758 |
| Silver seatrout | 0.718 | 0.635 | 0.716 | 0.285 |
| Common mantis shrimp | 0.862 | 0.859 | 0.801 | 0.827 |
| Roughback shrimp | 0.874 | 0.872 | 0.709 | 0.690 |
| Sand seatrout | 0.578 | 0.572 | 0.456 | 0.481 |
| Brown shrimp | 0.513 | 0.480 | 0.392 | 0.474 |
| Fringed flounder | 0.589 | 0.447 | 0.541 | 0.463 |
| Lesser blue crab | 0.791 | 0.791 | 0.568 | 0.753 |
| Gulf butterfish | 0.741 | 0.726 | 0.600 | 0.629 |
| Rock sea bass | 0.748 | 0.726 | 0.627 | 0.734 |
| Atlantic cutlassfish | 0.613 | 0.372 | 0.502 | 0.234[a] |
| Lesser rock shrimp | 0.621 | 0.585 | 0.471 | 0.586 |

a-line slope restricted to 1 and Y-intercept estimated

Appendix 5. continued

| Name | Logarithmic scale | | |
|---|---|---|---|
| | Lower bound | $\hat{\beta}_1$ | Upper bound |
| Striped anchovy | 0.7192 | 0.8242 | 0.9292 |
| Southern hake | 0.6726 | 0.8490 | 1.0254 |
| Dwarf sand perch | 0.9760 | 1.1168 | 1.2576 |
| Ragged goby | 0.7003 | 0.8748 | 1.0493 |
| Pancake batfish | 0.8455 | 1.0335 | 1.2215 |
| Least puffer | 0.6980 | 0.8396 | 0.9812 |
| Iridescent swimming crab | 0.7412 | 0.9090 | 1.0768 |
| Inshore lizardfish | 0.6804 | 0.9123 | 1.1442 |
| Bay anchovy | 0.6257 | 0.7688 | 0.9119 |
| Atlantic croaker | 0.8774 | 1.0562 | 1.2350 |
| Mantis shrimp | 0.7422 | 0.9944 | 1.2466 |
| Bearded brotula | 0.6211 | 0.9238 | 1.2265 |
| Pink shrimp | 0.5825 | 0.8883 | 1.1941 |
| Bay whiff | 0.4719 | 0.9991 | 1.5263 |
| Blackwing searobin | 0.0021 | 0.8070 | 1.6119 |

Appendix 6. continued

| Name | Arithmetic scale | | Arithmetic equivalent of logarithmic | |
|---|---|---|---|---|
| | Y-intercept estimated | Y-intercept through origin | Y-intercept estimated | Y-intercept through origin |
| Striped anchovy | 0.585 | 0.519 | 0.570 | 0.561 |
| Southern hake | 0.656 | 0.389 | 0.602 | 0.312 |
| Dwarf sand perch | 0.844 | 0.816 | 0.811 | 0.802 |
| Ragged goby | 0.454 | 0.407 | 0.363 | 0.411 |
| Pancake batfish | 0.819 | 0.775 | 0.803 | 0.657 |
| Least puffer | 0.615 | 0.576 | 0.601 | 0.605 |
| Iridescent swimming crab | 0.229 | 0.179 | 0.214 | 0.204 |
| Inshore lizardfish | 0.562 | 0.540 | 0.477 | 0.519 |
| Bay anchovy | 0.596 | 0.323 | 0.571 | 0.236 |
| Atlantic croaker | 0.937 | 0.937 | 0.814 | 0.904 |
| Mantis shrimp | 0.675 | 0.527 | 0.579 | 0.470 |
| Bearded brotula | 0.455 | 0.278 | 0.396 | 0.060 |
| Pink shrimp | 0.815 | 0.749 | 0.699 | 0.337 |
| Bay whiff | 0.717 | 0.713 | 0.558 | 0.669 |
| Blackwing searobin | 0.628 | 0.610 | 0.588 | 0.612 |

October 17, 1994

# SEAMAP DATA MANAGEMENT

## A. Data Processing Status

Status reports for the 1982 through 1994 SEAMAP data are shown in Attachments 1-9. All cruise data in the SEAMAP on-line data base have been reformatted to SEAMAP versions 3.0 or 3.1. Data processing of 1994 Gulf and South Atlantic data and 1993/1994 Caribbean data is in progress. Reprocessing of some of the 1982-1988 Gulf data is also being performed.

## B. Gulf Atlas Processing

Processing of the 1992 SEAMAP Atlas is complete. Processing of the 1993 SEAMAP Atlas is approximately 20% complete.

## C. Data Requests

One hundred and forty-five SEAMAP requests have been received to date. One hundred and forty-four have been completed and work is being done on the remaining request. Fourteen requests were filled since October 1993.

## D. Software/System Progress

Continued software effort in modifying the SEAMAP Data Management system currently running on a UNISYS A-10 to run on a Silicon Graphics Inc (SGI) mainframe/unix operating system in Miami (NMFS IT-95 system). In addition to maintaining the dial up and direct line (FTS-2000) access, the capability to access the SGI using INTERNET has been added. Converting the mainframe software (7700 lines of code) from UNIVAC Fortran 77 to SGI Fortran 77, modifying the p.c. software (44,000 lines of code), porting the current SEAMAP on-line data base to the SGI, and modifying/adding program/user documentation to reflect all changes are currently being performed. All of the functions identified will be implemented in the next system release.

## E. On-line Data Base Status

Status of the SEAMAP data as of October 18, 1993 is shown in Attachment 10. The SEAMAP on-line data base had 177 cruises with a total of 1,163,990 records (approximately 46 megabytes of data). Since October 1993, seventeen cruises have been reprocessed from the NMFS data base through version 3.0, ichthyoplankton species/ length data were added to seven cruises, forty-six new cruises were

**processed through 3.0, and all were added to the on-line data base as shown in Attachment 11. The SEAMAP on-line data base now contains 240 cruises with a total of 1,630,216 records (approximately 63 megabytes of data).**

Kenneth Savastano

**Kenneth Savastano**
**Data Manager**

Attachment 1

14-Oct-94

SEAMAP 1982

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 821 | CRUISE 821 | 3 | 13 | 11 | 86 | 11 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 121 | 3.0 | 17-Jun-94 |
| TOTAL | | | | | 13 | 11 | 86 | 11 | | | | | | | | 121 | | |

SEAMAP 1983

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 831 | CRUISE 831 | 3 | 18 | 18 | 217 | 18 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 271 | 3.0 | 27-Jun-94 |
| TOTAL | | | | | 18 | 18 | 217 | 18 | | | | | | | | 271 | | |

SEAMAP 1984

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 841 | CRUISE 841 | 3 | 10 | 10 | 120 | 10 | 613 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 763 | 3.0 | 27-Jun-94 |
| TOTAL | | | | | 10 | 10 | 120 | 10 | 613 | | | | | | | 763 | | |

SEAMAP 1985

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 851 | SUMMER SEAMAP | 3 | 20 | 18 | 286 | 20 | *1 | 5 | 68 | *1 | 2 | 4 | | 421 | 3.0 | 22-Oct-93 |
| AL | 23 | 852 | FALL SEAMAP | 3 | 11 | 11 | 226 | 10 | 237 | 6 | 22 | *1 | *1 | *1 | *1 | *1 | 523 | 3.0 | 22-Oct-93 |
| TOTAL | | | | | 31 | 29 | 512 | 30 | 237 | 11 | 90 | | 2 | 4 | | | 944 | | |

SEAMAP 1986

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 861 | SUMMER SEAMAP | 3 | 13 | 12 | 210 | 13 | *1 | 11 | 76 | *1 | 1 | 3 | | 338 | 3.0 | 13-Oct-93 |
| AL | 23 | 862 | FALL SEAMAP | 3 | 16 | *1 | *1 | 16 | *1 | *1 | *1 | *1 | 16 | 32 | | 64 | 3.0 | 28-Oct-93 |
| AL | 23 | 863 | FALL SEAMAP | 3 | 6 | 6 | 123 | 6 | 44 | *1 | *1 | *1 | *1 | *1 | *1 | 185 | 3.0 | 13-Oct-93 |
| MS | 17 | 861 | BUTTERFISH | 3 | 51 | 38 | 817 | 15 | *1 | *1 | *1 | *1 | 16 | 46 | | 967 | 3.1 | 14-Sep-94 |
| MS | 17 | 862 | SUMMER SEAMAP | 2 | 20 | 14 | 371 | 18 | 816 | 12 | 233 | *1 | 6 | 8 | | 1492 | 3.1 | |
| MS | 17 | 863 | SUMMER SEAMAP | 2 | 14 | 14 | 409 | 12 | 624 | 13 | 165 | *1 | *1 | *1 | *1 | *1 | 1251 | 3.1 | |
| MS | 17 | 864 | FALL ICHTHYOPLANKTON | 2 | 9 | *1 | *1 | 9 | *1 | *1 | *1 | *1 | 9 | 27 | | 45 | 3.1 | |
| MS | 17 | 865 | FALL SEAMAP | 2 | 18 | 18 | 327 | 18 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 381 | 3.1 | |
| SC | 51 | 861 | FALL SEAMAP | 3 | 68 | 68 | 1641 | 68 | 16326 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 18171 | 2.02 | 03-Feb-93 |
| SC | 51 | 862 | WINTER SEAMAP | 3 | 44 | 22 | 532 | 44 | 2683 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 3325 | 2.02 | 03-Feb-93 |
| SC | 51 | 863 | FALL SEAMAP | 3 | 70 | 70 | 1792 | 70 | 9865 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 11867 | 2.02 | 03-Feb-93 |
| US | 4 | 161 | FALL ICHTHYOPLANKTON | 3 | 128 | *1 | *1 | 119 | *1 | *1 | *1 | *1 | 91 | 273 | | | 520 | 3.0 | 04-Mar-94 |
| TOTAL | | | | | 457 | 262 | 6222 | 408 | 30358 | 36 | 474 | | 139 | 389 | | | 38606 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 2

14-Oct-94

SEAMAP 1987

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 871 | SUMMER SEAMAP | 3 | 1 | 1 | 31 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 33 | 3.0 | 26-Jul-93 |
| AL | 23 | 872 | SUMMER SEAMAP | 3 | 12 | 12 | 124 | 12 | *1 | 3 | 4 | *1 | *1 | *1 | *1 | *1 | 167 | 3.0 | 08-Oct-93 |
| AL | 23 | 873 | FALL ICHTHYOPLANKTON | 3 | 10 | *1 | *1 | 10 | *1 | *1 | *1 | *1 | 10 | 10 | | | 30 | 3.0 | 08-Oct-93 |
| AL | 23 | 874 | FALL SEAMAP | 3 | 5 | 5 | 42 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 52 | 3.0 | 08-Sep-93 |
| AL | 23 | 875 | FALL SEAMAP | 3 | 8 | 8 | 45 | 8 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 69 | 3.0 | 08-Oct-93 |
| MS | 17 | 871 | BUTTERFISH CRUISE | 3 | 53 | 53 | 1349 | *1 | 4310 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 5765 | 3.0 | 04-Aug-93 |
| MS | 17 | 872 | SUMMER SEAMAP | 3 | 76 | 68 | 1979 | 70 | 3827 | 41 | 807 | *1 | 8 | 24 | | | 6892 | 3.0 | 06-Dec-93 |
| MS | 17 | 873 | FALL ICHTHYOPLANKTON | 3 | 19 | *1 | *1 | 19 | *1 | *1 | *1 | *1 | 19 | 42 | | | 80 | 3.0 | 09-Jul-93 |
| MS | 17 | 874 | FALL SEAMAP | 3 | 22 | 18 | 488 | 18 | 593 | *1 | *1 | *1 | 4 | 9 | | | 1148 | 3.0 | 16-Jul-93 |
| SC | 51 | 871 | SPRING SEAMAP | 3 | 52 | 52 | 2065 | 52 | 7455 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 9676 | 2.02 | 15-Jan-93 |
| SC | 51 | 872 | SUMMER SEAMAP | 3 | 52 | 52 | 2018 | 52 | 6919 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 9093 | 2.02 | 19-Jan-93 |
| SC | 51 | 873 | FALL SEAMAP | 3 | 52 | 52 | 1811 | 52 | 4847 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 6814 | 2.02 | 15-Jan-93 |
| SC | 51 | 874 | FALL SEAMAP | 3 | 54 | 54 | 2213 | 54 | 5269 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 7644 | 2.02 | 15-Jan-93 |
| SC | 51 | 875 | WINTER SEAMAP | 3 | 52 | 52 | 2075 | 52 | 5455 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 7686 | 2.02 | 19-Jan-93 |
| US | 4 | 167 | SEAMAP SUMMER SHRIMP/GROUNDFISH | 2 | 509 | 463 | 9063 | 274 | 58315 | 308 | 7008 | *1 | 44 | 131 | | | 76071 | 3.0 | |
| US | 4 | 169 | FALL ICHTHYOPLANKTON | 3 | 91 | *1 | *1 | 91 | *1 | *1 | *1 | *1 | 91 | 273 | | | 455 | 3.0 | 18-Feb-94 |
| US | 4 | 171 | SEAMAP FALL SHRIMP/GROUNDFISH | 3 | 359 | 350 | 7968 | 163 | 35358 | *1 | *1 | *1 | 24 | 72 | | | 44270 | 3.0 | 06-May-94 |
| TOTAL | | | | | 1427 | 1240 | 31271 | 927 | 132348 | 352 | 7819 | | 200 | 561 | | | 175945 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

14-Oct-94

SEAMAP 1988

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 881 | SUMMER SEAMAP | 3 | 7 | 7 | 136 | 7 | 288 | 2 | 7 | *1 | *1 | *1 | *1 | *1 | 454 | 2.02 | 17-May-93 |
| AL | 23 | 882 | SUMMER SEAMAP | 3 | 4 | 4 | 43 | 4 | 85 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 140 | 2.02 | 17-May-93 |
| AL | 23 | 883 | RED DRUM/KING MACKEREL | 3 | 10 | *1 | *1 | 10 | *1 | *1 | *1 | *1 | 10 | 10 | | | 30 | 2.02 | 17-May-93 |
| FL | 36 | 881 | SPRING ICHTHYOPLANKTON | 3 | 17 | *1 | *1 | 17 | *1 | *1 | *1 | *1 | 17 | 47 | | | 81 | 2.0 | 16-Nov-92 |
| FL | 36 | 882 | FALL ICHTHYOPLANKTON | 3 | 36 | *1 | *1 | 36 | *1 | *1 | *1 | *1 | 36 | 107 | | | 179 | 2.0 | 16-Nov-92 |
| LA | 35 | 881 | SPRING SEAMAP | 3 | 24 | 24 | 563 | 24 | 7323 | *1 | *1 | *1 | 11 | 26 | | | 7984 | 3.1 | 12-Oct-94 |
| MS | 17 | 881 | SUMMER SEAMAP | 3 | 47 | 41 | 926 | 47 | 6200 | 24 | 525 | *1 | 6 | 17 | | | 7827 | 3.0 | 01-Jul-93 |
| MS | 17 | 882 | FALL ICHTHYOPLANKTON | 3 | 33 | *1 | *1 | 33 | *1 | *1 | *1 | *1 | 33 | 82 | | | 148 | 2.02 | 04-Jun-93 |
| MS | 17 | 883 | FALL SEAMAP | 3 | 26 | 23 | 644 | 26 | 4377 | *1 | *1 | *1 | 3 | 9 | | | 5105 | 3.0 | 01-Jul-93 |
| SC | 51 | 881 | SPRING SEAMAP | 3 | 52 | 52 | 1593 | 32 | 4096 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 5825 | 2.02 | 20-Nov-92 |
| SC | 51 | 882 | SUMMER SEAMAP | 3 | 52 | 52 | 1839 | 50 | 5518 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 7511 | 2.02 | 01-Dec-92 |
| SC | 51 | 883 | SUMMER SEAMAP | 3 | 52 | 52 | 2063 | 44 | 9235 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 11446 | 2.02 | 02-Dec-92 |
| SC | 51 | 884 | SUMMER SEAMAP | 3 | 52 | 52 | 1988 | 52 | 7234 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 9378 | 2.02 | 20-Nov-92 |
| SC | 51 | 885 | FALL SEAMAP | 3 | 52 | 52 | 2347 | 52 | 8807 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 11310 | 2.02 | 20-Nov-92 |
| SC | 51 | 886 | FALL SEAMAP | 3 | 52 | 52 | 2190 | 52 | 7501 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 9847 | 2.02 | 01-Dec-92 |
| SC | 51 | 887 | FALL SEAMAP | 3 | 52 | 52 | 2223 | 52 | 6533 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 8912 | 2.02 | 26-Nov-92 |
| SC | 51 | 888 | FALL SEAMAP | 3 | 52 | 52 | 2351 | 42 | 7552 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 10049 | 2.02 | 02-Dec-92 |
| TX | 31 | 881 | SUMMER SEAMAP | 3 | 16 | 16 | 344 | 16 | 1706 | 13 | 442 | *1 | *1 | *1 | *1 | *1 | 2553 | 2.02 | 04-Aug-93 |
| TX | 31 | 882 | FALL SEAMAP | 3 | 16 | 16 | 76 | 16 | 160 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 284 | 2.02 | 05-Aug-93 |
| TX | 32 | 881 | SUMMER SEAMAP | 3 | 16 | 16 | 299 | 16 | 1312 | 14 | 290 | *1 | *1 | *1 | *1 | *1 | 1963 | 2.02 | 04-Aug-93 |
| TX | 32 | 882 | FALL SEAMAP | 3 | 16 | 16 | 225 | 16 | 969 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1242 | 2.02 | 05-Aug-93 |
| TX | 33 | 881 | SUMMER SEAMAP | 3 | 16 | 16 | 117 | 16 | 330 | 5 | 13 | *1 | *1 | *1 | *1 | *1 | 513 | 2.02 | 04-Aug-93 |
| TX | 33 | 882 | FALL SEAMAP | 3 | 16 | 16 | 247 | 16 | 1003 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1298 | 2.02 | 05-Aug-93 |
| TX | 34 | 881 | SUMMER SEAMAP | 3 | 16 | 16 | 144 | 16 | 664 | 10 | 43 | *1 | *1 | *1 | *1 | *1 | 909 | 2.02 | 04-Aug-93 |
| TX | 34 | 882 | FALL SEAMAP | 3 | 16 | 16 | 210 | 16 | 920 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1178 | 2.02 | 05-Aug-93 |
| TX | 40 | 881 | SUMMER SEAMAP | 3 | 16 | 16 | 239 | 16 | 905 | 16 | 249 | *1 | *1 | *1 | *1 | *1 | 1457 | 2.02 | 04-Aug-93 |
| TX | 40 | 882 | FALL SEAMAP | 3 | 16 | 16 | 131 | 16 | 461 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 640 | 2.02 | 05-Aug-93 |
| US | 4 | 172 | STRIPED BASS SURVEY | 3 | 571 | 374 | 327 | 82 | *1 | *1 | *1 | *1 | 176 | *2 | | | 1354 | 3.0 | 20-Jan-94 |
| US | 4 | 173 | SPRING ICHTHYOPLANKTON SURVEY | 3 | 165 | *1 | *1 | 165 | *1 | *1 | *1 | *1 | 143 | 290 | | | 620 | 3.0 | 25-Aug-93 |
| US | 4 | 174 | SEAMAP SHRIMP/GROUNDFISH | 3 | 408 | 387 | 7465 | 192 | 40083 | 220 | 4850 | 5 | 19 | 57 | | | 53667 | 3.0 | 11-Dec-93 |
| US | 4 | 176 | FALL ICHTHYOPLANKTON SURVEY | 3 | 168 | *1 | *1 | 82 | *1 | *1 | *1 | *1 | 166 | 159 | 1464 | 3126 | 4999 | 3.1 | 26-Aug-94 |
| US | 4 | 177 | SEAMAP FALL SHRIMP/GROUNDFISH | 3 | 598 | 595 | 12342 | 210 | 54937 | *1 | *1 | 98 | 39 | 117 | | | 68897 | 3.0 | 02-Dec-93 |
| TOTAL | | | | | 2690 | 2031 | 41072 | 1471 | 178199 | 304 | 6419 | 103 | 659 | 921 | 1464 | 3126 | 237800 | | |

STATUS CODES:

*1 NOT TAKEN
*2 NOT ENTERED
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 4

14-Oct-94

SEAMAP 1989

| DATA SOURCE | VESSEL | CRUISE | CRUISE REPORT TITLE | STATUS | INVENTORY STATION | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 891 | SEAMAP CRUISE AL 891 | 3 | 7 | 7 | 103 | 7 | 363 | 3 | 96 | *1 | *1 | *1 | *1 | *1 | 586 | 2.0 | 19-Mar-92 |
| AL | 23 | 892 | SEAMAP CRUISE AL 892 | 3 | 10 | 10 | 205 | 10 | 991 | 7 | 166 | *1 | *1 | *1 | *1 | *1 | 1399 | 2.0 | 19-Mar-92 |
| AL | 23 | 893 | RED DRUM-KING MACKEREL CRUISE | 3 | 10 | *1 | *1 | 10 | *1 | *1 | *1 | *1 | 10 | 10 | | | 30 | 2.0 | 19-Mar-92 |
| AL | 23 | 894 | SEAMAP FALL GROUNDFISH CRUISE | 3 | 12 | 12 | 293 | 12 | 1452 | 11 | 164 | *1 | *1 | *1 | *1 | *1 | 1956 | 2.0 | 19-Mar-92 |
| FL | 36 | 891 | SPRING 1989 ICHTHYOPLANKTON | 3 | 25 | *1 | *1 | 25 | *1 | *1 | *1 | *1 | 25 | 75 | | | 125 | 2.0 | 22-Jul-92 |
| FL | 36 | 892 | FALL 1989 ICHTHYOPLANKTON | 3 | 36 | *1 | *1 | 36 | *1 | *1 | *1 | *1 | 36 | 108 | | | 180 | 2.0 | 22-Jul-92 |
| LA | 35 | 891 | LA 1989 SPRING SEAMAP | 3 | 24 | 24 | 614 | 24 | 7914 | 21 | 140 | *1 | 8 | 21 | | | 8782 | 2.0 | 28-Jul-92 |
| LA | 35 | 892 | LA 1989 SUMMER SEAMAP | 3 | 22 | 22 | 439 | 22 | 3984 | 17 | 292 | *1 | 12 | 36 | | | 4834 | 2.0 | 28-Jul-92 |
| LA | 25 | 893 | LA 1989 AREA SUMMER SEAMAP | 3 | 21 | 21 | 163 | 21 | 1106 | 11 | 118 | *1 | 21 | 24 | | | 1485 | 2.0 | 28-Jul-92 |
| LA | 35 | 894 | LA 1989 FALL SEAMAP | 3 | 24 | 24 | 572 | 24 | 4390 | 24 | 499 | *1 | 12 | 36 | | | 5593 | 2.0 | 28-Jul-92 |
| LA | 25 | 895 | LA 1989 AREA FALL SEAMAP | 3 | 21 | 21 | 228 | 21 | 1943 | 11 | 224 | *1 | 21 | 42 | | | 2511 | 2.0 | 28-Jul-92 |
| LA | 35 | 896 | LA OREGON 2 PELICAN COMPARISON | 3 | 10 | 10 | 286 | 10 | 2719 | 9 | 185 | *1 | *1 | *1 | *1 | *1 | 3229 | 2.0 | 28-Jul-92 |
| LA | 35 | 897 | LA 1989 WINTER SEAMAP | 3 | 16 | 16 | 493 | 16 | 3635 | 16 | 567 | *1 | 7 | 21 | | | 4780 | 2.0 | 28-Jul-92 |
| MS | 17 | 891 | FALL SHRIMP/GROUNDFISH SURVEY | 3 | 41 | 34 | 989 | 41 | 7581 | 20 | 261 | *1 | 7 | 21 | | | 8988 | 2.0 | 31-Oct-91 |
| MS | 17 | 892 | FALL ICHTHYOPLANKTON SURVEY | 3 | 65 | *1 | *1 | 65 | *1 | *1 | *1 | *1 | 65 | 75 | | | 205 | 2.0 | 30-Oct-91 |
| MS | 17 | 893 | FALL SHRIMP/GROUNDFISH SURVEY | 3 | 20 | 17 | 568 | 20 | 4631 | *1 | *1 | *1 | 3 | 9 | | | 5265 | 2.0 | 01-Nov-91 |
| SC | 51 | 891 | SUMMER 89 SOUTH ATLANTIC | 3 | 212 | 212 | 7690 | 212 | 12944 | 179 | 2299 | *1 | *1 | *1 | *1 | *1 | 23748 | 2.0 | 08-Jul-92 |
| SC | 51 | 892 | SUMMER 89 SOUTH ATLANTIC | 3 | 106 | 106 | 2693 | 106 | 5930 | 48 | 808 | *1 | *1 | *1 | *1 | *1 | 9797 | 2.0 | 08-Jul-92 |
| SC | 51 | 893 | FALL SEAMAP 89 SOUTH ATLANTIC | 3 | 212 | 212 | 5753 | 212 | 9372 | 116 | 1902 | *1 | *1 | *1 | *1 | *1 | 17779 | 2.0 | 08-Jul-92 |
| TX | 31 | 891 | CRUISE 891 GULF OF MEXICO | 3 | 16 | 16 | 174 | 16 | 575 | 9 | 115 | *1 | *1 | *1 | *1 | *1 | 921 | 2.0 | 18-May-92 |
| TX | 32 | 891 | CRUISE 891 GULF OF MEXICO | 3 | 16 | 16 | 323 | 16 | 1991 | 13 | 709 | *1 | *1 | *1 | *1 | *1 | 3084 | 2.0 | 18-May-92 |
| TX | 33 | 891 | CRUISE 891 GULF OF MEXICO | 3 | 16 | 16 | 354 | 16 | 1965 | 16 | 546 | *1 | *1 | *1 | *1 | *1 | 2929 | 2.0 | 18-May-92 |
| TX | 34 | 891 | CRUISE 891 GULF OF MEXICO | 3 | 16 | 16 | 268 | 16 | 1481 | 16 | 651 | *1 | *1 | *1 | *1 | *1 | 2464 | 2.0 | 18-May-92 |
| TX | 40 | 891 | CRUISE 891 GULF OF MEXICO | 3 | 16 | 16 | 205 | 16 | 1035 | 15 | 382 | *1 | *1 | *1 | *1 | *1 | 1685 | 2.0 | 18-May-92 |
| TX | 31 | 892 | TX CRUISE 892 | 3 | 16 | 16 | 199 | 16 | 582 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 829 | 2.0 | 18-May-92 |
| TX | 32 | 892 | TX CRUISE 892 | 3 | 16 | 16 | 307 | 16 | 1826 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 2181 | 2.0 | 18-May-92 |
| TX | 33 | 892 | TX CRUISE 892 | 3 | 16 | 16 | 312 | 16 | 1421 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1781 | 2.0 | 18-May-92 |
| TX | 34 | 892 | TX CRUISE 892 | 3 | 16 | 16 | 204 | 16 | 1112 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1364 | 2.0 | 18-May-92 |
| TX | 40 | 892 | TX CRUISE 892 | 3 | 16 | 16 | 263 | 16 | 1462 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1773 | 2.0 | 18-May-92 |
| US | 4 | 179 | SA-SEAMAP/BEAUFORT ECOSYSTEM | 3 | 571 | 438 | 847 | 37 | 2176 | *1 | *1 | *1 | | | | | 4069 | 2.0 | 05-Nov-92 |
| US | 4 | 180 | OREGON II SUMMER SEAMAP | 3 | 244 | 237 | 4178 | 172 | 26040 | 140 | 4815 | *1 | 21 | 63 | | | 35889 | 2.0 | 21-Oct-92 |
| US | 4 | 183 | SEAMAP ICHTHYOPLANKTON/PLUME | 3 | 114 | *1 | *1 | 113 | *1 | *1 | *1 | *1 | 77 | 150 | 1855 | 4205 | 6437 | 2.02 | 02-Nov-92 |
| US | 4 | 184 | SEAMAP SHRIMP/GROUNDFISH | 3 | 512 | 490 | 11997 | 229 | 66970 | *1 | *1 | 6 | 39 | 117 | | | 80321 | 2.0 | 06-Oct-92 |
| US | 49 | 892 | SEAMAP ICHTHYOPLANKTON/THERMAL | 3 | 141 | *1 | *1 | 131 | *1 | *1 | *1 | *1 | 125 | 212 | | | 484 | 2.0 | 15-Dec-92 |
| TOTAL | | | | | 2636 | 2073 | 40720 | 1736 | 177591 | 702 | 14939 | 6 | 489 | 1020 | 1855 | 4205 | 247483 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

14-Oct-94

SEAMAP 1990

| DATA SOURCE | VESSEL | CRUISE | CRUISE REPORT TITLE | STATUS | INVENTORY | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 901 | SPRING SHRIMP GROUNDFISH SURVEY | 3 | 14 | 14 | 159 | 14 | 684 | 5 | 74 | *1 | *1 | *1 | *1 | *1 | 964 | 2.0 | 26-Mar-92 |
| AL | 23 | 902 | AL JULY SHRIMP-GROUNDFISH | 3 | 1 | 1 | 15 | 1 | 36 | 1 | 3 | *1 | *1 | *1 | *1 | *1 | 58 | 2.0 | 26-Mar-92 |
| AL | 23 | 903 | FALL KING MACKEREL/REDDRUM/PLAN | 3 | 10 | *1 | *1 | 10 | *1 | *1 | *1 | *1 | 10 | 10 | | | 30 | 2.0 | 26-Mar-92 |
| AL | 23 | 904 | FALL SHRIMP GROUNDFISH | 3 | 13 | 13 | 203 | 9 | 775 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1013 | 2.0 | 26-Mar-92 |
| FL | 36 | 901 | SPRING 1990 ICHTHYOPLANKTON | 3 | 21 | *1 | *1 | 21 | *1 | *1 | *1 | *1 | 21 | 61 | | | 103 | 2.0 | 22-Jul-92 |
| FL | 36 | 902 | FALL 1990 ICHTHYOPLANKTON | 3 | 30 | *1 | *1 | 30 | *1 | *1 | *1 | *1 | 30 | 90 | | | 150 | 2.0 | 22-Jul-92 |
| LA | 35 | 901 | LA WINTER SEAMAP | 3 | 24 | 18 | 457 | 23 | 3581 | 15 | 128 | *1 | 6 | 15 | | | 4261 | 2.0 | 28-Jul-92 |
| LA | 35 | 902 | LA SUMMER SEAMAP | 3 | 31 | 24 | 444 | 31 | 3151 | 15 | 171 | *1 | 7 | 21 | | | 3888 | 2.0 | 28-Jul-92 |
| LA | 25 | 903 | LA AREA SEAMAP CRUISE 903 | 3 | 21 | 21 | 142 | 21 | 1436 | 9 | 202 | *1 | 21 | 42 | | | 1894 | 2.0 | 28-Jul-92 |
| LA | 35 | 904 | LA FALL SEAMAP | 3 | 31 | 24 | 381 | 25 | 2954 | 18 | 174 | *1 | 7 | 20 | | | 3627 | 2.0 | 28-Jul-92 |
| LA | 25 | 905 | LA FALL SEAMAP | 3 | 21 | 21 | 125 | 21 | 833 | 7 | 121 | *1 | 21 | 42 | | | 1191 | 2.0 | 28-Jul-92 |
| LA | 35 | 906 | LA WINTER SEAMAP | 3 | 25 | 21 | 554 | 24 | 5978 | 20 | 952 | *1 | 4 | 12 | | | 7586 | 2.0 | 28-Jul-92 |
| MS | 17 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 44 | 40 | 1086 | 44 | 8868 | 10 | 395 | *1 | 4 | 12 | | | 10499 | 2.0 | 01-Nov-91 |
| MS | 17 | 902 | FALL SHRIMP/GROUNDFISH SURVEY | 3 | 107 | *1 | *1 | 107 | *1 | *1 | *1 | *1 | 107 | 113 | 32 | 91 | 450 | 2.0 | 10-May-94 |
| MS | 17 | 903 | FALL SHRIMP/GROUNDFISH SURVEY | 3 | 24 | 24 | 727 | 20 | 4470 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 5265 | 2.0 | 01-Nov-91 |
| SC | 51 | 901 | SPRING SEAMAP SURVEY SOUTH ATL | 3 | 210 | 210 | 4529 | 208 | 15747 | 60 | 702 | *1 | *1 | *1 | *1 | *1 | 21666 | 2.0 | 08-Jul-92 |
| SC | 51 | 902 | SUMMER SEAMAP S. ATLANTIC 90 | 3 | 156 | 156 | 4552 | 156 | 14060 | 91 | 1432 | *1 | *1 | *1 | *1 | *1 | 20603 | 2.0 | 08-Jul-92 |
| SC | 51 | 903 | FALL SEAMAP SURVEY SOUTH ATL | 3 | 182 | 182 | 6041 | 182 | 12663 | 128 | 2884 | *1 | *1 | *1 | *1 | *1 | 22262 | 2.0 | 08-Jul-92 |
| TX | 31 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 16 | 16 | 128 | 16 | 456 | 9 | 69 | *1 | *1 | *1 | *1 | *1 | 710 | 2.0 | 27-Mar-92 |
| TX | 32 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 16 | 16 | 267 | 16 | 1569 | 11 | 431 | *1 | *1 | *1 | *1 | *1 | 2326 | 2.0 | 27-Mar-92 |
| TX | 33 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 16 | 16 | 289 | 16 | 1605 | 14 | 205 | *1 | *1 | *1 | *1 | *1 | 2161 | 2.0 | 27-Mar-92 |
| TX | 34 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 16 | 16 | 125 | 16 | 606 | 5 | 101 | *1 | *1 | *1 | *1 | *1 | 885 | 2.0 | 27-Mar-92 |
| TX | 40 | 901 | SUMMER SHRIMP/GROUNDFISH | 3 | 16 | 16 | 120 | 16 | 786 | 7 | 218 | *1 | *1 | *1 | *1 | *1 | 1179 | 2.0 | 27-Mar-92 |
| TX | 31 | 902 | SHRIMP/GROUNDFISH SURVEY | 3 | 16 | 16 | 127 | 16 | 288 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 463 | 2.0 | 30-Mar-92 |
| TX | 32 | 902 | SHRIMP/GROUNDFISH SURVEY | 3 | 16 | 16 | 244 | 16 | 894 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1186 | 2.0 | 30-Mar-92 |
| TX | 33 | 902 | SHRIMP/GROUNDFISH SURVEY | 3 | 16 | 16 | 146 | 16 | 497 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 691 | 2.0 | 30-Mar-92 |
| TX | 34 | 902 | SHRIMP/GROUNDFISH SURVEY | 3 | 16 | 16 | 99 | 16 | 496 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 643 | 2.0 | 30-Mar-92 |
| TX | 40 | 902 | SHRIMP/GROUNDFISH SURVEY | 3 | 16 | 16 | 197 | 16 | 872 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1117 | 2.0 | 30-Mar-92 |
| US | 4 | 187 | SEAMAP ICHTHYOPLANKTON | 3 | 151 | *1 | *1 | 139 | *1 | *1 | *1 | *1 | 139 | 408 | | | 698 | 2.0 | 07-Jan-92 |
| US | 4 | 189 | SPRING SHRIMP/GROUNDFISH | 3 | 290 | 267 | 5620 | 230 | 34308 | 219 | 6083 | *1 | 19 | 57 | | | 47074 | 2.0 | 27-Sep-91 |
| US | 4 | 190 | PLANKTON SURVEY GULF OF MEXICO | 3 | 133 | *1 | *1 | 131 | *1 | *1 | *1 | *1 | 108 | 320 | | | 584 | 2.0 | 20-Sep-91 |
| US | 4 | 191 | SEAMAP/GROUNDFISH SURVEY GOM | 3 | 293 | 290 | 6725 | 218 | 39457 | *1 | *1 | 2 | 39 | 117 | | | 47102 | 2.0 | 23-Sep-91 |
| US | 28 | 901 | SEAMAP ECOSYSTEM S ATLANTIC | 3 | 136 | 80 | 70 | 62 | *1 | *1 | *1 | *1 | 40 | *2 | *2 | *2 | 348 | 2.0 | 10-Jun-92 |
| TOTAL | | | | | 2128 | 1566 | 33572 | 1887 | 157070 | 644 | 14345 | 2 | 583 | 1340 | 32 | 91 | 212677 | | |

STATUS CODES:

*1 NOT TAKEN
*2 NOT ENTERED
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 6

14-Oct-94

SEAMAP 1991

| DATA SOURCE | VESSEL | CRUISE | CRUISE REPORT TITLE | STATUS | INVENTORY | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL GENERAL L/F | | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 911 | SUMMER SHRIMP GROUNDFISH GOM | 3 | 10 | 10 | 159 | 10 | 450 | 7 | 155 | *1 | *1 | *1 | *1 | *1 | 801 | 2.0 | 26-Mar-92 |
| AL | 23 | 912 | KING MACKEREL RED DRUM PLANKTON | 3 | 10 | *1 | *1 | 10 | *1 | *1 | *1 | *1 | 10 | 10 | | | 30 | 2.0 | 26-Mar-92 |
| AL | 23 | 913 | GROUNDFISH SURVEY GOM | 3 | 7 | 7 | 174 | 7 | 935 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1130 | 2.0 | 26-Mar-92 |
| FL | 36 | 911 | SPRING 1991 ICHTHYOPLANKTON | 3 | 13 | *1 | *1 | 13 | *1 | *1 | *1 | *1 | 13 | 39 | | | 65 | 2.0 | 22-Jul-92 |
| FL | 36 | 912 | FALL 1991 ICHTHYOPLANKTON | 3 | 23 | *1 | *1 | 23 | *1 | *1 | *1 | *1 | 23 | 68 | | | 114 | 2.0 | 22-Jul-92 |
| LA | 25 | 913 | SUMMER SEAMAP | 3 | 21 | 21 | 130 | 21 | 1479 | 6 | 62 | *1 | 21 | 42 | | | 1782 | 2.02 | 30-Nov-92 |
| LA | 25 | 915 | FALL SEAMAP | 3 | 21 | 21 | 193 | 21 | 1716 | 12 | 230 | *1 | 21 | 42 | | | 2256 | 2.02 | 30-Nov-92 |
| LA | 35 | 911 | SPRING SEAMAP | 3 | 29 | 22 | 602 | 29 | 6570 | 19 | 188 | *1 | 7 | 21 | | | 7480 | 2.02 | 30-Nov-92 |
| LA | 35 | 912 | SUMMER SEAMAP | 3 | 31 | 24 | 360 | 31 | 3368 | 12 | 251 | *1 | 7 | 21 | | | 4098 | 2.02 | 30-Nov-92 |
| LA | 35 | 914 | FALL SEAMAP | 3 | 31 | 24 | 461 | 30 | 3096 | 22 | 395 | *1 | 7 | 21 | | | 4080 | 2.02 | 30-Nov-92 |
| LA | 35 | 916 | WINTER SEAMAP | 3 | 31 | 24 | 606 | 30 | 5814 | 24 | 779 | *1 | 7 | 16 | | | 7324 | 2.02 | 01-Dec-92 |
| MS | 17 | 911 | SHRIMP/GROUNDFISH SURVEY | 3 | 41 | 39 | 856 | 38 | 6402 | 27 | 989 | *1 | 2 | 6 | 88 | 248 | 8734 | 2.0 | 10-May-94 |
| MS | 17 | 912 | FALL ICHTHYOPLANKTON SUR GOM | 3 | 118 | *1 | *1 | 118 | *1 | *1 | *1 | *1 | 101 | 107 | 35 | 132 | 510 | 2.0 | 19-May-94 |
| MS | 17 | 913 | SEAMAP CRUISE MS 913 | 3 | 27 | 27 | 657 | 27 | 4652 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 5390 | 2.0 | 26-Feb-92 |
| SC | 51 | 911 | SPRING SOUTH ATLANTIC SURVEY | 3 | 210 | 210 | 6022 | 210 | 15930 | 108 | 1931 | *1 | *1 | *1 | *1 | *1 | 24621 | 2.0 | 15-Apr-92 |
| SC | 51 | 912 | SUMMER SOUTHATLANTIC SEAMAP SUR | 3 | 156 | 156 | 3979 | 156 | 12688 | 75 | 1155 | *1 | *1 | *1 | *1 | *1 | 18365 | 2.0 | 05-May-92 |
| SC | 51 | 913 | FALL SEAMAP SOUTH ATLANTIC | 3 | 172 | 172 | 4732 | 172 | 12249 | 99 | 2061 | *1 | *1 | *1 | *1 | *1 | 19657 | 2.0 | 12-May-92 |
| TX | 31 | 911 | SUMMER SEAMAP | 3 | 16 | 16 | 250 | 16 | 1354 | 10 | 76 | *1 | *1 | *1 | *1 | *1 | 1738 | 2.0 | 28-Sep-92 |
| TX | 32 | 911 | SUMMER SEAMAP | 3 | 16 | 16 | 270 | 16 | 1406 | 13 | 156 | *1 | *1 | *1 | *1 | *1 | 1893 | 2.0 | 28-Sep-92 |
| TX | 33 | 911 | SUMMER SEAMAP | 3 | 16 | 16 | 182 | 16 | 596 | 10 | 99 | *1 | *1 | *1 | *1 | *1 | 935 | 2.0 | 28-Sep-92 |
| TX | 34 | 911 | SUMMER SEAMAP | 3 | 16 | 16 | 138 | 16 | 681 | 10 | 51 | *1 | *1 | *1 | *1 | *1 | 928 | 2.0 | 28-Sep-92 |
| TX | 40 | 911 | SUMMER SEAMAP | 3 | 16 | 16 | 187 | 16 | 891 | 12 | 182 | *1 | *1 | *1 | *1 | *1 | 1320 | 2.0 | 28-Sep-92 |
| TX | 31 | 912 | FALL SEAMAP | 3 | 16 | 16 | 154 | 16 | 639 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 841 | 2.0 | 16-Oct-92 |
| TX | 32 | 912 | FALL SEAMAP | 3 | 16 | 16 | 236 | 16 | 1015 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1299 | 2.0 | 16-Oct-92 |
| TX | 33 | 912 | FALL SEAMAP | 3 | 16 | 16 | 112 | 16 | 352 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 512 | 2.0 | 16-Oct-92 |
| TX | 34 | 912 | FALL SEAMAP | 3 | 16 | 16 | 148 | 16 | 563 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 759 | 2.0 | 16-Oct-92 |
| TX | 40 | 912 | FALL SEAMAP | 3 | 16 | 16 | 137 | 16 | 545 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 730 | 2.0 | 16-Oct-92 |
| US | 4 | 192 | ATLANTIC SEAMAP | 3 | 314 | 208 | *1 | 107 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 629 | 2.0 | 30-Oct-91 |
| US | 4 | 194 | SEAMAP GULF PLANKTON SUR | 3 | 159 | *1 | *1 | 139 | *1 | *1 | *1 | *1 | 159 | 442 | | | 740 | 2.0 | 15-Apr-92 |
| US | 4 | 195 | SEAMAP SPRING GROUNDFISH SURVEY | 3 | 288 | 267 | 6546 | 223 | 40667 | 186 | 7976 | *1 | 37 | 111 | | | 56264 | 2.0 | 12-Dec-91 |
| US | 4 | 197 | FALL BOTTOMFISH SURVEY | 3 | 327 | 293 | 7389 | 241 | 42639 | *1 | *1 | *1 | 40 | 120 | 1353 | 3335 | 55697 | 2.0 | 19-May-94 |
| US | 28 | 914 | FALL SEAMAP ICHTHYOPLANKTON SUR | 3 | 166 | *1 | *1 | 138 | *1 | *1 | *1 | *1 | 96 | 286 | 1102 | 2487 | 4179 | 2.0 | 17-May-94 |
| TOTAL | | | | | 2365 | 1685 | 34680 | 1954 | 166697 | 652 | 16736 | | 551 | 1352 | 2578 | 6202 | 234901 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 7

14-Oct-94

SEAMAP 1992

| DATA SOURCE | VESSEL | CRUISE | CRUISE REPORT TITLE | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 920 | REEFFISH TRAP/VIDEO | 3 | 7 | 7 | 3 | *1 | *1 | *1 | *1 | 20 | *1 | *1 | *1 | *1 | 37 | 3.0 | 28-Jan-94 |
| AL | 23 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 332 | 16 | 2059 | 6 | 78 | *1 | *1 | *1 | *1 | *1 | 2523 | 2.1 | 08-Jan-93 |
| AL | 23 | 922 | FALL SEAMAP | 3 | 9 | *1 | *1 | 9 | *1 | *1 | *1 | *1 | 9 | 9 | | | 27 | 2.1 | 08-Jan-93 |
| AL | 23 | 923 | FALL SEAMAP | 3 | 8 | 8 | 193 | 8 | 1099 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1316 | 2.1 | 08-Jan-93 |
| FL | 26 | 921 | SPRING ICHTHYOPLANKTON | 3 | 21 | *1 | *1 | 21 | *1 | *1 | *1 | *1 | 21 | 57 | 837 | 1521 | 2457 | 2.02 | 18-May-94 |
| FL | 26 | 922 | FALL ICHTHYOPLANKTON | 3 | 14 | *1 | *1 | 14 | *1 | *1 | *1 | *1 | 13 | 37 | | | 65 | 2.02 | 13-Apr-93 |
| LA | 35 | 921 | SPRING SEAMAP | 3 | 30 | 24 | 625 | 30 | 7061 | 24 | 233 | *1 | 6 | 18 | | | 8045 | 3.0 | 16-Nov-93 |
| LA | 35 | 922 | SUMMER SEAMAP | 3 | 31 | 24 | 373 | 31 | 4215 | 12 | 88 | *1 | 7 | 21 | | | 4795 | 3.0 | 16-Nov-93 |
| LA | 35 | 923 | FALL SEAMAP | 3 | 25 | 20 | 342 | 23 | 2551 | 19 | 315 | *1 | 5 | 10 | | | 3305 | 3.0 | 16-Nov-93 |
| LA | 35 | 924 | WINTER SEAMAP | 3 | 31 | 24 | 659 | 31 | 7812 | 23 | 674 | *1 | 7 | 20 | | | 9274 | 3.0 | 16-Nov-93 |
| MS | 17 | 921 | SEAMAP TRAP/VIDEO SURVEY | 3 | 16 | 16 | 13 | 16 | 48 | *1 | *1 | 48 | *1 | *1 | *1 | *1 | 157 | 3.0 | 02-Mar-93 |
| MS | 17 | 922 | SUMMER SEAMAP | 3 | 44 | 42 | 1093 | 38 | 8408 | 32 | 916 | *1 | 2 | 6 | | | 10579 | 2.02 | 08-Mar-93 |
| MS | 17 | 924 | FALL GROUND FISH | 3 | 15 | 15 | 335 | 15 | 2445 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 2825 | 3.0 | 08-Oct-93 |
| SC | 51 | 921 | SPRING SOUTH ATLANTIC SURVEY | 3 | 210 | 210 | 5045 | 210 | 13967 | 95 | 1053 | *1 | *1 | *1 | *1 | *1 | 20790 | 2.02 | 29-Sep-92 |
| SC | 51 | 922 | SUMMER SOUTH ATLANTIC SURVEY | 3 | 156 | 156 | 3801 | 156 | 8568 | 50 | 537 | *1 | *1 | *1 | *1 | *1 | 13424 | 2.02 | 30-Dec-92 |
| SC | 51 | 923 | FALL SEAMAP | 3 | 188 | 188 | 4958 | 188 | 9692 | 89 | 1198 | *1 | *1 | *1 | *1 | *1 | 16501 | 2.02 | 27-Jan-93 |
| TX | 31 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 168 | 16 | 827 | 12 | 159 | *1 | *1 | *1 | *1 | *1 | 1214 | 2.02 | 25-Mar-93 |
| TX | 32 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 197 | 16 | 1043 | 7 | 34 | *1 | *1 | *1 | *1 | *1 | 1329 | 2.02 | 25-Mar-93 |
| TX | 33 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 195 | 16 | 805 | 7 | 23 | *1 | *1 | *1 | *1 | *1 | 1078 | 2.02 | 26-Mar-93 |
| TX | 34 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 158 | 16 | 769 | 12 | 90 | *1 | *1 | *1 | *1 | *1 | 1077 | 2.02 | 26-Mar-93 |
| TX | 40 | 921 | SUMMER SEAMAP | 3 | 16 | 16 | 147 | 16 | 727 | 9 | 63 | *1 | *1 | *1 | *1 | *1 | 994 | 2.02 | 26-Mar-93 |
| TX | 31 | 922 | FALL SEAMAP | 3 | 16 | 16 | 227 | 16 | 1141 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1416 | 3.0 | 01-Jul-93 |
| TX | 32 | 922 | FALL SEAMAP | 3 | 16 | 16 | 291 | 16 | 1655 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1994 | 3.0 | 01-Jul-93 |
| TX | 33 | 922 | FALL SEAMAP | 3 | 16 | 16 | 160 | 16 | 454 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 662 | 3.0 | 01-Jul-93 |
| TX | 34 | 922 | FALL SEAMAP | 3 | 16 | 16 | 270 | 16 | 1442 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1760 | 3.0 | 01-Jul-93 |
| TX | 40 | 922 | FALL SEAMAP | 3 | 16 | 16 | 193 | 16 | 910 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1151 | 3.0 | 01-Jul-93 |
| US | 4 | 199 | SPRING ICHTHYOPLANKTON | 3 | 248 | *1 | *1 | 208 | *1 | *1 | *1 | *1 | 147 | 436 | | | 892 | 2.02 | 09-Mar-93 |
| US | 4 | 200 | SUMMER SEAMAP | 3 | 284 | 260 | 6763 | 221 | 39987 | 174 | 3463 | *1 | 41 | 123 | | | 51275 | 2.02 | 19-Jan-93 |
| US | 4 | 201 | FALL ICHTHYOPLANKTON | 3 | 49 | *1 | *1 | 49 | *1 | *1 | *1 | *1 | 27 | 79 | 1046 | 2236 | 3459 | 3.0 | 24-May-94 |
| US | 4 | 202 | FALL BOTTOMFISH SURVEY | 3 | 294 | 273 | 7061 | 220 | 43846 | *1 | *1 | 6 | 30 | 90 | | | 51790 | 3.0 | 05-Oct-93 |
| US | 28 | 923 | REEFISH CRUISE | 3 | 179 | 147 | 113 | 149 | *1 | *1 | *1 | 607 | 29 | 147 | | | 1342 | 3.0 | 14-Jul-93 |
| US | 28 | 925 | FALL ICHTHYOPLANKTON | 3 | 118 | *1 | *1 | 116 | *1 | *1 | *1 | *1 | 73 | 219 | | | 453 | 3.0 | 02-Sep-93 |
| TOTAL | | | | | 2153 | 1590 | 33715 | 1929 | 161531 | 571 | 8924 | 681 | 417 | 1272 | 1883 | 3757 | 218006 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 8

14-Oct-94

SEAMAP 1993

| DATA SOURCE | VESSEL | CRUISE | CRUISE REPORT TITLE | STATUS | INVENTORY STATION | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AL | 23 | 930 | COMPARITIVE TOW | 3 | 22 | 22 | 494 | 18 | 441 | *1 | *1 | *1 | *1 | *1 | | | 997 | 3.0 | 19-Jan-94 |
| AL | 23 | 931 | SUMMER SEAMAP | 3 | 10 | 10 | 212 | 10 | 953 | 5 | 95 | *1 | *1 | *1 | *1 | *1 | 1295 | 3.0 | 19-Jan-94 |
| AL | 23 | 932 | FALL ICHTHYOPLANKTON | 3 | 9 | *1 | *1 | 9 | *1 | *1 | *1 | *1 | 9 | 9 | *1 | *1 | 27 | 3.0 | 19-Jan-94 |
| AL | 23 | 933 | FALL SEAMAP | 3 | 9 | 9 | 199 | 9 | 1108 | *1 | *1 | *1 | *1 | *1 | | | 1334 | 3.0 | 19-Jan-94 |
| AL | 23 | 934 | REEFFISH TRAP/VIDEO | 3 | 11 | 11 | 24 | 11 | *1 | *1 | *1 | 343 | *1 | *1 | *1 | *1 | 400 | 3.0 | 06-Jul-94 |
| FL | 26 | 932 | FALL ICHTHYOPLANKTON | 3 | 36 | *1 | *1 | 36 | *1 | *1 | *1 | *1 | 36 | 108 | | | 180 | 3.0 | 15-Feb-94 |
| FL | 30 | 931 | SPRING ICHTHYOPLANKTON | 3 | 19 | *1 | *1 | 19 | *1 | *1 | *1 | *1 | 19 | 57 | | | 95 | 3.0 | 10-Nov-93 |
| LA | 35 | 931 | SPRING SEAMAP | 3 | 31 | 24 | 680 | 30 | 8117 | 20 | 189 | *1 | 7 | 21 | | | 9112 | 3.0 | 08-Apr-94 |
| LA | 35 | 932 | SUMMER SEAMAP | 3 | 31 | 24 | 443 | 30 | 5597 | 22 | 535 | *1 | 7 | 21 | | | 6703 | 3.0 | 08-Apr-94 |
| LA | 35 | 933 | FALL SEAMAP | 3 | 31 | 24 | 501 | 29 | 5012 | 19 | 414 | *1 | 7 | 21 | | | 6051 | 3.0 | 18-Apr-94 |
| LA | 35 | 934 | WINTER SEAMAP | 3 | 29 | 24 | 619 | 29 | 7615 | 23 | 721 | *1 | 5 | 15 | | | 9075 | 3.0 | 18-Apr-94 |
| MS | 17 | 930 | SEAMAP COMPARATIVE TOW | 3 | 22 | 22 | 551 | *1 | 409 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1004 | 3.0 | 15-Oct-93 |
| MS | 17 | 931 | TRAP/VIDEO | 3 | 8 | 8 | 2 | 8 | *1 | *1 | *1 | 4 | *1 | *1 | *1 | *1 | 30 | 3.0 | 08-Mar-94 |
| MS | 17 | 932 | SUMMER SEAMAP | 3 | 37 | 35 | 908 | 37 | 7420 | 29 | 832 | *1 | 2 | 6 | | | 9304 | 3.0 | 08-Mar-94 |
| MS | 17 | 933 | FALL ICHTHYOPLANKTON | 3 | 48 | *1 | *1 | 48 | *1 | *1 | *1 | *1 | 48 | 48 | | | 144 | 3.0 | 17-Jun-94 |
| MS | 17 | 934 | FALL ICHTHYOPLANKTON | 3 | 47 | *1 | *1 | 47 | *1 | *1 | *1 | *1 | 47 | 53 | | | 147 | 3.0 | 05-Jul-94 |
| MS | 17 | 935 | FALL ICHTHYOPLANKTON | 3 | 27 | 25 | 688 | 27 | 4713 | *1 | *1 | *1 | 2 | 6 | | | 5486 | 3.0 | 07-Jun-94 |
| SC | 51 | 931 | SPRING SEAMAP | 3 | 210 | 210 | 4267 | 210 | 8920 | 80 | 1080 | *1 | *1 | *1 | *1 | *1 | 14977 | 3.0 | 03-Feb-94 |
| SC | 51 | 932 | SUMMER SEAMAP | 3 | 156 | 156 | 3680 | 156 | 8484 | 65 | 1604 | *1 | *1 | *1 | *1 | *1 | 14301 | 3.0 | 28-Jan-94 |
| SC | 51 | 933 | FALL SEAMAP | 3 | 188 | 188 | 4471 | 188 | 8600 | 105 | 1868 | *1 | *1 | *1 | *1 | *1 | 15608 | 3.0 | 28-Jan-94 |
| TX | 31 | 931 | SUMMER SEAMAP | 3 | 16 | 16 | 328 | 16 | 1807 | 14 | 106 | *1 | *1 | *1 | *1 | *1 | 2303 | 3.0 | 24-Mar-94 |
| TX | 32 | 931 | SUMMER SEAMAP | 3 | 16 | 16 | 250 | 16 | 1414 | 10 | 37 | *1 | *1 | *1 | *1 | *1 | 1759 | 3.0 | 30-Mar-94 |
| TX | 33 | 931 | SUMMER SEAMAP | 3 | 16 | 16 | 271 | 16 | 874 | 8 | 98 | *1 | *1 | *1 | *1 | *1 | 1299 | 3.0 | 30-Mar-94 |
| TX | 34 | 931 | SUMMER SEAMAP | 3 | 16 | 16 | 110 | 16 | 513 | 2 | 14 | *1 | *1 | *1 | *1 | *1 | 687 | 3.0 | 30-Mar-94 |
| TX | 40 | 931 | SUMMER SEAMAP | 3 | 16 | 16 | 213 | 16 | 1056 | 11 | 345 | *1 | *1 | *1 | *1 | *1 | 1673 | 3.0 | 30-Mar-94 |
| TX | 31 | 932 | FALL SEAMAP | 3 | 16 | 16 | 215 | 16 | 882 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1145 | 3.0 | 01-Jul-94 |
| TX | 32 | 932 | FALL SEAMAP | 3 | 16 | 16 | 253 | 16 | 1040 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1341 | 3.0 | 01-Jul-94 |
| TX | 33 | 932 | FALL SEAMAP | 3 | 16 | 16 | 304 | 16 | 1057 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1409 | 3.0 | 01-Jul-94 |
| TX | 34 | 932 | FALL SEAMAP | 3 | 16 | 16 | 113 | 16 | 331 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 492 | 3.0 | 01-Jul-94 |
| TX | 40 | 932 | FALL SEAMAP | 3 | 16 | 16 | 200 | 16 | 1189 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 1437 | 3.0 | 01-Jul-94 |
| US | 4 | 203 | MARINE MAMMAL/ICHTHYO | 3 | 212 | *1 | *1 | 107 | *1 | *1 | *1 | *1 | 116 | 425 | | | 744 | 3.0 | 16-Nov-93 |
| US | 4 | 204 | ICHTHYOPLANKTON MAMMALS | 3 | 274 | *1 | *1 | 160 | *1 | *1 | *1 | *1 | 121 | 367 | | | 801 | 3.0 | 28-Jan-94 |
| US | 4 | 205 | SUMMER SEAMAP | 3 | 298 | 277 | 6899 | 222 | 40984 | 178 | 5465 | *1 | 41 | 122 | | | 54445 | 3.0 | 06-May-94 |
| US | 4 | 207 | FALL ICHTHYOPLANKTON | 3 | 11 | *1 | *1 | 11 | *1 | *1 | *1 | *1 | 10 | 30 | | | 52 | 3.0 | 31-May-94 |
| US | 4 | 208 | FALL GROUNDFISH | 2 | 303 | 285 | 7624 | 245 | 46394 | *1 | *1 | *1 | 36 | 108 | | | 54959 | 3.1 | 15-Jul-94 |
| US | 28 | 935 | REEFFISH ICHTHYOPLANKTON | 3 | 213 | 185 | 89 | 180 | *1 | *1 | *1 | 387 | 28 | 107 | | | 1161 | 3.0 | 16-Feb-94 |
| US | 28 | 936 | FALL ICHTHYOPLANKTON | 3 | 162 | *1 | *1 | 159 | *1 | *1 | *1 | *1 | 72 | 216 | | | 537 | 3.0 | 04-May-94 |
| TOTAL | | | | | 2614 | 1699 | 34608 | 2195 | 164930 | 591 | 13403 | 734 | 613 | 1740 | | | 222514 | | |

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 9

17-Oct-94

SEAMAP 1994

| DATA SOURCE | VESSEL | CRUISE | | INVENTORY STATUS | BIOLOGICAL STATION | BIOLOGICAL SPECIES | ENVIRONMENTAL | GENERAL L/F | SHRIMP STATION | SHRIMP L/F | ICHTHYOPLANKTON MERISTICS | ICHTHYOPLANKTON STATION | ICHTHYOPLANKTON SAMPLE | ICHTHYOPLANKTON SPECIES | ICHTHYOPLANKTON L/F | TOTAL | SEAMAP VERSION | DATE DBASED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LA | 35 | 940 | COMPARATIVE TOW | 3 | 49 | 1433 | 11 | 398 | 42 | 268 | *1 | *1 | *1 | *1 | *1 | 2250 | 3.1 | 21-Sep-94 |
| LA | 35 | 941 | SPRING SEAMAP | 3 | 31 | 697 | 31 | 9424 | 23 | 153 | *1 | 7 | 19 | | | 10402 | 3.1 | 21-Sep-94 |
| MS | 17 | 940 | COMPARATIVE TOW | 3 | 49 | 1427 | *1 | 496 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | 2021 | 3.0 | 21-Sep-94 |
| SC | 51 | 941 | SPRING SEAMAP | 3 | 210 | 4051 | 210 | 7228 | 52 | 454 | *1 | *1 | *1 | *1 | *1 | 12415 | 3.1 | 21-Sep-94 |
| SC | 51 | 942 | SUMMER SEAMAP | 3 | 156 | 3360 | 156 | 7227 | 56 | 1109 | *1 | *1 | *1 | *1 | *1 | 12220 | 3.1 | 13-Oct-94 |
| US | 4 | 209 | SPRING ICHTHYOPLANKTON | 3 | 217 | *1 | 155 | *1 | *1 | *1 | *1 | 122 | 505 | | | 877 | 3.1 | 12-Oct-94 |
| TOTAL | | | | | 712 | 488 | 10968 | 563 | 24773 | 173 | 1984 | | 129 | 524 | | | 40185 | | |

STATUS CODES:

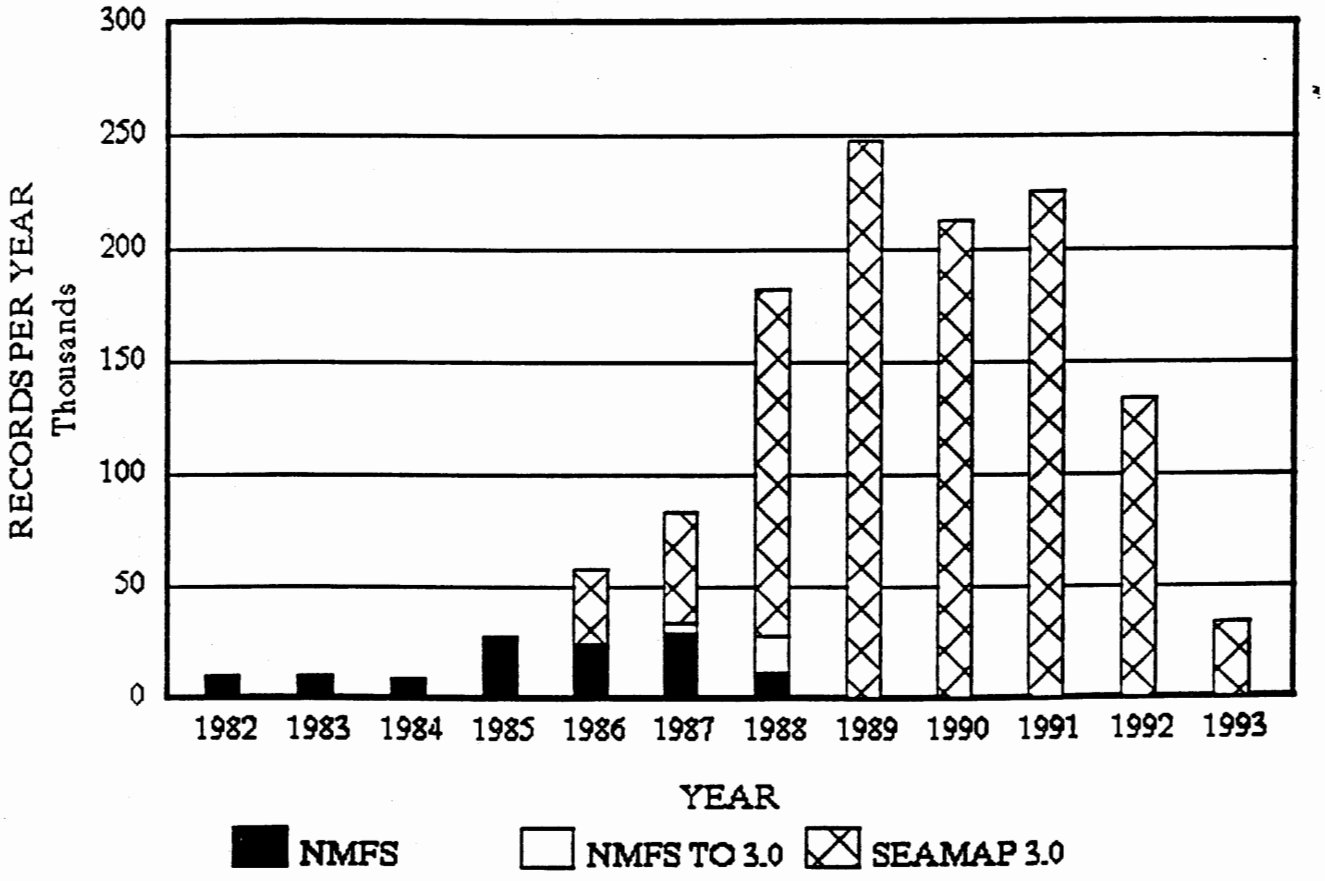
*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 10

18-Oct-93

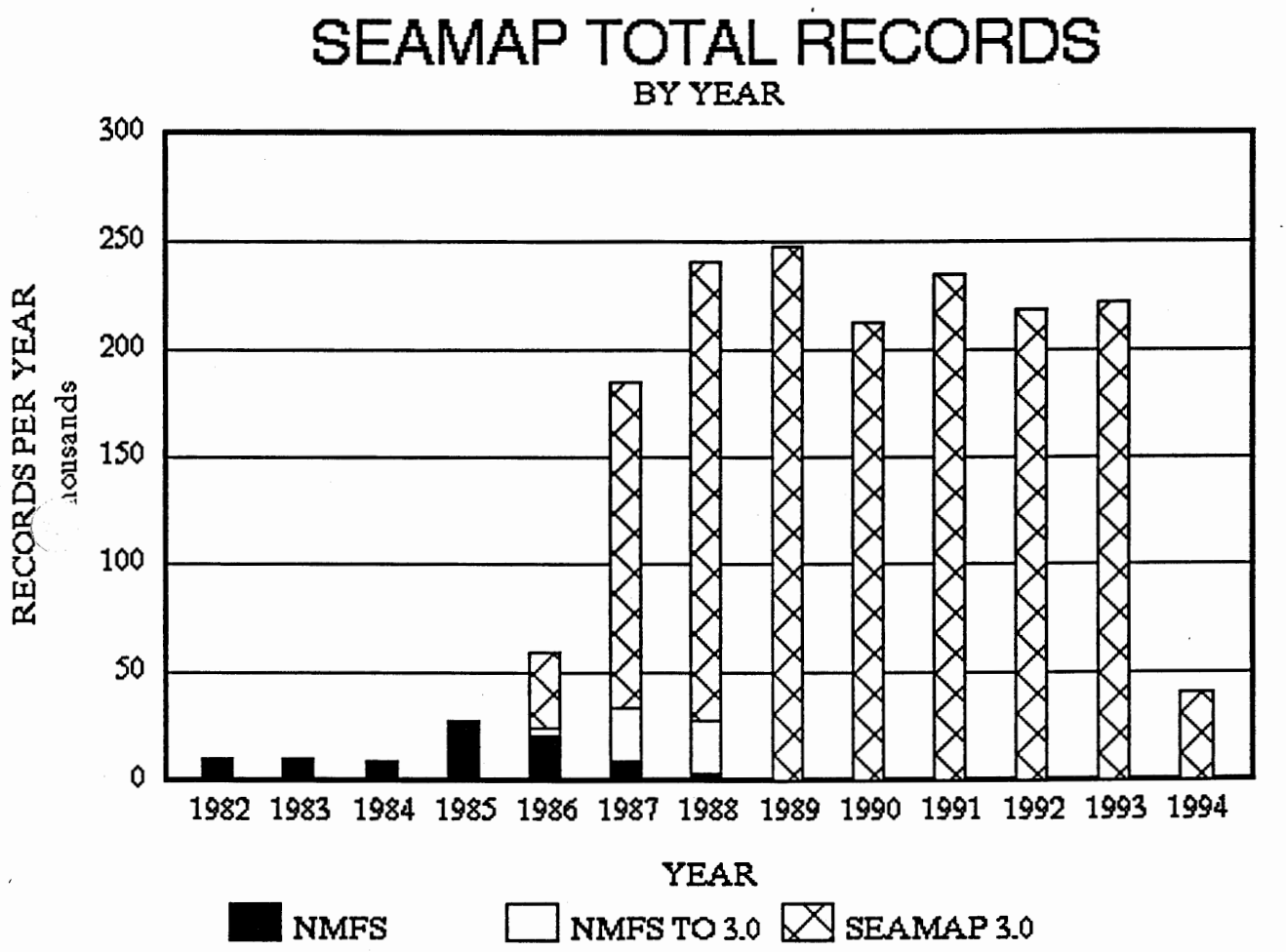
# SEAMAP TOTAL RECORDS

BY YEAR



Attachment 11

17-Oct-94



ATTACHMENT. III

**UNITED STATES DEPARTMENT OF COMMERCE**
**National Oceanic and Atmospheric Administration**
NATIONAL MARINE FISHERIES SERVICE
*Southeast Fisheries Service*
*Mississippi Laboratories*
*3209 Frederic Street*
*P.O. Drawer 1207*
*Pascagoula, MS 39568-1207*



***TO:*** *Dr. Leonard Ejsymont*

***FROM:*** *Alonzo N. Hamilton, Jr.* ANH Jr

***DATE:*** *September 13, 1994*

***SUBJECT:*** *September 1994 Ichthyoplankton shipment to Poland.*

*The following samples, collected during the Fall 1985, 1985, and Spring and Summer 1985, 1994, were shipped to you for sorting and identification on September 13, 1994.*

| VESSEL AND CRUISE | SURVEY TYPE | SAMPLES |
|---|---|---|
| CHAPMAN 94-4 | Spring Ichthyoplankton (Gulfwide) | 27RB,62RN |
| OREGON II 209 | 1994 Spring Ichthyoplankton (Gulfwide);Joint US/Japan Survey | 69RB,72LB,126RN, 115LN,56JRB,58JLB |
| HERNAN CORTEZ II 94-1 | Spring Ichthyoplankton | 5RB,5N |
| TOMMY MUNRO 93-4 | Fall Ichthyoplankton | 12RB,18N |
| TOMMY MUNRO 93-2 | Summer Groundfish | 2RB,2N |
| TOMMY MUNRO 93-5 | Fall Groundfish | 3RB,4N |
| OREGON II 210 | 1994 Summer Groundfish | 42RB,93N |
| CHAPMAN 86-5 | Fall Ichthyoplankton | 80N |
| TOMMY MUNRO 85-1 | Summer Groundfish | 9N |
| TOMMY MUNRO 85-4 | Squid/Butterfish | 3N |
| TOMMY MUNRO 85-2 | Squid/Butterfish | 33N |
| LUMCON PELICAN 12 | 1985 Summer Groundfish | 28N |
| LUMCON PELICAN 11 | 1985 Summer Groundfish | 1N |
| LUMCON PELICAN 13 | 1985 Fall Ichthyoplankton/ Groundfish | 1RB,11N |

| | | |
|---|---|---|
| *TOMMY MUNRO 86-3* | *Fall Ichthyoplankton* | *11N* |
| *AL INSHORE 86-2 & 961* | *Fall Ichthyoplankton* | *9N* |
| *OREGON II 154* | *1985 Squid/Butterfish* | *7N* |
| *HERNAN CORTEZ II 86-2* | *Fall Ichthyoplankton* | *24N* |
| *OREGON II 161* | *1986 Fall Ichthyoplankton* | *96DNL* |

*RB = right bongo*
*RN = right neuston*
*LB = left bongo*
*LN = left neuston*
*N = neuston*
*JRB = Japanese right bongo*
*JLB = Japanese left bongo*
*DNL = double left neuston*

*cc:* *Dr. Joanne Shultz*
*Kim Williams*
*Ken Edds*
*Mark Van Hoose*
*Dave Donaldson*
*Dr. Bill Richards*
*Dr. Steve Turner*
*Sharon Kelley-Fraga*
*Dr. Don Hoss*

APPROVED BY:

COMMITTEE CHAIRMAN

**STATE-FEDERAL FISHERIES MANAGEMENT COMMITTEE (S-FFMC)**
**MINUTES**
**October 19, 1994**
**New Orleans, LA**

Larry Simpson, moderator, called the meeting to order at 2:10 p.m. and noted that a quorum was present with the following persons in attendance:

Members
John Brown, USFWS, Atlanta, GA (*proxy for James Pulliam*)
Joe Gill, MDMR, Biloxi, MS
Paul Hammerschmidt, TPWD, Austin, TX (*proxy for Andrew Sansom*)
Ed Irby, FDEP, Tallahassee, FL (*proxy for Virginia Wetherell*)
Andy Kemmerer, NMFS, St. Petersburg, FL
Vernon Minton, ADCNR/MRD, Gulf Shores, AL (*proxy for Charlie Grimsely*)
Corky Perret, LDWF, Baton Rouge, LA
Larry Simpson, GSMFC, Ocean Springs, MS (*nonvoting*)

Staff
Ron Lukens, GSMFC, Ocean Springs, MS
Rick Leard, GSMFC, Ocean Springs, MS

Others
Page Campbell, TPWD, Rockport, TX
Bob Cooke, USFWS, Atlanta, GA
Doug Frugé, USFWS, Ocean Springs, MS
Skip Lazauski, ADCNR/MRD, Gulf Shores, AL
Tom McIlwain, NMFS, Pascagoula, MS
John Roussel, LDWF, Baton Rouge, LA
Buck Sutter, NMFS, St. Petersburg, FL
Walter Tatum, ADCNR/MRD, Gulf Shores, AL
Tom Van Devender, MDMR, Biloxi, MS

Adoption of Agenda

*J. Gill moved and J. Brown seconded that the agenda be adopted as presented, and the motion carried unanimously.

Approval of Minutes

*J. Gill moved and E. Irby seconded that the minutes of the meeting held April 6, 1994, in Biloxi, Mississippi, be approved as written. The motion carried unanimously.

Discussion of Committee Chairman/Moderator

*J. Gill moved and E. Irby seconded a motion that L. Simpson continue as chairman rather than moderator. The motion carried unanimously.

Menhaden Advisory Committee Report

R. Leard reported that the MAC discussed possible impacts to the menhaden industry as a result of passage of the Florida Net Ban Referendum, and possible effects of the large hypoxic area off Louisiana. Specific impacts or problems could not be determined at this time.

He noted that 1994 landings were expected to be approximately 765,000 MT (42% over 1993 and 30% over the NMFS estimates). Also, 6 plants and 55 vessels were participating.

R. Leard also stated that the MAC reviewed the preliminary results of R. Condrey's bycatch study and noted that some new elements including effects of large fish deflectors, behavioral relationships of bycatch to menhaden schools, and general areal distribution of bycatch were being developed.

The MAC also expressed concern that possible funding cuts would reduce or eliminate port sampling and data collection programs that have been in effect for over 30 years and voted to ask the S-FFMC to support continued funding for these programs.

*J. Roussel moved and J. Gill seconded that a letter be drafted in support of the continuation of these data and sent to the appropriate persons. The motion carried unanimously.

R. Leard stated that the MAC approved changes to the Menhaden FMP Revision with authorization for staff to pass the document to the TCC after editorial changes and additions to Section 12, due November 4, 1994.

Implementation of IJF FMPs by State

L. Simpson reviewed the Implementation of IJF FMP Recommendations by State (Attachment 1). With regard to Spanish mackerel, it was noted that since Alabama closes its waters to fishing in accordance with GMFMC recommendations, the season and TAC recommendations should be "partially implemented" (PA). With regard to black drum, it was noted that Alabama has not implemented requirements for landings with heads and tails attached, and Mississippi has only partially implemented this recommendation because "cleaned" fish may be landed with a previously filed float plan. It was decided that a history of each FMP would be added to future report cards and that the TTFs would be polled to gain input for possible updates or revisions.

Status of IJF Management Plan Development

R. Leard reported that the Mullet FMP was nearly complete with the recent development of a stock assessment which will be reviewed by the SAT on November 2-3, 1994. Sections on sociology and economics are nearing completion, an the FMP should be ready for TCC review in December 1994.

R. Leard noted that the MAC report included the status of the Menhaden FMP Revision. With regard to spotted seatrout, R. Leard noted that data continues to be collected for the biology section and stock assessment. He noted that the SAT would review data bases at the November 2-3, 1994, meeting and determine the appropriate approach, analyses, timetable, etc.

D. Frugé noted that the Gulf Sturgeon Recovery Plan was nearing completion and would be submitted to the TCC for review and approval thereby tracking the IJF FMP approval process.

Magnuson Fishery Conservation and Management Act Amendments

L. Simpson reported that Section 306 amendments regarding states' authorities proposed by the GSMFC were included in a House of Representatives draft, but they were later deleted. In the Senate,

these recommendations were considered, but there status is unknown. No further action will take place until the next Congress (January 1995).

L. Simpson reported that a technical amendment to allow certain staff of the interstate compacts to receive confidential data will also be considered next year.

IJF Program Funding

L. Simpson reported that efforts to increase funding for planning activities that were cut in the past have been successful and $500,000 was appropriated for the three compacts. The GSMFC share should be approximately $166,666. He also noted that he would continue to pursue the fall funding goal of $600,000.

Atlantic Coast Fisheries Act Implementation

L. Simpson described changes that have occurred and that may occur as the result of implementation of the act. He noted that the ASMFC would have authority to ask the Secretary of Commerce to declare a state in noncompliance if its regulations are contrary to an IJF FMP. This noncompliance could result in closure of states' fisheries. He also noted that approximately $3.5 million had been appropriated for implementation at about a 50/50 split.

The Role of the U.S. Fish and Wildlife Service in Coastal Fisheries

D. Frugé reported that the fisheries program in the southeast is small and potentially will be smaller because the 1995 budget probably will not support existing staff and programs. He stated that they were developing an internal marketing document for an enhanced program, and asked for guidance on what role they should play in interjurisdictional fisheries management (i.e., data gathering, technical support, etc.).

J. Brown stated that the Gulf region is in the worst fiscal shape of the seven FWS regions, and he also noted that the next Congress may address overall federal roles in fisheries (all agencies). He noted that although anadromous fisheries, endangered species, and others were ongoing, there has been less effort in habitat involvement, particularly with federally owned lands. It was noted that top priorities appear to be wildlife, endangered species, and habitat with less emphasis on fisheries, and there are also vast regional differences in funding.

After discussion, it was the consensus of the S-FFMC to continue support for USFWS fisheries programs in the Gulf.

ComFIN Program and MOU

R. Lukens reported that an administrative proposal has been submitted to the NMFS for GSMFCs support of ComFIN and RecFIN programs. He noted that the framework measure and MOU for ComFIN were being completed. He also stated that additional funding was needed for the cooperative statistics program to fund state activities as a major part of the ComFIN program.

R. Lukens also noted that NMFS was authorized in their budget to fund RecFIN. He also stated that RecFIN would ultimately utilize an unknown amount of money from existing programs in the NMFS along with additional funding for a total budget of about $2 million. The RecFIN Program is scheduled for review and evaluation through the Marine Fish Section of AFS in 1995.

**There being no further business, the meeting was adjourned at 4:40 p.m.**


**TECHNICAL COORDINATING COMMITTEE**
**MINUTES**
**Wednesday, October 19, 1994**
**New Orleans, Louisiana**

Chairman Corky Perret called the meeting to order at 8:05 a.m. The following members and others were present:

Members
John Brown, USFWS, Atlanta, GA
Terry Cody (proxy for H. Osburn), TPWD, Rockport, TX
Alan Huff, FDEP, St. Petersburg, FL
Ed Irby, FDEP, Tallahassee, FL
Skip Lazauski (proxy for V. Minton), ADCNR, Gulf Shores, AL
Scott Nichols (proxy for B. Brown), NMFS, Pascagoula, MS
Corky Perret, LDWF, Baton Rouge, LA
John Roussel, LDWF, Baton Rouge, LA
Walter Tatum, ADCNR, Gulf Shores, AL
Tom Van Devender, MDMR, Biloxi, MS
Richard Waller, GCRL, Ocean Springs, MS

Staff
Larry Simpson, Executive Director
Ron Lukens, Assistant Director
David Donaldson, SEAMAP Coordinator
Rick Leard, IJF Coordinator

Others
Phil Bowman, LDWF, Baton Rouge, LA
Dave Buzan, TPWD, Austin, TX
Willie Carroll, Seafood Dealers Assn., Eastpoint, FL
Bob Cooke, USFWS, Atlanta, GA
Karen Foote, LDWF, Baton Rouge, LA
Doug Frugé, USFWS, Ocean Springs, MS
Barbara Gregg, TPWD, Austin, TX
Jan Harper, GSMFC, Lake Jackson, TX
Albert King, GMFMC, Gulf Shores, AL
B.D. King, USFWS, Houston, TX
Clarence Luquet, LDWF, New Orleans, LA
Tom McIlwain, NMFS, Pascagoula, MS
Brandt Savoie, LDWF, Baton Rouge, LA
Buck Sutter, NMFS, St. Petersburg, FL
Tom Wagner, TPWD, Rockport, TX

Adoption of Agenda

The agenda was modified with the tabling of items 10 and 11. The amended agenda was approved.

Approval of Minutes

The minutes for the meeting held on April 6, 1994 in Biloxi, Mississippi were approved with minor editorial changes.

Status Report on Freshwater Introduction into Mississippi and Louisiana Marshes

L. Simpson reported that David Etzold talked with Bob Buisson of the New Orleans Corps of Engineers in October who stated that the Bonne Carré freshwater diversion structure is still being studies and restudied by various groups such as technical and steering groups. A new computer model indicates that there is a possible need for less than 30,000 cfs with decreased or no flow during September/October. Overland flow in the spillway is being considered instead of channelling. In addition, the developers may decide to use a smaller structure than is currently designed and if they decide to use a smaller structure, it will take about a year to designed. A final decision on the size of the structure may be agreed upon as early as October. About the Caernarvon project, an oyster group is suing the State of Louisiana concerning the water flow from this structure. And regarding the Davis Pond project, construction of the structure will being in fall 1994.

P. Bowman reported that there are four major points concerning the Bonne Carré structure. The first is that the Mississippi River is much cleaner than some people believe. There was a number of water samples taken and a multitude of tests were conducted. The results provided all the major parts contained in the water from the River. The next issue is that it may not be necessary to have as much water released from the structure as initially thought. The next topic concerned how the water will circulate throughout the Lake Pontchartrain. It was determined that the water circulation is driven by the direction of the winds on the lake. The last issue was that there was some interest in diverting the water over marshes to reduce some of the nutrients in the water. There are some problems in accomplishing this task, but it appears there are some benefits in conducting this activity.

State/Federal Reports

a. Florida

E. Irby reported that Florida is finalizing the reorganizations within their agency. The Division of Marine Resources almost doubled in size of personnel. Florida has expanded their critical fishery monitoring program into Florida Bay and are currently conducting work. The new building for the Florida Marine Research Institute (FMRI) in St. Petersburg has been completed and the one in Cedar Key will be finished soon. The building in Cedar Key will house the critical fishery monitoring team and be used for educational purposes. The oil spill team are up for several awards due to their actions during the Tampa Bay spill in 1993. The Florida Marine Fisheries Commission (MFC) has yet to finalize any revision to the applied seatrout rule. The hatchery program has been restructured by narrowing its focus and Alan Huff is now in charge of the program. Oyster season will not open until November due to a high mortality (almost 100%) in Apalachicola Bay although it is not all bad. Due to the higher salinity, some of the oyster predators have been removed from the affected reefs. The Save our Sealife (SOS) - net ban issue is on the ballot in November. This issue will be voted on by the public to decide if nets should be used in Florida waters. Currently, there are 67 percent of the public for the issue, 17 percent against and the rest are undecided. Based on these figures, it appears the ban will pass and the Department is preparing to implement the ban. There has been a marine recreational fishing license in place for Florida since 1990 which generate approximately 800,000 to 900,000 licenses per year.

b. Alabama

S. Lazauski reported that Alabama is continuing to enhance its artificial reef program. The state is currently deploying surplus military tanks in their reef permit zones. To date, approximately 100 tanks have been placed in the artificial reef areas off Alabama. In addition, the routine reef program continues where about 500 reefs are inspected and determined to be acceptable reef material which then can be deployed into the areas. There have will be several meetings to inform the public concerning the artificial reef program. Also under W/B, the

charter boat log book program continues where captains keep a log book of their catch in conjunction with the NMFS charterboat survey. Alabama is continuing its work on a hooking mortality study concerning speckled trout. This year, the study will be replicated to help verify the previous data. Alabama is continuing to collect landings and TIP data. With IJF funds, Alabama dedicates that money to interjurisdictional enforcement and also developing a crab profile/management plan. In SEAMAP, there is a trap/video program which determines the relative abundance of reef fishes. Alabama is in the process of automating their commercial licensing process. Money from the marine recreational fishing licenses is increasing. To date, 33,000 licenses have been sold. The regulations for red drum have been modified so that only one fish over 26 inches can be retained.

W. Tatum stated that Alabama is currently resurveying all the oyster reefs in the state. The last time this was done occurred in 1968 and there have been alot of change since that time. From this activity, an atlas of Alabama oyster reefs will be produced.

c. Mississippi

T. Van Devender reported that Mississippi has also gone through some reorganization. The Bureau of Marine Resources was made into is own department and now is separate from Mississippi Department of Wildlife, Fisheries and Parks. The new department is governed by its own 7 member commission made up of coastal people and was created July 1, 1994. The Commission has met several times to discuss various issues and problems and kept the Department very busy. The Department is currently searching for an executive director and the position should be filled by November. One of the money sources for the Department is the tideland funds paid by users of water bottoms. There is a large amount of money available which can only be used for marine resources projects, not administrative costs, salaries, equipment, etc. Therefore, due to the large sum of money, it is difficult to spend all the money.

Under W/B, Mississippi is in its sixth year of a cobia tagging study which tags fish from Mississippi. Returned tags have come from as far away as North Carolina and Texas. The spotted seatrout project is in its fourth year and the purpose of this study is to create an age-length key for this species. This is the fifth year of the red drum plankton project where researchers are back calculating biomass spawning of red drum. The creel survey has been operating for seven years and the data is used to examine state management regulations. Interjurisdictional Fisheries work has been conducted for twenty-one years and provides assessment and monitoring information concerning finfish, shrimp and crabs. Mississippi has participated in the SEAMAP for thirteen years and this program collects fishery-independent information concerning the resources in the Gulf of Mexico. The funds from the CSP are used to conduct general canvass and TIP data collection of this program. Approximately 50,000 marine recreational fishing licenses have been sold with 42,000 of them being purchased by residents. The oyster season opened on October 6 and it is expected that approximately 250,000 sacks of oysters will be harvested. There was a special legislative session held where a law was passed which prohibited the use of purse seines to harvest mullet during the mullet season, however, a mullet season was not defined. Another law was passed in preparation of the net ban in Florida, that non-resident could only buy a net license in Mississippi and a Mississippian could purchase a similar license that state. The minimum size for red drum has changed three times in the past three or four months. Since 1990, the minimum size was 22 inches. It was dropped to 16 inches by the old commission, however, the new commission changed it back to 18 inches as of November 1.

d. Louisiana

J. Roussel reported that Louisiana opened a special white shrimp season in Calcasieu Lake. The main inshore shrimp season opened May 16 in central zone and May 30 in the east and west zones. The Commission prohibited night shrimping in Vermilion Bay during the inshore shrimp season and in Sabine Lake, they prohibited to use crab traps for the first fourteen days of the season. The season was mixed ranging from very poor to very good. The fall shrimp season opened on the third week of Monday of August. So far, the catches war also mixed ranging from very poor to very good.. Louisiana is in the process of rebuilding their oyster beds which were devastated by Hurricane Andrew. This year $2 million worth of clutch material will be planted among the various oyster beds in the state and next year an additional $1 million of clutch material will be used. Preliminary results indicate that there are very good sets on this material. Louisiana worked with Nicholls State University to produce

a map of bottom type and reef habitat for one of Louisiana's public oyster bed. The marine finfish advisory panel has been reestablished to receive input from the public. The first meeting of recreational fish development board was finally occurred. The state recently deployed 8 oil and gas structures as artificial reefs and have produced the third (covering Lake Pontchartrain, Lake Borgne, and Chandeleur Sound) in a series of six recreational fishing maps. After the annual assessment, it was decided not to change the regulations for red drum in Louisiana. Currently, there is a 65 - 70% escapement rate for this species. The Marine Fisheries Division helped develop a marsh management policy statement which was presented at an EPA hearing in Washington, D.C. The Division is also currently assisting in the developing a oil spill notification network and development of state contingency plan for spills in Louisiana.

e. Texas

T. Cody reported that Rudy Rosen has left Texas for a position in Oregon. There is still some reorganization occurring. The branches (inland, freshwater, and coastal) have been elevated into divisions within the agency. There is a new red drum tag which will allow a person to keep one fish over 28 inches. If that person returns the tag with all the pertinent information, he/she can get another tag. Due to this tag, there has been a new state record red drum caught weighing 53 pounds. Also, there is a similar tag for tarpon which allows the taking of one oversized fish. The legislative session will begin the first of January 1995 which occurs every two years. Texas is working with bay shrimper to develop a limited entry plan for this fishery. There has been 20 - 30 public hearing and meetings and from these meetings, a plan will be developed which will be sent to the legislature for approval. The National Estuary Program is moving forward in Corpus Christi Bay. The contracts are being let and the program will encompass upper Laguna Madre, Corpus Christi and Aransas Bays. There was an oil spill in Nueces Bay. A lightening struck a value on a pipeline causing the leak. The cleanup is progressing well. The fish and wildlife expo was held recently in Austin as part of TPWD's public outreach program . There were 32,000 people who attended which is an increase of 50% from last year. The groundbreaking for the Seacenter in Freeport has recently occurred. The center will house a hatchery program and be open to the public for their viewing. The SEAMAP has purchased the necessary equipment to begin participating in the SEAMAP Reef Fish Survey which uses a video camera to estimate the relative abundance of reef species in the Gulf of Mexico.

f. National Marine Fisheries Service

S. Nichols reported that NMFS is continuing with by-catch. As reported at an early meeting, NMFS is making progress and work is continuing. Since the last report, NMFS has tested the extended funnel with the grid TED. This device reduce red snapper mortality by 50 - 60 percent. In addition, there is not a problem with shrimp loss with the extended funnel and TED. The fish eye TED results in about a 8% loss of shrimp. The Gulf Council has directed its staff to begin drafting language to come up with mechanisms to address reduction of snapper by-catch. There is probably three to five more years needed before by-catch reduction devices can be effectively used in the Gulf of Mexico. The annual presentation of principal investigators for MARFIN projects is scheduled for Biloxi, Mississippi later this month. Lastly, NMFS is examining the potential of conducting fishery-independent sampling for sharks.

g. Fish & Wildlife Service

J. Brown reported that FWS initially recommended that alternative 2 of the Federal Aid environmental impact statement which stresses more regional than national priorities in the use of federal aid money. However, some comments, the recommendation was changed back to alternative 1 which is the status quo for the Federal Aid program. In the past, there was a reduction in the amount of federal aid money available to the states. This reduction was due in part to paybacks to the treasury for some overcredits and lower interest rates. For 1995, the amount of money should be about the same as the 1994 level.

B. Cooke reported the division of the money for the Clean Vessel Act has been decided and each Gulf States received some of this money. There is a stipulation which requires at least a 12.5% boating access compliance. If this percentage is not met, those states which do not meet that figure will be penalties. The average in the Southeast Region is 11.75 percent.

J. Brown stated that the Lower Mississippi River Conservation Committee met for the first time in March and the FWS has hired a coordinator for the program. At the GSMFC April meeting, the executive and assistant director of GSMFC met with Ken Smith and recommended a MOU which formalizes the process of dealing with Federal Aid money between the FWS and GSMFC. This MOU has been signed by FWS and will be presented to the Commission later this meeting. The FWS and other federal agencies have begun orienting the operation and responsibility of their activities towards an ecosystem approach. There are 52 identified ecosystems in the U.S and of those, 15 of them are in the Southeast Region. Along with this ecosystem approach, the FWS is also going through some reorganization. The emphasis is being placed on different issues and problems than in the past. There is a combination of fisheries programs with elements of ecological program and an emphasis on fish and wildlife conservation. The biggest difference in the region will be that the Federal Aid program will stand alone. The budget for 1995 is lean in the fisheries areas and in 1996 it does not look any better and maybe worse than 1995 budget. The Southeast regional director, Jim Pulliam, has retired. The current acting director is planning to retire in November. Thus, the leadership in the Southeast is not very clear.

Discussion of Coastal Restoration

P. Bowman reported that fisheries in Louisiana is big business. There a large amount of economic impact generated by marine commercial and recreational fisheries in Louisiana. The main reason for the large amount of fisheries production is due to the Mississippi River which has built an extensive wetlands system in the state. A big problem is that there are a large amount of wetlands being lost each year in Louisiana. There are several reasons for this loss of wetlands. The primary reason is due to the leveeing of the Mississippi River which has cut off the flow of freshwater and sediment to the wetlands. In addition, in an effort to develop coastal Louisiana, channels have been dredged which has changed the natural hydrology of the area. There are three phases of wetlands loss. There is an initial expansion due to increased nutrients and habitat. But there is a point of diminishing returns where there are large losses of wetlands. The Department has been involved in marsh management for a long time. To help address marsh management the legislature passed the Louisiana Coastal Wetlands Conservation Management and Restoration Act (Act 6) which established a trust fund to pay for construction of coastal restoration projects in the state as well as directing the task force to develop a long-term coastal restoration plan. A similar federal law as passed which addressed some of the same issues and other plans were developed to address this issue. A video produced by the Coastal Restoration Task Force was shown to the group which presented some of the issues and problems dealing with wetlands in Louisiana.

Discussion of Dredging Issue of the Gulf Intercoastal Waterway

B. King provides some history concerning the development of the Gulf Intercoastal Waterway (GIWW). The need for closer coordination in evaluating maintenance dredging projects along the Texas coast prompted state and federal natural resource management agencies to form a group. The goals of the group were to develop and promote environmentally acceptable dredged material disposal methods for the Texas coast and to insure that state and federal natural resource management agencies are an integral part of all planning stages of federal navigation projects. This group has several objectives such as improvement of coordination between the natural resource management agencies and the U.S. Army Corps of Engineers (COE), identification and promotion of beneficial uses of dredged material and dredged disposal areas, review and provide an evaluation of the COE's 1975 Environmental Impact Statement (EIS) on maintenance and operation of the GIWW, development of dredged material management and disposal plans for each bay system along the Texas coast, and increasing the public awareness of adverse environmental effects resulting from dredging. Although maintenance dredging of the GIWW in Texas has been assessed by the COE in its 1975 EIS, continuing adverse impacts from this federal action are cause for revising or supplementing the EIS. Also, environmental impacts caused by maintenance dredging render the COE's EIS inadequate. Additionally, since 1975 new procedures have been enacted regarding compliance with National Environmental Policy Act regulations, Section 404 of the Clean Water Act, and Section 7 of the Endangered Species Act. Since 1975, a considerable amount of new information has been generated on the environment impacts of maintenance dredging including shoreline and dredging material erosion, accumulation of contamination from

suspended sediments, water quality impacts, levee failure and dredged material spills, mitigation, and disposal and isolation of contaminated dredged material.

1994 Fish Kills/Red Tides/Turtle Strandings in the Gulf of Mexico

R. Zimmerman reported that there has been a record number of dolphin and sea turtle strandings this year along the coast of Texas. Some of the possible causes include disease, toxic algae and chemicals, unfavorable environmental conditions, fishing problems, offshore explosions, and pollution related problems. There was disease found in some of the dolphins which probable caused their deaths but none in the fish or turtles. Several animals were tested for toxic chemical and the tests were negative. There was areas of low oxygen and salinity along the upper Texas coast as well as strong winds which stirred up sediments in the water. There were no significant reportings of dolphin or turtle captures in the menhaden fishery. Shrimping on the upper Texas coast is mostly nearshore and mostly offshore on the lower coast. There was no correlation between offshore effort and strandings however, there was a correlation between nearshore effort and the stranding. NMFS found that most nets were using TEDs but there were some operational problems with the devices. It was determined that other fishing pressures could not account for the mass mortality of the animals. There was minor reports of the use of explosives during the time of the strandings. The preliminary conclusion regarding the large number of deaths turtle is primarily due to operational problems with TEDs.

D. Buzan reported that there was a major fish kill in May from Freeport, Texas to Lake Calcasieu, Louisiana. Approximately 90 - 95% (consisting of approximately 650,000 fish) of the fish killed were hardhead catfish. After some testing, it was determined that algal blooms were present throughout the passes in the area when the kill occurred. Later in the year, there was another kill in generally the same area consisting of about 800,000 fish made up of a more diverse range of species. Again there was the presence of algal blooms in the passes. However, there was not one major algae present in all the blooms. Currently, it is not known what caused these massive fish kills. At the same time of these strandings and kills, a Gulf of Mexico mortality response network was being developing for the Gulf. In Texas, a local network is also being developed to help address these problems.

Review of Menhaden FMP Revision

L. Simpson reported that Menhaden Task Force had approved the revision of the draft amendment to the plan except for section 12 which dealt with proposed research and actions. Comments concerning this section will be sent to Rick Leard by November and then the revised copy should be sent to the TCC for their approval by mid-November.

Subcommittee Reports

a. Artificial Reef

W. Tatum reported that the Subcommittee met and discussed several issues. The group has published a document which describes each state's artificial reef program and location of their reefs and are currently developing a reef materials evaluation publication which should be published by January 1995. In addition, the Subcommittee also acts as the Gulf Council's Special Management Zone (SMZ) Team. This group met several times and developed and revised a proposal for SMZs off the coast of Alabama. The proposal has been forwarded onto the Council for their action. Several years ago, the Subcommittee recommended in the form of a resolution that coal ash should only be used in artificial reefs for research purposes. Since that time, there has been a considerable amount of research pertaining to this issue and the Committee may want to consider changing the resolution. The Subcommittee will continue to reexamine this issue and will present its findings at future meetings.

b. SEAMAP

* W. Tatum reported that SEAMAP is currently involved in comparative tow survey to examine the differences between vessels. This year, work was conducted between the R/Vs TOMMY MUNRO and PELICAN. Preliminary findings show that there are no significant differences in fishing power between these two vessels. The

Subcommittee produced the Annual SEAMAP Report to the TCC which has been distributed to the group. W. Tatum moved on behave of the Subcommittee that the SEAMAP Subcommittee sponsor a symposium regarding trawl data surveys and associated uses of the data in the Gulf of Mexico. This issue will be presented during the 1995 Fall GSMFC meeting as a general session topic. The motion passed unanimously. W. Tatum moved that the Adult Finfish Work Group attend the NMFS meeting regarding an integrated shark research program to aid in the development of a sampling protocol for sharks. The motion passed unanimously. W. Tatum moved that Louisiana sponsor a planning workshop for the Reef Fish Work Group to examine the availability of equipment, feasibility of its use, and funding requirements for conducting a survey of man-made, vertically-distributed hard bottom habitats (primarily oil and gas structures) in the Gulf of Mexico. The motion passed unanimously. Lastly, Walter Tatum was elected Chairman and Richard Waller was elected Vice Chairman.

c. Data Management

S. Lazauski reported that each Subcommittee member presented state and federal reports concerning issues occurring in their agencies. At the RecFIN/CSP meeting in Tampa, the issue of processed products was discussed concerning modifying this survey to provide more timely and useful data. A universal trip ticket system was discussed and the Subcommittee examined several issues concerning developing such a system. Data confidentiality was discussed when all personnel will have access to data from other states. NMFS will publish a stock assessment primer which is designed to fill some of the gaps concerning stock assessment. Alternative methods of controlling fishing pressures where discussed. Skip Lazauski was elected Chairman and Joe Shepard was elected Vice Chairman.

d. Anadromous Fish

D. Frugé reported that the Subcommittee continues work on the Gulf Sturgeon Recovery Plan. The FWS is in the final stages of revising the recovery plan and should be sent to the regional director for approval. Once the recovery plan is final, it will be presented to the TCC as a management plan for their comment and possible approval The West Pearl River Project is a refurbishing project which will rebuild the West Pearl navigation program. During this refurbishing, gulf sturgeon were encountered and thus the COE has to go through a Section 7 consultation with the FWS. Then COE needed water quality approval from the Louisiana and Mississippi. Louisiana has approved the water quality and there is conditional certification from Mississippi. During the Section 7 consultation, the COE developed a plan for monitoring gulf sturgeon. This plan was reviewed by the Subcommittee and believe there are some problems with the plan and needs to be reviewed more thoroughly by the group. Doug Frugé was elected Chairman.

e. Crab

B. Savoie reported that the Subcommittee each state presented their report concerning activities in their states. Florida reported that the by-catch from the shrimp fishery is affecting the crab fishery. Most of the states were concerned with the poor quality and small size of crabs being caught. Another issue discussed was the predation of the crabs and attempting to determine what preys on them. T. Wagner was elected Chairman.

Election of Officers

The Committee nominated Corky Perret for Chairman. The nominations were closed and C. Perret was elected by acclimation. C. Perret appointed T. Van Devender as the Vice Chairman.

**There being no further business, the meeting was adjourned at 2:00 p.m.**

COMMERCIAL FISHERIES ADVISORY COMMITTEE (CFAC)
Wednesday, October 19, 1994
New Orleans, LA

Larry Simpson called the meeting to order at 1:15 p.m. He stated that Chris Nelson, Chairman of the Committee, was at another meeting and will be about an hour late. He explained that the Commercial Fisheries Advisory Committee (CFAC) meetings are round table discussions and he invited everyone to participate. A large number of local commercial fishermen came to the meeting and it was later realized that they were there to attend the Gulf of Mexico Fishery Management Council's Law Advisory Panel meeting. They were under the impression that the purpose of the meeting was to discuss closing the Gulf of Mexico to commercial fishing. R. Lukens explained to them that the Council and the Commission were two separate entities and that both meetings were for informational purposes and neither would be making any management decisions. The following were present:

Jimmy Cannette, Biloxi, MS
Leroy Kiffe, Lockport, LA
Jan Harper, Lake Jackson, TX
Chris Nelson, Bon Secour, AL
George Sekul, Biloxi, MS
Albert King, Gulf Shores, AL
Ted Shepard, LSA, New Orleans, LA
Anthony Toups, Westweigo, LA
Harold Toups, Jr., Marrero, LA
Brad Friloup, Luling, LA
Dave Burrage, Biloxi, MS
Tom Schultz, Biloxi, MS
Wil Seidel, Pascagoula, MS
Nathan Mayet, Carose, LA
Barbara Gregg, Austin, TX
Buck Sutter, St. Petersburg, FL
Bobby Savoie, Baton Rouge, LA
Etha Le Compte, Chauvin, LA
Loretta Le Compte, Chauvin, LA
Clarence Luquet, New Orleans, LA
Robert Ancelet, New Orleans, LA
Richard Waller, Ocean Springs, MS
Philip Bowman, Baton Rouge, LA
Donald Lirette, Dulac, LA
Charles Ledet, Montegut, LA
Floyd Trascla, Terrebone, LA
Kimberly Chauvin, Chauvin, LA
David Chauvin, Chauvin, LA
Steven Atran, Tampa, FL
Karen Rains, Tampa, FL
Corky Perret, Baton Rouge, LA
Gary Nguyen, Golden Meadow, LA
Ken Plaisance, Galliano, LA
Randall Pinell, Chauvin, LA
Jamie Neil, Chauvin, LA
Richard Pinell, Chauvin, LA

Staff
Larry B. Simpson, Executive Director
Ronald R. Lukens, Assistant Director
Richard L. Leard, IJF Coordinator
Cheryl R. Noble, Staff Assistant

Adoption of Agenda

The agenda was approved as submitted.

Approval of Meeting Summary

The meeting summary from April 6, 1994 was approved as submitted.

Status of Bycatch Studies

Steve Branstetter from the Gulf and South Atlantic Fisheries Development Foundation (GSAFDF) updated the Committee on their bycatch research. He said there are six or seven major objectives of the Bycatch Research Program but the Foundation is focusing on two, bycatch characterization and gear options, i.e. bycatch reduction devices (BRDs). The research is being conducted through a voluntary observer program aboard commercial fishing vessels. After a BRD is approved by the Gear Review Panel, it is put into a net on a commercial fishing vessel. An observer then documents the catch from the control net and the BRD net. For the characterization work, an observer randomly selects one of the nets being fished and takes a sample of that catch noting the number of hours towed and pounds per hour. The entire sample is identified, weighed and measured. Out of 82 BRD designs evaluated, the "extended funnel", the "top position fisheye" and "extended mesh" seem to have the best potential to reduce bycatch and maintain good shrimp retention.

Wil Seidel, NMFS, Pascagoula, Mississippi, also gave a slide presentation on the Bycatch Research Program. He said they have given the same presentation or status report (Attachment I) to the GMFMC several weeks ago and the Council has already started drafting regulations on BRDs. He stated that the ideas for BRDs came from commercial fishermen, net manufacturers, designers, other researchers and within NMFS. If a design is approved after evaluation it enters into the proof of concept (POC) stage. During POC, the device is tested against a standard net to evaluate shrimp loss and bycatch reduction. He then showed a video of the different stages in testing these devices, and stated that they will continue to test new ideas and work on modifications on the older designs to reach the required bycatch reduction.

At this point, some fishermen realized they were not in the meeting they wanted to attend. Wil Seidel's presentation was cut short and Ron Lukens informed them of the purpose of both meetings. He then introduced Albert King with the Gulf of Mexico Fisheries Management Council who explained to them the history and purpose of the Council. He assured them that he would put their names on the Council's mailing list to receive newsletters, announcements of public hearings and anything else that they would want.

Ron Lukens then introduced Karen Rains, the Senior Enforcement Attorney for NOAA who briefed the group on the two lawsuits filed against NMFS and the Department of Commerce. The suits were in response to strandings of more than 580 sea turtles on the Texas and Louisiana Gulf coasts. The first lawsuit was

filed by the Earth Island Institute and the other was filed by the Center for Marine Conservation.

On September 13, 1994 a complaint was filed in the U.S. District Court of the District of Columbia by the Earth Island Institute basically alleging that the NMFS and the Department of Commerce have failed to adequately respond to the increase in turtle mortality in 1994 in the Gulf of Mexico due to commercial shrimping and therefore have violated the provisions of the Endangered Species Act and the Administrative Procedures Act. The plaintiffs also claim that the current regulatory program is inadequate and that the defendants have violated the Administrative Procedures Act by failing to comply with NMFS regulations, biological opinion and the Incidental Take Statement. The Plaintiffs are seeking a declaratory judgement that the defendants have violated the law, and they are seeking an injunction requiring re-initiation of consultation and an order prohibiting the defendants from permitting any further shrimping which may lead to the further unlawful take of the endangered sea turtles.

On October 3, 1994 a complaint was filed in U.S. District Court, Southern District of Texas by the Center for Marine Conservation alleging that the NMFS, Department of Commerce and Gulf of Mexico Fisheries Management Council have failed to adequately respond to the increase of turtle mortality due to commercial shrimping and have violated the Endangered Species Act, the Administrative Procedures Act, the Magnuson Act and the National Environmental Policy Act. The plaintiffs are seeking a declaratory judgement that the laws have been violated and the defendants should stop the following activities: permitting any shrimping activity which may lead to the unlawful take of endangered sea turtles, permitting any shrimping activities conducted in the Gulf that violates the terms and conditions of any biological opinion issued by NMFS and taking any action before consultation is re-initiated.

She said both suits request any other relief the court may deem appropriate. The Department of Justice is counsel for the defendants and an answer has not yet been filed.

C. Nelson told the group that as commercial fishermen they need to support the Texas Shrimp Association and the National Fisheries Institute because these two organizations have joined in the lawsuits as defendants and would share the cost of legal fees to protect the interests of all segments of the commercial fishery.

Proposed Closure of Oyster Seasons

Bobby Savoie with the Louisiana Department of Health and Hospitals informed the group that the U.S. Food and Drug Administration submitted a proposal to restrict the sale of oysters during April through October. It would not restrict the catch during that period of time but the container would have to be labeled with the state of origin and with a warning that the oysters should be consumed cooked not raw. This would affect oysters from the Gulf of Mexico only. He said the FDA does not regulate the oyster industry, but they are urging the shellfish regulators to come up with a proposal that would meet these stringent requirements.

Chris Nelson said that the industry feels that in lieu of regulations the public should be educated on who is at risk from eating raw food. He also

noted that if strict regulation persists, U.S. industries will soon go out of business and seafood will be imported from foreign countries that do not meet of the standards the U.S.

Other Business

Chris Nelson told the group that Larry Simpson had invited Karl Wickstrom, Chairman of Save Our Sealife Committee in Florida, and Bob Jones, Executive Director, Southeast Fisheries Association, to speak to the committee on their views of the Florida net ban proposal. C. Nelson then read Mr. Wickstrom's less than cordial decline to speak to the committee. C. Nelson then presented a draft resolution regarding the Florida net ban issue which states that the net ban conflicts with the Magnuson Act and the Interjurisdictional Fisheries Act and he informed the Committee that the GMFMC passed a similar resolution. He said that most of the managers in Florida do not agree with the ban, but they are not necessarily trying to stop it. C. Nelson moved that the CFAC pass the resolution and make a recommendation to the GSMFC to accept it. Dave Burrage seconded the motion and it passed unanimously.

Dave Burrage with the Mississippi Cooperative Extension Service said their agency has had a lot of phone calls from fishermen who are scared to leave the docks because of shrimp seizures due to TED violations. It seems the enforcement people are not consistent in the protocol for inspecting the TEDs. After a lengthy discussion on the enforcement of TEDs, Chris Nelson moved that the CFAC recommend to the GSMFC that a resolution from the Commission be sent to the enforcement branch of the NMFS spelling out the problems that are occurring with inspections of TEDs, and suggesting that they make specific recommendations standardizing methods, i.e. floats on the TED, the angle of the TED, the opening of the TED, and the dimension between the bars. The resolution would also ask enforcement to practice more liberal use of warnings as opposed to citations for those who are trying to comply. After the TED is inspected, a certificate could be given stating the last time the TED was inspected. Leroy Kiffe seconded the motion and it passed unanimously.

Discussion of Spotted Seatrout TTF Advisors

Tom Hultz was elected at the last meeting to serve on this task force to represent the CFAC. He was unable to attend this meeting to give an update on the Task Force's activities.

**There being no further business, the meeting adjourned at 4:35 p.m.**

# SUMMARY OF BRD RESEARCH RESULTS
# GULF OF MEXICO FISHERY MANAGEMENT COUNCIL PRESENTATION
# SEPTEMBER 1994

A summary of the results of BRD development research by the NMFS Mississippi Laboratories and BRD evaluations by the NMFS Galveston Laboratory and the Gulf and South Atlantic Fisheries Development Foundation was presented at the Gulf of Mexico Fishery Management Council meeting held in New Orleans, Louisiana on September 22, 1994. The following is a synopsis of the information presented at that meeting.

The Harvesting Systems Branch of the NMFS Mississippi Laboratories has evaluated 82 BRD designs since this project was initiated in 1990. These evaluations have included observations of fish behavior, video documentation of operational characteristics, water flow measurements, and delineation of water flow patterns associated with BRD designs. Prototype designs have included BRDs developed by commercial fishermen, net shops, gear technicians, and fishery engineers. Proof of concept data have been collected for 24 designs and three designs have been recommended for commercial evaluations. The results of these investigations are presented in NOAA Technical Memorandum NMFS-SEFSC-327 and the 1993 Annual report "Status of gear modifications to reduce shrimp trawl finfish bycatch in the southeastern U.S. March, 1994 available from the NMFS Mississippi Laboratories, Pascagoula, MS.

Of the 82 BRD designs evaluated the extended funnel design and the top position fisheye appear to have the best potential for reduction in fishing mortality for juvenile red snapper while maintaining shrimp catching efficiency. Data from proof of concept evaluations (POC) and commercial evaluations (COM) for the top position fisheye, and the extended funnel BRDs were analyzed to determine shrimp retention rates, total fish reduction rates, and reduction rates for red snapper. Red snapper length frequency data were analyzed to determine snapper reduction by size and the effect on overall reduction in fishing mortality. Statistical analysis included the paired t test and point and interval estimate procedures for ratio estimates.

Shrimp retention rate estimates were 85% (POC) and 92% (COM) for the fisheye BRD, and 96% (POC) and 101% (COM) for the extended funnel BRD. The fisheye shrimp retention rate estimates were significantly different from the control net ($P< 0.05$). Confidence intervals were 77% - 93% (POC) and 88% - 94% (COM).

Total fish reduction rate estimates were 70% (POC) for the fisheye and 41% (POC) for the extended funnel. Both estimates were significantly different from the control net ($P<0.05$). Confidence intervals were 62%-78% for the fisheye and 30%-52% for the extended funnel.

Red snapper reduction rate estimates were 37% (POC) and 10% (COM) for the fisheye BRD, and 24% (POC) and 18% (COM) for the extended funnel BRD. The extended funnel BRD snapper reduction rate estimate for the commercial tests (18%) was significantly different from the control net ($P<0.05$) with a confidence interval between 6% and 29%. Length frequency data indicated reduction rates between 40% and 60% for red snapper over 130 mm in length for the extended funnel BRD and between 40% and 80% for red snapper over 130 mm in length for the fisheye BRD. These data indicate that the extended funnel BRD and the fisheye BRD designs are capable of reducing juvenile snapper fishing mortality by shrimp trawls 50-60%.

New BRD prototypes evaluated in 1994 include the flat bottom super shooter BRD, the side opening TED BRD, the Falana fisheye BRD, the Davis restricted codend , the Buskin BRD, the Saunders BRD, and a flap modification on the extended funnel BRD. These designs incorporate features designed to improve the reduction of juvenile red snapper less than 100 mm

APPROVED BY:

COMMITTEE CHAIRMAN

**LAW ENFORCEMENT COMMITTEE (LEC)**
**MINUTES**
**October 19, 1994**
**New Orleans, Louisiana**

Jerry Waller, Chairman, called the meeting to order at 8:20 a.m. The following were in attendance:

Members
Terry Bakker, MDWFP, Biloxi, MS
Tommy Candies, LDWF, Baton Rouge, LA
LCDR Mark Johnson, USCG/8th District, New Orleans, LA
Perry Joyner, FMP, Tallahassee, FL
Bill Robinson, TPWD, Austin, TX
Jerry Waller, ADCNR/MRD, Dauphin Island, AL

Others
Steven Atran, GMFMC, Tampa, FL
Sandy Dares, LDWF, New Orleans, LA
Frank Feliciano, FMP, Tallahassee, FL
Leroy Kiffe, GSMFC, Lockport, LA
Larry Matherne, LDWF, Baton Rouge, LA
Robert Perkins, USCG GFTC, New Orleans, LA
R.F. Powers, USCG/8th District, New Orleans, LA
Karen Raine, NOAA General Counsel, St. Petersburg, FL
David Rose, MDWFP, Biloxi, MS
Tom Shuler, NMFS, Carriere, MS

Staff
Richard Leard, GSMFC, Ocean Springs, MS
Cynthia Bosworth, GSMFC, Ocean Springs, MS

Adoption of Agenda

LCDR Johnson requested TED Enforcement Activity be discussed under Other Business. The agenda was then adopted with this addition.

Adoption of Minutes

Terry Bakker requested the correct affiliation of Mississippi Department of Wildlife, Fisheries and Parks rather than the Mississippi Department of Marine Resources. With this correction, the minutes of the meeting held March 14, 1994, in Gulf Shores, Alabama, were adopted.

Task Force Activity

Terry Bakker is providing input into the Mullet FMP development activity, and Jerry Waller is providing input into Spotted Seatrout FMP development activity. An organization meeting of the Spotted Seatrout Task Force was held June 21-22, 1994, at the Claude Peteet Mariculture Center in Gulf Shores, Alabama. Meetings for both task forces are tentatively scheduled for late this year or early 1995 after a Stock Assessment Team meeting scheduled for November 2-5, 1994, where both species will be addressed.

White Paper - Consistency of Regulations

From the April 1994 meeting, the LEC and GSMFC staff developed a white paper (Attachment 1) to address the problem of inconsistent regulations among the Gulf States. Terry Bakker motioned that the LEC request the Commission, in particular state directors, review and provide responses to the recommendations set forth in this document. The committee further requested that responses be available for review at their next committee meeting scheduled for March 1995. Tommy Candies seconded the motion which passed unanimously.

Proposed Florida Net Ban

The LEC discussed key elements of the constitutional amendment which prohibits the use of all gill and entangling nets, such as drift nets, stab nets, and trammel nets, in all Florida waters. The amendment prohibits the use of other nets with greater than 500 sq. ft. of mesh area in nearshore and inshore waters. The amendment allows the use of nonentangling nets less than 500 sq. ft. in mesh area, such as cast nets, dip nets, frame nets, and small trawls, in all Florida waters. The amendment allows the use of non-entangling nets greater than 500 sq. ft. in mesh area such as shrimp trawls and purse seines, in Florida waters more than three miles offshore in the Gulf of Mexico and one mile in the Atlantic. Further, the amendment allows and exempts nets used for scientific research and governmental purposes. Two major factors discussed at length included how other states will absorb displaced commercial fishermen from Florida, and how Florida will manage fishermen from the time of the vote until the referendum's implementation.

ISSC Issues

Jerry Waller reported the ISSC had met on October 18, 1994. Under discussion was the proposed Food and Drug Administration ban on selling Gulf Coast oysters on the half-shell from April through October.

NMFS Report - TED Enforcement Activity

LCDR Mark Johnson and Tom Shuler reported that an extensive, cooperative effort between the NMFS and the USCG to enforce TED regulations has been ongoing in Texas and will now be moving into Louisiana and Mississippi. This effort is an attempt to tighten compliance with TED regulations rather than a closure which would result in punishment of those in compliance and general protest. GSMFC Commissioner Leroy Kiffe asked why boats had to endure so many boardings. LCDR Johnson agreed that this effort is a strain on both shrimpers and enforcement, and abbreviated boardings to inspect TEDs are being implemented. He explained that they maintain three levels of effort: 1) an area effort to discern a baseline on compliance in that area, 2) a maximum level of effort to achieve compliance, and 3) a level of effort to maintain compliance. In Texas, the majority of shrimp fishermen are now in compliance or are working toward compliance. As this effort moves into the Louisiana and Mississippi, compliance rates are also expected to increase in these areas.

Discussion of Possession During Closed Seasons

At the GMFMC meeting in September, a question was asked whether a case could be made against a fish house in possession of out-of-season, fresh product without any documentation. The Council requested the LEC discuss this matter provide its opinion. Karen Raine, Senior Enforcement Attorney with NOAA General Counsel, participated in this discussion with the LEC. The LEC concluded that a federal case could probably not be made; however, a state case could be made on inadequate record keeping rather than illegal possession of the fish itself.

Summary of Marine Fishing Laws and Regulations for the Gulf States

Cindy Bosworth reported that all updates had been incorporated, and that the NMFS and TPWD maps in the back need correction to bring them up to date. Bill Robinson noted that his office is working on the TPWD map. Jerry Waller requested that committee members review the latest draft and provide Cindy with any additions or corrections so the publication can be finalized as soon as possible.

Other Business

The entire LEC expressed its sincere appreciation to the recently retired Lu Hourihan of the Commission staff for her years of excellent work with the committee.

Jerry Waller read copies of the letters of appreciation that were sent to retired members M. Palozzi and L. Shelfer.

Jerry Waller distributed an amendment to Alabama Code 220-3-03 and asked the committee to review and provide him with comments.

Election of Chairman

Terry Bakker nominated Jerry Waller for chairman, and Tommy Candies seconded the nomination. Jerry Waller was elected chairman by acclamation of the LEC.

**There being no further business, the meeting was adjourned at 11:32 a.m.**

COMMISSION BUSINESS MEETING
MINUTES
Thursday, October 20, 1994
New Orleans, Louisiana

The meeting was called to order at 8:30 am by Acting Chairman Joe Gill. He noted that a quorum was present and asked that all commissioners, staff and other participants introduce themselves. Larry B. Simpson reviewed pertinent rules and regulations regarding the appropriate meeting procedures. Voting is by individual Commissioners. If there is a question about the vote, each state delegation shall cast one vote. If three Commissioners are present, two out of three will carry the State vote. If only two Commissioners are present from a state, they must agree or their vote will offset each other. If only one Commissioner from a state is present his vote shall represent the state.

The following Commissioners and/or proxies were present:

Members

| | | |
|---|---|---|
| Leroy Kiffe | LA | |
| Corky Perret | LA | |
| Paul Hammerschmidt | | TX |
| Jan J. Harper | TX | |
| Chris Nelson | AL | |
| Vernon Minton | AL | |
| Tommy Gollott | MS | |
| Joe Gill, Jr. | MS | |
| George Sekul | MS | |
| Edwin Irby | FL | |
| Allen Boyd | FL | |

Other persons attending were:

Staff
Larry B. Simpson, Executive Director
Ron Lukens, Assistant Director
Dave Donaldson, SEAMAP Coordinator
Richard Leard, IJF Coordinator
Ginny Herring, Executive Assistant

Others
Buck Sutter, NMFS/SERO, St. Petersburg, FL
Andrew Kemmerer, NMFS/SERO, St. Petersburg, FL
John Brown, USFWS, Atlanta, GA
Doug Fruge, USFWS, Ocean Springs, MS
Tom McIlwain, NMFS, Pascagoula, MS
Jerald K. Waller, ADCNR/MRD, Dauphin Island, AL
Joseph Smith, NMFS/Beaufort Lab, Beaufort, NC

Barbara Gregg, TPWD, Austin, TX
G. W. "Bill" Robinson, TPWD, Austin, TX
Willie Carroll, GOIC, Eastpoint, FL
Richard Waller, GCRL, Ocean Springs, MS
John Roussel, LDW&F, Baton Rouge, LA

Adoption of Agenda

The agenda was adopted as presented.

Adoption of Minutes

The minutes for the April 7, 1994 meeting held in Biloxi, MS. were approved as presented.

NMFS Southeast Regional Office (SERO) Report

A. Kemmerer reported on behalf of the NMFS/SERO. He reported that the FY95 budget had been released and it reflected some substantial increases. Most increases had not yet been allocated by region. He stated that RecFIN and ComFIN funding had not been finalized but sources in Washington have said that a decision will be made in late November. A. Kemmerer is optimistic that they will move rapidly. Red Drum research is a line item in the budget, amounting to $250,000. He hopes the Commission will be involved with how these funds are spent.

Another major issue this year is turtle strandings. Four hundred sixty turtles have been stranded on Texas beaches since the beginning of this year. Most were stranded in April and a large percent of those turtles are Kemp Ridleys. Strandings are down now. Most strandings have occurred on Northern Texas beaches. About 170 turtles have been stranded in Western Louisiana beaches. This is way above normal stranding levels. Because of this, NMFS has increased enforcement efforts, primarily off of Louisiana and some portions of Texas. They have experienced problems with compliance in Louisiana. Only about 85% of boats boarded in Louisiana are in compliance. Fifteen percent are receiving either citations, shrimp seizures, or warnings. V. Minton asked if there is any trend in size or other similarities. L. Kiffe asked if autopsies are being performed. A. Kemmerer stated that they are looking into similarities but autopsies are not always possible due to the condition of the turtles when

they are stranded. When cause of death is apparent, it is noted. L. Kiffe asked if there was a possibility of closing the entire Gulf to shrimping. A. Kemmerer said that the possibility of closing the entire Gulf is slim, but there is a slightly higher possibility that a small portion may be closed. C. Perret stated that evidence indicates that the shrimp industry is a major cause of strandings but other industries exist that also impact strandings. Would the Gulf or a small portion of the Gulf be closed to all industries or just to the shrimp industry? A. Kemmerer said that is one of the issues being looked at but he would doubt if all activity would be closed in the Gulf. It was noted that gear is not always used properly. Gear specialist are now in the field assisting persons that need assistance. C. Nelson pointed out that a major concern to industry was consistency in regards to inspections by enforcement. He stated that a main issue was the use of floats on TEDs. This changes the angles of the TED and may be necessary depending on the bottom of the area being fished. Daily inspections should not be necessary. The Commercial Fishery Advisory Committee supports a letter to NMFS enforcement and Coast Guard Inspectors requesting consistency in dealing with floats and angles of TEDs, certification of vessels, certification of certain net makers, and training in lieu of citations for those not in compliance. He put this in the form of a **motion**. V. Minton seconded. The **motion** carried.

R. Lukens asked A. Kemmerer what could be done to assure funding for RecFIN and ComFIN. C. Perret stated that he was disillusioned regarding NMFS lack of cooperation regarding funding in the Southeast Region. He feels that other regions are getting more funds than the Southeast Region. L. Simpson is disappointed that James Baker had not responded to the Commission's letter of August 29, 1994 regarding the report to the House Appropriations Committee. C. Perret **motioned** to direct L. Simpson to write for a copy of the report sent by the Southeast Regional Office to Jim Baker regarding the House Appropriations Committee report. C. Nelson seconded. The **motion** carried.

USFWS Region 4 Office - Report

John Brown reported for the USFWS Region 4 Office. He reported that a Memorandum of Understanding (MOU) had been signed by USFWS on October 14, 1994 and submitted to the Commission for their consideration and signature. This MOU was suggested and requested by R. Lukens and L. Simpson at a meeting with Ken

Smith, USFWS Deputy Director. The MOU formally secures a close and cooperative working relationship and the necessary specific interactions between the Service and GSMFC. It further promotes and enhances joint actions to protect, conserve and manage significant interjurisdictional marine, estuarine, and anadromous fish species of the Gulf Coast. These purposes will be implemented through appropriate authorities and funding programs administered by the Service, such as the Administrative Fund of the Federal Aid in Sport Fish Restoration Program. This MOU does not guarantee funding but promotes the process and enhances long standing arrangements. L. Simpson will secure the appropriate signature and return to the Atlanta office.

J. Brown also reported that anadromous work was reduced because of a payback to the U. S. Treasury. The payback was necessary because of over estimates in import duties collected. In addition to the payback, interest rates were low for investments with trust funds. Anadromous work will continue at the same level as 1994.

J. Brown briefly discussed the Services efforts to implement an ecosystem approach. The Service currently has identified 53 based on watershed, of this amount 15 are in this region. The Service does not see itself as an ecosystem manager, but as a participant, especially in areas where USFWS own land.

He informed the Commission that Jim Pullium, Deputy Assistant Director will retire. John reported he will also retire in January 1995. He expressed appreciation to the Commission and States for their cooperation and interaction with the Service. J. Gill and L. Simpson expressed their appreciation of John's efforts on the States' behalf and indicated that he would be greatly missed.

Report - Technical Coordinating Committee (TCC)

C. Perret reported that the TCC met on Wednesday, October 19, 1994. He distributed the Annual SEAMAP report to the Commissioners for their information. Some action was required on behalf of the SEAMAP Subcommittee. C. Perret made three **motions:** 1) That the SEAMAP Subcommittee sponsor a symposium regarding trawl data surveys and associated uses of the data in the Gulf of Mexico. This issue will be presented during the 1995 Fall Meeting of the Commission in the form of a general session; 2) That the Adult Finfish Work Group attend the NMFS meeting regarding an integrated shark research program to aid in the development

of a sampling protocol for sharks; and, 2) That Louisiana sponsor a planning workshop for the Reef Fish Work Group to examine the availability of equipment, feasibility of its use, and funding requirements for conducting a survey of man-made, vertically-distributed hard bottom habitats in the Gulf of Mexico. The **motion** passed unanimously.

Corky Perret was elected Chairman for the coming year and he appointed Tom Van Devender as Vice Chairman.

Report - Law Enforcement Committee (LEC)

V. Minton reported that the LEC met on Wednesday, October 19, 1994. Items discussed included reports from Terry Baker and J. Waller regarding task force work for the Mullet FMP and Spotted Seatrout FMP respectively; discussion regarding the proposed Florida net ban; TED compliance in Texas, Mississippi and Louisiana; and a discussion regarding possession of out-of-season fresh products - federal versus state violation. The GSMFC staff and the LEC developed a white paper to address the problem of inconsistent regulations among the Gulf States. The LEC requested that the Commission, in particular State Directors, review and provide a response to the recommendations set forth in this document. The LEC would like to review the response at their March meeting. V. Minton's report on behalf of the LEC was approved as presented.

Report - State-Federal Fisheries Management Committee (S-FFMC)

L. Simpson reported that the S-FFMC met on Wednesday, October 19, 1994. The committee received a report from the Menhaden Advisory Committee (MAC). The MAC is currently making revisions to the Menhaden FMP. As a result they have recommended that the Commission send a letter to NMFS headquarters supporting the continuation of the 30 year dockside data sampling program. V. Minton **moved** to accept this recommendation. T. Gollott seconded. The **motion** carried.

Other topics discussed at the meeting included an update on Interjurisdictional Fishery Management Plans; discussion regarding Magnuson Act amendments; increased funding for the Interjurisdictional Fishery Program; updates on Atlantic Coastal Fisheries Act implementation; and a discussion regarding the role of USFWS in coastal fisheries. A final discussion included a review of the status of Interjurisdictional Fishery Management Plans

implementations. This review showed some successes and some areas that need additional work. The report was approved as presented.

T. Gollott asked if R. Leard had a feel for what is happening in the mullet industry due to his effort on the FMP. R. Leard indicated that fishermen were indeed nervous, especially about the proposed net ban in Florida. A recent survey done by the Commission indicates that 42% of Florida fishermen will move to other states if Florida's proposal is approve. The proposal will impact the entire fishery in the Gulf of Mexico. T. Gollott stated that there is currently a move in Mississippi that would prevent a Florida fishermen from getting a license in Mississippi, especially during the roe season. They would be denied a license since Mississippi net fishermen would be banned in Florida. He suggested other states seek that kind of legislation. C. Nelson said that many fishermen could get around this by setting up residence in the State they wanted to fish in. The issue should not be one of protecting individual states waters from other state's fishermen, but the right of a fishermen to make a living as a U.S. citizen. V. Minton discussed Alabama legislative efforts to control potential problems in the fishery.

L. Simpson reviewed the Atlantic Coastal Fisheries Act of 1993. This Act allows the Atlantic States Marine Fisheries Commission (ASMFC) to declare a state out of compliance and through the authority of the Department of Commerce impose a moratorium on a fishery. This Act is patterned after the Striped Bass Recovery Act but now includes fishery resources that migrate across the jurisdictional boundaries of the Atlantic States and the Federal government. The Act states that the Atlantic coastal states are responsible for oversight and management through the ASMFC with the support of the Federal government. It was pointed out that as presented, State regulations may be more restrictive then Federal regulations but not less restrictive. E. Irby stated that this legislation is still in the early stages of development and he predicts changes and amendments in the future. L. Simpson stated that it was a good idea to watch what happens on the Atlantic Coast and to proceed cautiously. He will continue to keep the Commission informed.

Report - Commercial Fisheries Advisory Committee (CFAC)

Chris Nelson reported that the CFAC met on Wednesday, October 19, 1994.

Some confusion arose when several local fishermen showed up to listen to a discussion regarding litigation involving sea turtles and enforcement procedures. This discussion was on the Gulf of Mexico Fishery Management Council (GMFMC) Law Advisory agenda. Due to space restraints, the group was invited into the CFAC meeting room, and Karen Raines, Senior Enforcement Officer for NOAA General Counsel, briefed the group on the litigation.

The committee received several reports. W. Seidel and S. Branstetter gave a status report on bycatch studies. B. Savoie discussed proposed restrictions in the oyster industry. A. King reported on GMFMC activities.

A major topic of discussion was the Florida net referendum. The committee was disappointed in a reply from Karl Wickstrom, Chairman of the Save our Sealife Committee. Although L. Simpson had extended a very cordial invitation to Mr. Wickstrom to attend this meeting and share his views regarding this issue, he declined in a less than courteous manner. After discussion of the proposed net ban, C. Nelson **moved** on behalf of the CFAC to approve a resolution (attached). V. Minton seconded. The resolution states that the GSMFC supports scientific management of marine fishery resources and that it has determined that the proposed net ban referendum had not been evaluated on the basis of scientific information through the appropriate fishery management agencies. P. Hammerschmidt questioned the committees quorum. L. Simpson stated that the original compact requires a group of advisors from commercial and recreational fisheries. It does not specify membership numbers or indicate specific procedures. This group meets with the Commission and holds round table discussions. Attendance is usually dictated by location. He further questioned whether or not the Commission had information that would or would not indicate that the proposed referendum in Florida was not in compliance with the Magnuson Act. L. Simpson pointed out that the GMFMC also supported a similar resolution and that in their opinion it is not in compliance. He also stated that not all GMFMC members agreed. C. Perret stated that this type of approach is not fair and equitable and although he does not like to get into other states business, in this instance it impacts the entire Gulf and should be addressed. P. Hammerschmidt requested that the vote be by State. A. Boyd asked if some scientific data was available that supported the last statement of the resolutions presented. C. Nelson stated that in his opinion, no hard and real

scientific data existed to support the proposed net ban referendum. That available data in large part is political. The Chairman called a ten minute recess to caucus on the motion. Following the recess, C. Perret amended the **motion** to delete reference to the seven national standards of the Magnuson Act. T. Gollott seconded. The **motion** passed with P. Hammerschmidt voting no. C. Perret **moved** that the language in the last paragraph be amended to read "..... the GSMFC has determined that the proposed net ban referendum has not been evaluated on the basis of scientific information through the appropriate fishery management agencies." C. Nelson seconded. The **motion** passed with P. Hammerschmidt voting no. The **vote** on the resolution as amended was as follows: Alabama - yes; Louisiana - yes; Florida - no vote; Texas - no vote; Mississippi - yes. The **motion** passed.

J. Harper and C. Nelson went on record stating that management should be based on scientific fact and political pressure should not have anything to do with fishery management. C. Nelson stated this is not the right way to manage a fishery.

**Federal Legislative Issues**

**-NMFS FY95 Budget**

L. Simpson stated that the three major areas of effort for the GSMFC was offshore red drum research; increased funding for Interjurisdictional Fisheries(IJF); and, funding emphasis for data collection, specifically RecFIN and ComFIN. Efforts in support of these areas have been partially successful. First year funding has been secured for red drum research and a slight increase in funds were made available for IJF programs. He discussed areas of interest to the Gulf States. MARFIN, SEAMAP, Council and Anadromous were level funded. Fishery Statistics originally requested $10.5 million and received a net increase to $12 million. Interjurisdictional Fisheries received an increase, the three Commissions will split $500,000. The Senate Report referenced RecFIN and has provided $3 million, more than requested by the agency. The majority of the new funds will go to red drum research in the Gulf of Mexico.

**-Section 306 - Magnuson Act Amendment**

L. Simpson reported that because several critical issues remain to be resolved, reauthorization of the Magnuson Act will not be acted on during this

Congress. It will however, be a priority for the House Merchant Marine and Fisheries Committee early next year.

**-FDA Oyster Harvest Proposal**

J. Gill briefed the Commission on an ISSC meeting held in Tacoma, Washington. The meeting was attended by representatives from East, West and Gulf Coast involved in managing and harvesting the oyster industry. The Gulf States and NMFS were concerned about a FDA proposal to ban the harvesting of oysters in the Gulf States from April through October. J. Gill stated that no new information regarding V. vulnificus was presented and therefore should have kept this late proposal from the FDA from being on the agenda. The proposal was placed on the agenda and a task force recommended the issue be sent to committee. A minority report to accept the FDA's recommendation was defeated and at the General Assembly it was approved to send the issue to Committee. This means, that the proposal will again be addressed. In the interim funds will be made available for education and additional time and temperature controls will be considered and utilized by the industry. C. Nelson stated that the FDA would rather close the fishery or limit access to the product rather than expend effort and funds for educational purposes.

C. Nelson stated that he had attended an ISSC Educational Committee meeting on the previous day. They are currently reviewing the committee's charges and trying to identify at-risk-consumers. One specific charge they are looking at is : "What is an appropriate level of public health protection that should be given to persons that are at risk from V. vulnificus." C. Nelson is concerned that only V. vulnificus is being considered. There are many other things that at-risk-consumers should be educated about as well. He is hopeful that with additional funding sources, the Education Committee will be able to address a broad area of concern, from health care providers to educating at-risk-consumers as to their specific health conditions. He stated that the committee will meet several times prior to the March 1995 meeting in Orlando, FL, when this issue will be re-examined by the ISSC Board Meeting.

**P. L. 89-304 - Anadromous Fish Conservation Act Reauthorization**

L. Simpson reported that the reauthorization for P.L. 89-304 will expire in 1994. Although funds may still be appropriated to an Act that has not been

reauthorized, it is not a healthy situation. L. Simpson encouraged the State Directors and other who may be interested to solicit the Congressional delegates for support of this Act. He stated that the amount is small but it is very important to the States. R. Lukens and D. Fruge also commented on the fact that this Act had been a dual level program. That funding for the Department of Interior projects had been deleted several years ago. It is hoped that the Act is reauthorized and funding for both Commerce and Interior restored.

**Future Meetings**

During the Commissioners luncheon L. Simpson reviewed the status of upcoming meetings. In the Spring of 1995 the Committees of the Commission will meet at the Grosvenor Hotel in Orlando, FL. The Commissioners will meet during the last week in April in Washington, D.C. This will provide the Commissioners with an opportunity to meet jointly with the Atlantic States Marine Fisheries Commission and to bring State issue to their respective Congressional delegates. The Commission will meet in Alabama in the Fall of 1995, preferably in Orange Beach.

**Publication List**

L. Simpson presented a current publication list to the Commissioners. He reviewed 1993-94 listings. He will continue to provide this information on an annual basis.

**Other Business**

C. Perret requested that L. Simpson send a letter of thanks to Mark H. Hilzim. Mr. Hilzim is with the Louisiana Department of Culture, Recreation, and Tourism in Baton Rouge, LA and was the keynote speaker for the buffet luncheon on Tuesday, October 18, 1994.

**GSMFC Habitat Program**

R. Leard reported that the habitat program for the GSMFC is composed of three major components: education, outreach and operations. He reported that full funding is not yet available but that he has developed a proposal which is being circulated in an effort to secure support and funds. He reported that Chevron Inc. has provided $4,200 and he hopes to receive additional funds from the Isle of Capri Casino and the Grand Casino in Biloxi, MS. Initial efforts are

geared toward educational projects and the focus currently is local because of the lack of funds and the fact that the program is still in its infancy. He hopes to expand to include regional projects. The projects will be aimed towards fishery related programs. C. Perret suggested that the Commission look into soliciting funds from the Gulf of Mexico Program. C. Nelson suggested going to commercial fishery organizations for funds and/or staff assistance. He suggested that fishermen who have been displaced could be retrained to build habitat. He hoped Florida would look into retraining programs in the event that it banned net fishing. R. Leard will continue to expand the program and will keep the Commissioners updated.

**GSMFC Executive Committee Report**

J. Gill reported that the Executive Committee met on Wednesday, October 19, 1994. They reviewed the audit report for the period ending 12/31/93. There were no negative findings and the report was favorable. The audit was **approved** as presented. Other items reviewed were the 1995 proposed budget. J. Gill presented the budget in the total amount of $614,114 (attached). This amount included a 5% cost-of-living increase for the entire staff and a $1,000 raise for R. Leard and a $2,000 raise for D. Donaldson. The budget was **approved** as presented.

A Financial Report as of 9/30/94 was presented. L. Simpson reminded the Commissioners that he had been previously authorized to purchase a new vehicle for the Commission with reserve funds. L. Simpson had delayed this action due to funding restraints in 1993. The Commissions current status is very healthy and L. Simpson anticipates coming in under budget by approximately $20,000 to $25,000.

**Election of Officers**

T. Gollott **nominated** J. Gill for Chairman for 1994-95. Being no further nominations J. Gill was **elected** by acclamation.

C. Perret **nominated** E. Conklin for V. Chairman. The **nomination** was seconded and passed.

L. Kiffe **nominated** C. Perret for 2nd V. Chairman. The **nomination** was seconded and passed.

On behalf of the Commissioners, L. Simpson thanked J. Gill for an outstanding job as Acting Chairman and presented him with a gift of appreciation from the Commission.

The meeting adjourned at 1:30 pm.

APPROVED BY:

**STOCK ASSESSMENT TEAM (SAT)**
**MINUTES**
**November 2-3, 1994**
**Mobile, AL**

Joe Shepard, Chairman, called the meeting to order on Wednesday, November 2 at 1:07 p.m. The following were in attendance:

Members
Billy E. Fuls, TPWD, Rockport, TX
Skip Lazauski, AMRD, Gulf Shores, AL
Robert Muller, FDEP/FMRI, St. Petersburg, FL
Michael Murphy, FDEP/FMRI, St. Petersburg, FL
Joe Shepard, LDWF, Baton Rouge, LA
James Ray Warren, GCRL, Ocean Springs, MS

Others
Behzad Mahmoudi, FDEP/FMRI, St. Petersburg, FL

Staff
Rick Leard, GSMFC, Ocean Springs, MS
Cindy Bosworth, GSMFC, Ocean Springs, MS

Skip Lazauski informed the group that due to other obligations, he would only be able to participate in this afternoon's session. He stressed the additional burdens and the time dilemma associated with state people participating in regional fishery management plan (FMP) development. Bob Muller noted the member states of the Commission made a commitment to the development of regional FMPs.

Several members of the SAT inquired what was the next priority species up for FMP development. Rick Leard reported that at the State-Federal Fisheries Management Committee (S-FFMC) meeting in October, it was decided to review existing FMPs for possible revision.

Adoption of Agenda

The SAT agreed to begin discussion of the spotted seatrout stock assessment today so that all state members would be able to participate in the discussion. With no further modification, the agenda was adopted.

Minutes

The summary of the work session held March 14-15, 1993, was reviewed, and the minutes of the meeting held October 22-23, 1992, in Kenner, Louisiana, were adopted as presented.

Review of Striped Mullet Stock Assessment

Behzad Mahmoudi presented an overview of mullet stock assessment. He asked the SAT whether they felt the stock assessment presented a true depiction of the fishery throughout the Gulf, and asked the SAT to carefully review the document and provide him with any comments or changes. As listed below, several tasks were identified during the presentation:

- Behzad - expand information on mortality estimates by adding a table.
- Behzad - Table 1 (source Thompson et al. rather than Blanchet et al.)
- Behzad - expand SPR discussion.
- Billy - send bag seine data to Behzad.
- Joe - provide current data on Louisiana's fishing mortality to Behzad.
- Skip - generate a Harvard Graphics chart on landings through 1993 for all states rather than the existing pie chart (Figure 5.1); provide to Rick.
- Skip - research what caused Alabama's peak landings in the 1960s (possibly contact Bon Secour Fisheries) and get back to Behzad.
- Skip - send Alabama's larval/juvenile data (1981-1993) to Behzad.
- Skip - provide Alabama TIP data (1985-1989) to Behzad.
- Skip - copy the Alabama Mullet FMP to Behzad.

Discussion of Data Bases for Spotted Seatrout Stock Assessment

Bob Muller, Florida's representative on the Spotted Seatrout Technical Task Force, volunteered to coordinate stock assessment effort at their organizational meeting in June 1994 and sent out a questionnaire to ascertain the availability of specific data from each state. Each state representative presented a brief overview of data bases for their state. Billy Fuls distributed a final report entitled "Marine Fisheries Resource Culture and Enhancement" which provides Texas data on spotted seatrout. James Warren provided Bob Muller with 2 3/4 years of spotted seatrout data on disk. Louisiana and Florida both have data available to perform a stock assessment for their states. Alabama has little data available.

At 5:45 p.m., the meeting recessed, and all agreed to reconvene at 8:00 a.m. on Thursday, November 3.

Joe Shepard, Chairman, reconvened the meeting on Thursday, November 3, at 7:55 a.m. Participants were the same as the previous day, except for Skip Lazauski. Ron Lukens, GSMFC, was present for the Stock Assessment Workshop agenda item.

Determination of Spotted Seatrout Stock Assessment Protocol

The SAT discussed the dedication of time needed to perform the tasks associated with a stock assessment. The data needs to be gathered and rendered conformable. Bob Muller noted that the stock assessment should be performed by someone intimate with the data, and outsider's should not be used to perform these tasks. The SAT agreed that individual state stock assessments will be performed, and these conclusions will be assimilated into a regional overview. Stock assessments per state will be limited to data available in each state. Louisiana and Florida will have enough data to perform their VPA/SPR stock assessments; Texas will use catch at age data to develop a table; Mississippi will use catch curves, catch history, sampling data, and total mortality information to develop a SPR; and a SPR for Alabama will be developed using attributes from Mississippi's analysis, catch history for Alabama, and data from the Pensacola area off Florida. Stock assessments are due to Rick Leard on June 30, 1995. A SAT meeting will then be scheduled to review progress. Possible suggestions include having the meeting in conjunction with the Tampa AFS meeting in late August; a September meeting at the FMRI in St. Petersburg; or just before or after the GSMFC Fall (October) Meeting in Orange Beach, Alabama.

Discussion of Stock Assessment Workshop

Ron Lukens reported that the next workshop is being planned, and input from the SAT on several aspects of the workshop is needed. He noted that the Gulf of Mexico Program now has a grant to have a workshop and will work in conjunction with the GSMFC rather than duplicating effort. Task I from their program is the development of a primer workbook. The role of the SAT and Data Management Subcommittee in this task will be in a review capacity. Task II is the training workshop. This will be the third in the series of GSMFC workshops. Suggestions by the Data Management Subcommittee for the next workshop include trying to eliminate the "black box" syndrome (learning why models work rather than just running the models) and learning how a stock assessment relates to fisheries management. The Data Management Subcommittee also requests that Bob Muller, FMRI, continue to instruct the workshop. The SAT suggests that participants should be selected more carefully. The primary goal of the workshops is to develop a group of state scientists to conduct stock assessments; therefore, the participants should be familiar with computers and statistical analysis. A general topic for the workshop will be on spawning potential ratio (SPR). The workshop will consist of lecture, discussion, and hands-on computer analysis. The SAT suggested the workshop be no more than three days in duration, and Bob Muller stated that the beginning of May would be amenable to his schedule. Possible locations include the FDEP Computer Lab, Tallahassee; the LDWF training room, Baton Rouge; and facilities of Gulf Coast Research Laboratory in Ocean Springs.

In a related manner, Behzad Mahmoudi reported on the Institute of Marine Fisheries Management and Education in Miami. After a brief discussion, Behzad Mahmoudi agreed to contact Joe Powers and ask about the possibility of the Institute conducting short courses on data analysis and assessment.

Review of Menhaden Stock Assessment

Rick Leard noted that the SAT previously reviewed the menhaden stock assessment and provided comments to Doug Vaughan. The SAT reviewed the updated document, and Behzad Mahmoudi reported that his comments regarding M, the lack of juvenile indices, and the apparent inverse relationship as seen in Figure 6 had not been incorporated into the document. The SAT agreed that additional explanation is needed in the stock assessment summary (Section 9.3) of the FMP. This section will be sent to the SAT for their input.

**There being no further business, the meeting adjourned at 11:00 a.m.**

APPROVED BY:
COMMITTEE CHAIRMAN

SEAMAP SUBCOMMITTEE
CONFERENCE CALL MINUTES
Monday, November 7, 1994

Chairman Walter Tatum called the meeting to order at 9:00 a.m. The following members and others participated:

Members
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA
Richard Waller, GCRL, Ocean Springs, MS
Scott Nichols (proxy for J. Shultz), NMFS, Pascagoula, MS
Walter Tatum, ADCNR, Gulf Shores, AL

Staff
Larry Simpson, Executive Director
David Donaldson, SEAMAP Coordinator
Virginia Herring, Executive Assistant

D. Donaldson reported that last week he received a fax which stated that the technical monitor, Scott Nichols had requested that an additional task be added to the GSMFC's cooperative agreement. After some discussions with GSMFC staff, the proposed recommendations were deemed inappropriate and a new set of recommendations were developed which requested that the GSMFC reduce their staff time from 1.7 staff-years to 1.2 staff-years and use that money saved by staff reductions to fund additional work group meetings. D. Donaldson believed that the Subcommittee should be aware of these issues and recommendations and thus the purpose of the conference call.

S. Nichols stated that this issue has accumulated over the years. After reviewing the identified tasks, NMFS personnel determined that only 1.2 staff-years were needed to accomplish these tasks. S. Nichols stated he believed that part of the problem was that SEAMAP money was being used to support other Commission activities but was assured by the Commission that this is not true. He stated that he has examined the entire GSMFC budget and he believes there is money which can be reorganized to get up to six more work group meetings.

W. Tatum stated that by reducing the staff and then increasing the number of work group meetings appears to be counterproductive. L. Simpson made several points. The first was that the discussion has moved from adding a job at no cost to the program to reducing the staff time which is completely different from the initial recommendation. In the mid-80's, there was 1.94 staff-years associated with SEAMAP which is now at 1.65 staff-years. The funding for SEAMAP was

$127,000 and now is currently at $94,000. Thus, the program is maturing and the costs are decreasing. The amount of work completed for SEAMAP not only included the coordinator's activities but several others such as documentation of expenditures, which is required by Federal law. There is more than just having a coordinator to successfully administer the program. Although the SEAMAP is a mature program, there is a critical mass to run the program. W. Tatum asked L. Simpson why he believed that the initial request of adding a task was not viewed as appropriate. L. Simpson stated that 85% of the coordinator's time is paid by SEAMAP. The other 15% is paid for by other sources. It should not be necessary to add an additional task under SEAMAP for work which is not related to or paid for by SEAMAP. In addition, in the current agreement, under Job 1, item h, there is a provision which covers this coordination issue. And, in the budget section, it is indicated that there is an amount of time and effort which pays for other activities not related to SEAMAP.

L. Simpson stated that the Commission is just one part of this program. If there are to be changes in the direction and activity of the program, these issues should be discussed by all parts of the program and all parts should decide where the money to accomplish these changes will be obtained. Also, this issue was not discussed during the August meeting where these types of issues should be addressed. W. Tatum asked each Subcommittee member their feelings concerning this issue. All Subcommittee members stated that they were pleased with the quality and quantity of work which was performed by the Commission staff and did not believe there was too much staff associated with the SEAMAP.

W. Tatum asked S. Nichols to consider the comments from the Subcommittee members and S. Nichols, W. Tatum, L. Simpson, and other Commission staff plan to meet on Wednesday, November 9, 1994 to further discuss this issue. The Subcommittee will be kept informed regarding this issue.

**There being no further business, the meeting was adjourned at 9:35 a.m.**

**SUMMARY OF CONFERENCE CALL**

**OF THE**

**RecFIN ADMINISTRATIVE SUBCOMMITTEE**

On November 10, 1994, a conference call was held at 1:00pm CST for the RecFIN Administrative Subcommittee. Participants in the conference call included:

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|---|---|
| Craig Lilyestrom | PRDNR |
| Lisa Kline | ASMFC |
| Skip Lazauski | ADCNR/MRD |
| Maury Osborn | NMFS/HQ |
| Albert Jones | NMFS/SEFSC |
| Wilson Laney | FWS |
| Ron Lukens, Chairman | GSMFC |
| David Donaldson, Staff | GSMFC |

Lukens called the meeting to order, and listed the proposed agenda items, including next meeting place, next Chair and Vice-Chair, and an update on the RecFIN Program Evaluation. A discussion of expected meeting activities for 1995 was added to that list. Without objection, the agenda was approved.

**Next Meeting Place**

Lukens indicated that the next meeting time was established at the last meeting, and is scheduled for March 1 and 2, 1995, immediately following the spring CSP/ComFIN meeting. The locations recommended included Jacksonville, Florida, Tampa/St. Petersburg, Florida, New Orleans, Louisiana, Baton Rouge, Louisiana, Atlanta, Georgia, and Biloxi, Mississippi. After some discussion regarding next meeting place, the Subcommittee recommended Jacksonville, Florida and the first choice and St. Petersburg, Florida as the second choice.

**Chair and Vice-Chair**

Lukens explained that the normal rotation for Chair and Vice-Chair came up for consideration at the fall 1994 RecFIN Committee meeting. At that time, Skip Lazauski, Chairman, was to rotate off, and Walter Padilla, Vice-Chairman, was to move to the Chair. The Committee was informed that Walter Padilla was unable to accept the Chair due to an administrative situation at his office. We later learned that Padilla was to be replace on the Committee by Craig Lilyestrom, and that was the reason he could not accept the Chair. Following some discussion it was recommended unanimously that the representative from the Virgin Islands would be nominated by the Administrative Subcommittee for the Chair, and the representative from South Carolina would be nominated for Vice-Chair. It was also recommended that the election be held as the first full order of business so that the new Chair could begin his/her rotation.

**RecFIN Program Evaluation**

Lukens updated the Subcommittee on the status of the evaluation of the RecFIN scheduled for 1995. That update is described in a letter from Lukens to Churchill Grimes, who is taking the lead role in conducting the evaluation through the Marine Fish Section of the American Fisheries Society. That letter is appended to this summary. The Subcommittee concurred with the major points provided by Lukens; however, some discussion was held regarding representation of the program and the Committee at the evaluation meeting. The Subcommittee recommended that the following representation attend the evaluation meeting: NMFS/HQ, NMFS/SEFC, ASMFC, GSMFC, Gulf, South Atlantic, and Caribbean. This would provide for a total of seven (7) representatives of the program.

**Meeting Schedule for 1995**

Following a discussion of the anticipated activities for 1995, it was agreed that the RecFIN Committee would meet two times, once in the spring (February/March) and again in the fall (September). It was also agreed that it may be necessary to hold one or two work group meetings. That action would be determined at the spring 1995 meeting.

**Other Business**

Lukens brought up the idea of recommending that the U.S. Fish and Wildlife Service (FWS) be included in the ComFIN. The reasons for this include program continuity and the fact that the Atlantic Coastal Fisheries Cooperative Management Act of 1993 is now active. Under that Act, the FWS has certain responsibilities that require coordination with the states and the ASMFC. The Subcommittee agreed that Lukens should further explore the potential to include the FWS in the ComFIN.

There being no further business, the conference call adjourned at 2:00pm.

**SUMMARY OF CONFERENCE CALL TO DEVELOP**

**A CONFIDENTIALITY WORK SESSION**

**FOR THE**

**SOUTHEAST COOPERATIVE STATISTICS COMMITTEE**

A conference call was held on November 10, 1994, at 9:00 CST to discuss the format and content for a work session on fishery data confidentiality. The call actually began at around 9:20, due to technical difficulties with the conference line. The work session is planned for the Spring 1995 meeting of the Southeast Cooperative Statistics Committee (SCSC). Conference call participants, the Gulf Subcommittee of the SCSC, were as follows:

| | |
|---|---|
| Skip Lazauski | ADCNR/MRD |
| Tom Van Devender | MDMR |
| Page Campbell | TPWD |
| Joe Shepard | LDWF |
| Joe O'Hop | FDEP |
| Steve Atran | GMFMC |
| John Poffenberger | NMFS/SEFSC |
| Ron Lukens | GSMFC |
| David Donaldson | GSMFC |

Lukens introduced the issue, outlining for the Subcommittee the issues related to data confidentiality that had been identified through the planning session held in conjunction with the development of the SCSC Framework Plan. Discussion items identified by that exercise include:

1) Data confidentiality protection versus enforcement use
2) How does protecting the confidentiality of data relate to legitimate uses of confidential data
3) Definitions of confidential data
   -related to individuals, firms, vessels, groupings
   -defined by statute or ordinance
   -description of data elements that are confidential
4) What are the liabilities associated with the data collection, use/misuse, distribution, etc. of confidential data
5) Distinguish between confidentiality of data from the collection versus the data management perspective
6) Others
   -statute of limitations

It was agreed to devote an entire day to the work session. Options include: Starting the work session at 8:00am on Monday morning and run the whole day, and hold the SCSC/ComFIN business session on Tuesday, or starting the work session at 1:00pm on Monday and run through 5:00pm. Start again at 8:00am Tuesday and run through 12:00pm. Then hold the SCSC/ComFIN business session from 1:00pm through 5:00pm. It should be noted that a joint ComFIN/RecFIN session is planned for the last one to two hours of Tuesday, depending on the number of joint discussion topics.

It was agreed that the work session would be informational in nature, providing background descriptions and discussions of existing statutes and ordinances, including state and federal.
NOAA General Counsel will be invited to provide a speaker on behalf of the National Marine Fisheries Service related to the Magnuson Act. Each state would provide either legal counsel for the agency or someone from the state Attorney General's office. Within these discussions, definitions of confidential data as per the statutes and ordinances should be addressed. Also, a distinction between voluntary and mandatory data reporting should be covered. As a natural outcome of these introductory presentations, differences between state statutes and ordinances, the Magnuson Act, and program to program should be highlighted. This will provide the basis for assuring continuity in identifying and protecting confidential data. The issue of liability for using confidential data should be addressed in this section.

It was agreed that presentations should be made to discuss the use of and need for access to confidential data in making fisheries management decisions. The state and federal perspectives should be included. Federal Fishery Management Council representation would also be included. These presentations would cover identification of confidential data elements, various uses for confidential data, and confidentiality of data versus enforcement use. NMFS and state enforcement officers should be involved in this discussion.

The Subcommittee agree that the work session should result in the development of broad guidelines for handling confidential data from both the data collection and the data management perspectives, using confidential data in management decision-making, and the relationship with enforcement actions and litigation. Also, recommendations for addressing the current status and future of data confidentiality should be made.

The recommendations resulting from this conference call will be provided to the SCSC for comment and approval. If approved, the work session will be scheduled, and speakers will be invited.

There being no further business, the conference call adjourned at approximately 11:00am.

APPROVED BY:

RDK 8-31

COMMITTEE CHAIRMAN

TCC ARTIFICIAL REEF SUBCOMMITTEE
MINUTES
Tuesday, December 6, 1994
Wednesday, December 7, 1994
New Orleans, Louisiana

Chairman Walter Tatum called the meeting to order at 1:00 pm. The following members and others were present:

**MEMBERS**
Walter Tatum, ADCNR/MRD, Gulf Shores, Alabama
Jan Culbertson, TPWD, Rockport, Texas
Jon Dodrill, FDEP, Tallahassee, Florida
Wally Wahlquist, USFWS, Atlanta, Georgia
Mike Buchanan, MDMR, Biloxi, Mississippi
Mel Bell, SCDNR, Charleston, South Carolina
Rick Kasprzak, LDWF, Baton Rouge, Louisiana

**STAFF**
Ron Lukens, Assistant Director

**OTHERS**
Villere Reggio, MMS, New Orleans, Louisiana
Rob Southwick, Southwick and Associates, Arlington, Virginia
Captain Bill Higgins, REEF-EX
Colonel John Kalokerinos, REEF-EX

## Adoption of Agenda

With minor changes, the agenda was adopted without objection.

## Approval of Minutes

The minutes of the July 1994 meeting of the TCC Artificial Reef Subcommittee were approved without objection.

## REEF-EX Discussion

Chairman Tatum introduced Colonel Kalokerinos (Col. K.) and Captain Higgins who were present to discuss progress and status of REEF-EX, the DOD program to provide army tanks and other military hardware to the states for use as artificial reef material. Col. K. handed

out the plans for deployment of 40 tanks offshore Florida. There was a discussion regarding the directive to deploy tanks in water in excess of 50 feet. He indicated that the Department of Defense (DOD) concern is related to demilitarization rather than navigation. It was decided that additional discussion with DOD may alleviate their concerns in that regard.

Col. K. handed out information related to the planned activities for 1995. In 1994, there were 114 tanks deployed in coastal waters of the Atlantic and Gulf. Of those, 106 were deployed offshore Alabama. From the 1994 effort, there are roughly 20 tanks that have been cleaned and are ready for deployment. The unofficial report is that REEF-EX will be funded at $2 million for 1995. That doubles the budget from 1994. Funds for 1994 could only be used for such items as gasoline and other supplies. The 1995 budget includes funds for personnel.

Col. K. indicated that items other than tanks, eg. armored personnel carriers (APC) and tank retrievers, would be available for deployment during 1995 and subsequent years of REEF-EX. Lukens asked about the gauge of the metal in those vehicles, and Col. K. assured the Subcommittee that they were extremely heavy, indicating that if a tank would last 150 years, an APC would last 100 years. A tank weighs roughly 43 tons, while and APC weighs about 21 tons. A tank is higher vertically than an APC.

In 1995, REEF-EX plans to use five different seaports, including Mobile, Alabama; Jacksonville, Florida; off South Carolina; off Virginia, and Bayone, New York. During 1994, Anniston, Alabama was the only production site. During 1995 there will be three or four production sites, including Anniston. Red River, Texas is one of the production sites, and will be the focus for the APCs. Col. K. indicated that the APCs can be moved by truck instead of requiring transport by rail car as with tanks. This will significantly reduce the cost of moving the material, since the Army Reserve has plenty of truck units ready to move the APCs. The current 1995 goal is to deliver and deploy a minimum of 35 pieces of equipment, either tanks or APCs, to each coastal state along the Atlantic and Gulf coasts at no cost to the states. If a state desires and has funding available, additional pieces of equipment above 35 can be deployed. Costs will vary from state to state, primarily because of variable transportation costs.

Col. K. indicated that REEF-EX is seeking funds from the Legacy Fund that is available from Washington, D.C. His interpretation of the situation is that this fund is focused on saving

natural resources. He indicated that the administrators of the Legacy Fund have expressed an interest in REEF-EX, and that they may provide as much as $300 thousand for four years. Col. K. indicated that he wants to make the Legacy Fund dollars available to the Artificial Reef Advisory Committee of the Atlantic States Marine Fisheries Commission and the Artificial Reef Subcommittee of the GSMFC to conduct biological/environmental and economic studies regarding artificial reefs and specifically the use of tanks as artificial reef material. Col. K. and Captain Higgins provided a short video tape of the REEF-EX program. He asked if anyone wanted a copy of the tape, and Lukens indicated that he would have copies made for each of the Subcommittee members.

Captain Higgins indicated that reports and letters of support should be sent to the appropriate Congressional delegations in order to continue funding of REEF-EX. He pointed out that tanks are being shipped out of Anniston to be scrapped, currently at a rate of about 20 per week. The tanks must be removed within a specified time frame, because in FY 1996, storage fees will be charged. If REEF-EX cannot get tanks out fast enough, they will be made available to the scrapping industry at $2,500.00 per tank. A discussion ensued regarding strategies for acquiring funds other than from the DOD to carry out REEF-EX over the long term.

A discussion ensued regarding the 50 depth requirement, indicating that from a demilitarization standpoint, divers using SCUBA could dismantle a tank in over 50 feet of water just as easy as they could in 25 to 30 feet of water. It was determined that the only real concern with depth should be impacts to navigation. Mel Bell offered some positive points for having tanks in shallow waters and indicated that he would draft a letter to the appropriate person in the DOD regarding the implications of placing a tank in water less than 50 feet as it relates to demilitarization.

**Gulf-wide Economic Study**

Rob Southwick of Southwick Associates was in attendance to discuss the possibility of conducting a Gulf-wide economic study of artificial reefs, with some emphasis on tanks. He indicated that he had done some preliminary work regarding data sources as a result of the

Subcommittee's recent conference call. There are two project areas involved in the current effort. Col. K. indicated that REEF-EX is interested in assessing the value of artificial reefs in general. The second issue is to assess the benefits of the REEF-EX sites. Of particular interest is an assessment of the value of a tank artificial reef versus other non-military uses of tanks, eg. scrapping.

Southwick indicated that he had begun looking at available data. He found that there are participation data from the National Marine Fisheries Service Marine Recreational Fishery Statistics Survey (MRFSS) for a short time frame. Expenditure data exists for fishing, but are lacking for diving. Economic and use data for commercial reef fish fishermen do not exist. Southwick then presented several cost and reliability options for conducting the economic study. He provided four options, but indicated that they are not all inclusive. Other options may be used if the Subcommittee so desires. Option 1 is the lowest cost study and is based on using existing data only. No additional data would be collected under Option 1. Option 1 will provide little or no scientific validity, in the form of confidence intervals or coefficients of variation, in the resulting estimates. Option 1 also would not include any information on SCUBA divers, and it should be remembered that SCUBA divers spend a great deal of money to pursue their sport. This would result in an artificially low value of artificial reefs.

Southwick then described the difference between economic impact and value. Economic impact is information about the dollar amount generated by participating in an activity, including equipment expenditures, number of jobs associated with the activity, and other costs. Value is described as the importance of the activity to individuals. In other words, people participate in certain activities because they derive some personal value from those activities. It can be characterized as determining how much more valuable to an individual it is to be able to fish for reef fish over an artificial reef versus troll fishing for Spanish mackerel. The primary interest to the state artificial reef programs is the economic impact information. This information can be used to justify the program, publicize the benefits of the program, defend budgets, and seek additional funding for activities.

Option 2 will use existing data that are uniform throughout all the involved states and are deemed to be reliable. The highest cost element of the study will be to find out how many

people are using artificial reefs. If the MRFSS data are reliable enough on a state-by-state basis, then the data are already available. If not, then the costs will increase to the degree that those data need to be collected. Option 2 will generate some raw data collected through survey questionnaires to identified user groups. Option 2 will provide statistically valid results, and is cost effective. Tatum pointed out that Option 2 requires the assistance of the state agencies to keep costs down, and asked Southwick to explain that assistance. Southwick indicated that that is some of the information that needs to be developed at the present meeting, stating that the more the state agencies can assist, the lower the costs will be for Option 2. The state agencies should be able to be the primary contact point with their respective user groups. Also they should be able to provide lists of the user groups, such as names, addresses, and phone numbers of charter boat operators, dive shop operators, dive and fishing clubs, recreational fishing license holders, etc. Basically, Southwick Associates will develop the survey and the state agencies will distribute it to the identified user groups. The survey recipients could then mail the survey back to Southwick Associates directly. Some combination of assistance from the state agencies and Southwick's office may be required depending on individual agency time and manpower to assist.

Option 3 was included as a frame of reference to indicate to the Subcommittee how much it would cost if primary data collection for the entire study were required. He indicated that Option 3 is impractical, primarily because there will not be enough funds to implement the study.

Option 4 requires the use of the NMFS MRFSS with questions added to include SCUBA divers activities. Those data would provide effort estimates for diving on artificial reefs, and would greatly reduce the cost of the study.

Southwick indicated that the four options for studies are designed to provide total economic impact of artificial reefs in the Gulf of Mexico. If enough funds are available to collect data for state estimates, the study will provide total estimates of economic benefits to each state. J. Culbertson asked if the study options included data from oil and gas structures that are still in place, and not toppled as reefs. Southwick replied no, that the study would only address those structures that had been removed and placed as artificial reefs. R. Kasprzak asked

why producing rigs would not be included. Culbertson indicated that artificial reef users in Texas view standing oil and gas structures differently than structures that have been placed as artificial reefs. It was pointed out that many times anglers don't know what kind of artificial reef structure they are using, just that there is an artificial reef at the location. M. Bell stated that his study indicated that anglers don't differentiate among the types of structures, primarily if the structure is accidental or was placed intentionally, they only care that there is a structure at the location. The general conclusion was that anglers may get confused when talking about upright rigs versus a sunken structure. That would complicate the study. Lukens pointed out that from a cost/benefit perspective, all costs for fishery benefits from operating oil and gas structures are borne by the oil companies. Costs to the program, for buoys among other things, are borne by the program and can be figured into a cost/benefit analysis. An artificial reef program cannot legitimately claim fisheries or economic benefits to the state or Nation resulting from operating oil and gas structures. Any benefits identified result from oil and gas exploration/production. Southwick indicated that those data could be separated from strict artificial reef data so that the Rigs-to-Reefs programs could get data regarding the economic and fishery benefits from oil and gas activities along with artificial reef program activities. Kasprzak indicated that data on the operating rigs would give his program good information about which and how many rigs of which the program may want to take possession and where to put them. Southwick indicated that adding questions regarding operating oil structures would not significantly increase project costs.

Southwick pointed out that there is a REEF-EX specific study need and a general study that encompasses all artificial reefs. Specific to REEF-EX, there is a need to provide DLA with data to gain long-term support for the program within the DOD and Congress. Southwick also recommended that some funds be made available during the study to do press releases at the end of the study to gain public visibility about artificial reefs in general and REEF-EX specifically.

Lukens suggested that the group could eliminate Option 1, because the results would not be reliable enough to benefit the state programs; and eliminate Option 3, because the costs are too high for the potential funding source. He stated that Options 2 and 4 were the most reasonable options. Of those two options, Southwick indicated that Option 4 would result in the

most reliable results; however, that option relies upon adding questions to the NMFS MRFSS. Option 4 would also be less complicated, because data would be collected through the MRFSS, and Southwick would not have to coordinate with each state agency for data collection. Option 4 would take two to two and one half years, which is too long for the purpose of the REEF-EX program. Chairman Tatum indicated that the design of the MRFSS would not provide state-level precision in its estimates, unless additional funding is contributed to increase sample sizes in individual states. This would render the results reliable only in a regional context. Chairman Tatum asked Southwick to describe in detail the extent to which a state would have to participate in Option 4 to gain state-level reliability in the estimates. Southwick indicated that the state would have to select several (perhaps 2) representative artificial reefs sites, place a survey boat on site for a couple of random days during each season (4) of the year (total of 8 days) and record the number of people fishing and diving. The assumption is that effort recorded at the representative sites is the same at other artificial reef sites. That effort estimate would then be used to expand the questionnaire data to provide the total estimates of use and economic impact. Southwick also indicated that the states would need to assist in distributing and/or collecting questionnaires for the survey. A greater amount of state participation translates into reduced cost of the project. Following additional discussion on the options, the Subcommittee decided that Option 2 would be the most likely option for the study. M. Bell provided the Subcommittee with a discussion about the economic survey in South Carolina, indicating that it used state boat registration as the survey frame; however, the study did not include charter boats, head boats, divers, or boat owners with boats less than 16 feet. Their total estimate of economic impact was $17 million, and he indicates that that is a low estimate because of the exclusions mentioned above.

Regarding options to get data from the commercial reef fish fishery in the Gulf of Mexico, Southwick suggested that log books could be used. Some discussion ensued, with the general agreement that log books for the commercial fleet would probably be less than satisfactory. J. Culbertson indicated that she had information that the NMFS is conducting some kind of study with the commercial reef fish fishing fleet in the Gulf of Mexico, and perhaps there was some way to coordinate. Tatum indicated that there is a 1995 MARFIN project within

the NMFS to place observers on commercial reef fish vessels in the Gulf of Mexico. Lukens indicated that he would check with the NMFS and determine who is conducting the study and explore ways to get the kind of information that the Subcommittee needs. Southwick also indicated that there was a study conducted using data from the MRFSS regarding reef fish fishing; however, he has been unable to locate the study. Lukens indicated that he would try to locate that study also. Following additional discussion, Southwick indicated that he had enough information from the Subcommittee to develop a proposal. The final need is to find out from the REEF-EX people if and how much money will be available to conduct both the economic and biological studies.

**Artificial Reef Materials Guidelines**

Lukens indicated that he had put together an initial draft of the materials document based upon information sent to him from Chairman Tatum and Mike Buchanan. The draft also includes introductory language and information on automobile tires, both drafted by Lukens. He reminded the Subcommittee that a full rough draft was expected to be prepared by the end of December 1994; however, the final document is not due until December 31, 1995. Several Subcommittee members supplied information at the meeting. Lukens reminded the Subcommittee that once the first rough draft is compiled, the next step is for the Subcommittee to critically review each member's information, adding information where needed. A discussion ensued regarding the format and target audience. The Subcommittee concluded that the format of the document is satisfactory. Lukens suggested that the target audience should be artificial reef managers and others who may be involved in constructing artificial reefs. He further stated that he felt that the document should be used as a decision-making tool to determine optimum materials for habitat creation and enhancement. The Subcommittee agreed with that interpretation, adding that it can support agency positions regarding the use of certain materials of opportunity that may not be beneficial. It was pointed out that the format for the document is different from the format of a similar document developed by the Atlantic States Marine Fisheries Commission's Artificial Reef Advisory Committee. M. Bell then discussed the motivation behind that document and how the format was selected.

There was some discussion regarding military hardware, such as tanks and aircraft. J. Dodrill agreed to handle a section on aircraft, while W. Tatum agreed to draft a section for other military hardware, primarily tanks. Lukens asked for comments on the draft as presented, and asked if the Subcommittee wants to put a literature cited after each section or a single literature cited section at the end of the document. The Subcommittee elected to have literature cited following each section discussing a material. J. Culbertson asked about the time frame for the next step in the document. Lukens pointed out that the Subcommittee has been meeting twice a year, usually in June or July and November or December. Consequently, the next draft of the document should be complete prior to the spring or summer 1995 meeting. He indicated that Subcommittee members should provide language to be added to the document directly to him for inclusion in the document, emphasizing not to send the information to the original author of a section. M. Bell volunteered to handle designed structures by adding additional language in the Introduction and adding specifics under the appropriate section, for instance concrete. R. Kasprzak indicated that he is working on tables that summarize type of material, where the material came from, who donated the material, and where the material is located. He wondered if the tables would be appropriate in the materials guidelines document. Lukens indicated that the materials guidelines document is for information on using materials. The tables Kasprzak discussed seem to belong in a data base and a summary document from the data base. There was general agreement that the tables discussed would be valuable information to have; however, they probably do not belong in the materials guidelines document. Lukens indicated that he would work on a Conclusions section for the review of the Subcommittee.

**Coal Ash Resolution**

Chairman Tatum indicated that the Subcommittee wanted to have J. Culbertson make a presentation to the Technical Coordinating Committee (TCC) at its October 1994 meeting regarding her information on the use of coal ash waste as artificial reef material. Due to problems in scheduling the presentation, Culbertson was not able to get on the agenda in October; consequently, the issue will come before the TCC at the March meeting in Orlando, Florida. **M. Buchanan made a motion to that effect. The motion was seconded and passed**

**unanimously**. Tatum reminded the Subcommittee that there is a resolution in effect that calls for a moratorium on the issuance of permits to use coal ash waste as artificial reef material until guidelines for its use are developed. Also, permits for experimental reefs are exempt from the resolution. Tatum further explained that Culbertson's presentation should be viewed as the guidelines called for, and therefore, the resolution should be reconsidered by the TCC. There followed a discussion regarding the best process for reconsidering the resolution. Tatum indicated that that decision would best be handled by the TCC to determine the best course in reconsidering the resolution. Lukens agreed to get the issue placed on the March TCC agenda and pay Culbertson's travel to the meeting to make the presentation.

**Data Base Publication Discussion**

Lukens informed the Subcommittee that copies of the data base publication developed by the Subcommittee, entitled "A Profile of Artificial Reef Development in the Gulf of Mexico," are nearly exhausted. He indicated that there were 300 copies printed, and there are less than ten left. Lukens asked if the Subcommittee was interested in requesting a second printing of the document, since it is so popular. After some discussion, the Subcommittee concluded that it would probably be better to rework the publication, since new data are available from additional deployments of artificial reef material. **A suggestion was made that tables be created sorted by materials to indicate the distribution of selected materials. W. Wahlquist suggested that when the publication is updated and distributed, a questionnaire be distributed with it asking questions related to who the publication is going to and how it is being used. M. Bell suggested that the next issue of the publication include a section on the economic value of artificial reefs, and indicated that he would draft such a section.** The discussion then moved to the regional data base in general. Lukens indicated that the GSMFC office is attempting to get approval from the U.S. Fish and Wildlife Service to purchase new computer hardware and software, including a dedicated data base computer. He stated that if successful, the GSMFC office will be able to house and maintain the regional artificial data base. The Subcommittee indicated that they are in favor of that arrangement, indicating that reworking the data base will be a good project for the Subcommittee to take up following completion of the

materials guidelines document. A discussion ensued regarding various data elements contained in the regional data base, and which ones should be retained in the revision of the data base. **Kasprzak suggested that each Subcommittee member send a list of desired data elements to Lukens, who could then compile them and send them out to the Subcommittee for review and comment.** It was pointed out for particular data elements that a state may not have and may not have time to get, that field can be left blank indefinitely. A discussion ensued regarding the data base software that would be used. Lukens indicated that the GSMFC office has dBase III+, and would like to use that if possible. There was little agreement on alternate data base programs; consequently, Lukens decided to use dBase for the near future. If other information becomes available regarding a better choice, the issue can be discussed again.

**Other Business**

Chairman Tatum brought up the issue of automobile tires as artificial reefs, indicating that an individual had contacted him regarding a proposal to use large numbers of tires, deployed in a string configuration, to create large artificial reefs. M. Bell indicated that he and a number of other programs have also heard from the individual. Bell indicated that the individual had applied to the Corps of Engineers for a permit to build a six-million-tire artificial reef off Long Island, New York. The method of construction is to use large weights on each end of a long cable-like material laced through tires. It was pointed out that this method is not in compliance with the position statement adopted by the GSMFC, primarily in regard to using tires that are not ballasted with concrete. It was the general opinion of the Subcommittee that the proposal of the individual is unacceptable.

M. Bell informed the Subcommittee that his agency had conducted a study on heavy metal and PAH leachate of tires off South Carolina. The study indicated that there were no significant amounts of heavy metal or PAH leaching from the tires studied. The control site used indicated higher levels of lead and PAH than the tire sites. A discussion ensued about the fact that tires do not generally encourage epiphytic growth. It was thought that leaching may contribute to that phenomenon; however, that does not seem to be the case. A study in Florida

suggests that flexing of the tire side walls may physically discourage attachment of encrusting organisms.

Lukens pointed out that he had neglected to place Election of Officers on the agenda, and that officers are usually elected during the last meeting of the project year. It was the wish of the Subcommittee to postpone election of officers until the next meeting. In that regard, Chairman Tatum will continue to serve as Subcommittee Chairman until that time.

Lukens pointed out that by June 1, 1995, he will have to submit a work plan and budget for the 1996 project year. He asked the Subcommittee to think about what they would like to get done for the 1996 proposal. J. Culbertson indicated that artificial reef biological monitoring may be a good issue to address. There was some interest from the Subcommittee to look into that issue, primarily in terms of developing biological monitoring plans or guidelines. The issue includes monitoring through diving, hook-and-line sampling, creel surveys, among others. Lukens indicated that physical monitoring is also a good issue to address from the monitoring plan or guidelines perspective. M. Bell indicated that South Carolina's program combines biological and physical monitoring.

There being no further business, the meeting adjourned at 11:30 am.

APPROVED BY:
R. H. Blanchet
COMMITTEE CHAIRMAN

**SPOTTED SEATROUT TECHNICAL TASK FORCE**
**MINUTES**
**December 7, 1994**
**Pensacola, FL**

Harry Blanchet, Chairman, called the meeting to order at 1:10 p.m. The following were in attendance:

Members
Harry Blanchet, LDWF, Baton Rouge, LA
Jim Duffy, ADCNR/MRD, Gulf Shores, AL
Tom Hults, Seabrook Seafood, Kemah, TX
Larry McEachron, TPWD, Rockport, TX
Bob Muller, FMRI, St. Petersburg, FL
Jerald K. Waller, ADCNR/MRD, Dauphin Island, AL
James "Tut" Warren, GCRL, Ocean Springs, MS

Staff
Rick Leard, Program Coordinator
Cindy Bosworth, Staff Assistant

Adoption of Agenda

The agenda was adopted as presented. Harry Blanchet requested a discussion under other business to include the appropriateness of the spotted seatrout fishery as a candidate for an interjurisdictional fishery management plan species.

Adoption of Minutes

Bob Muller moved that the minutes of the organizational meeting held June 21-22, 1994, in Gulf Shores, Alabama, be adopted as presented. Larry McEachron seconded the motion which passed unanimously.

Discussion of Stock Assessment

Bob Muller, coordinator for the stock assessment, provided a brief overview of the Stock Assessment Team (SAT) meeting held November 2-3, 1994, in Mobile, Alabama. The SAT agreed that individual state stock assessments will be performed, and these conclusions will be assimilated into a regional overview. Stock assessments per state will be limited to data available in each state. Louisiana and Florida will have sufficient data to perform their VPA/SPR stock assessments; Texas will use catch-at-age data to develop a table; Mississippi will use catch curves, catch history, sampling data, and total mortality information to develop a SPR; and a SPR for Alabama will be developed using attributes from Mississippi's analysis, catch history for Alabama, and data from the Pensacola area off Florida. Muller reported a completion date was

scheduled for June 30, 1995. A SAT meeting will then be scheduled to review progress. Larry McEachron stated the Texas component may not be complete by June. The data is available, but manpower is limited. It was suggested that perhaps someone else could run the analyses such as a graduate student, etc. Rick Leard noted that a contractual agreement may be feasible to accomplish this task by the June 30, 1995, target date. Jim Duffy noted the lack of data for Alabama and inquired if data such as age by sex, by gear would be helpful. Muller stated the data would be useful.

Review of FMP Progress by Section

The task force reviewed the FMP draft and noted the following needs for completion:

FMP Section

- Title Page - draft (will change as necessary until published)
  TTF Listing - complete
  Acknowledgements - need input from all
  Preface - complete
  Table of Contents - draft (will change as necessary until published)
  List of Tables - draft (will change as necessary until published)
  List of Figures - draft (will change as necessary until published)

- 1.0 Summary (will be written once the FMP is complete)

- 2.0 Introduction - draft (2.4 will be written once the FMP is complete)

- 3.0 Description of Stock(s)... - Rick working on draft, Kevin Peters noted as a possible source for newer illustrations.

- 4.0 Description of the Habitat... - work continues on draft

- 5.0 Fishery Management Jurisdiction, Laws... - information has been received from Florida, Texas, and Mississippi; need Louisiana and Alabama information.

- 6.0 Description of Fishing Activities... - need information from state representatives

- 7.0 Description of Economic Characteristics... - C. Adams has distributed a list of needs for this section. Please respond to if you haven't already done so.

- 8.0 Social & Cultural Framework... - states pass on any information to be incorporated into this section; other possible sources Bob Brambling GMFMC SSC Committee.

- 9.0 Management Considerations - to be developed after stock assessment

- 10.0 Potential Management Measures - need contributions from all members on this problems and possible goals section; McEachron noted the lack of control in seatrout stocking as a problem.

- 11.0 Management Recommendations - will be developed last

- 12.0 Regional Research Priorities & Data Requirements - need contributions from all members

- 13.0 Review and Monitoring of the Plan - complete

- 14.0 References - provide your references as sections are written

- 15.0 Appendix
  15.1 Stock Assessment - in progress

Timetable for Completion/Next Meeting

The target date for completion of assignments is February 28, 1995. The next meeting to review progress is tentatively scheduled for March 1995. Bob Muller offered the facilities of the FMRI for the next meeting.

Other Business

The task force agreed to use data through 1994.

The task force discussed the rationale of seatrout as a candidate for an interjurisdictional fishery management plan. The task force noted that although there was little interjurisdictional movement of spotted seatrout among states and in the EEZ when compared to many other species that might be subject to IJF FMPs, egg and larval drift and some adult movement were occurring, especially in the northern Gulf. It was noted that the S-FFMC is responsible for deciding which species or fisheries will be subject to IJF planning activities and establishing priorities, and that they had decided that because of the importance of spotted seatrout to both commercial and recreational users, a FMP was appropriate at this time.

**There being no further business, the meeting adjourned at 5:00 p.m.**

APPROVED BY:
B. Mahmoudi
COMMITTEE CHAIRMAN

**MULLET TECHNICAL TASK FORCE**
**MINUTES**
**December 8-9, 1994**
**Pensacola, Florida**

Behzad Mahmoudi, Chairman, called the meeting to order at 1:35 p.m. The following were in attendance:

Members
Terry Bakker, MDWFP, Biloxi, MS
Harry Blanchet, LDWF, Baton Rouge, LA
Mike Buchanan, MDWFP/BMR, Biloxi, MS
Ray Lenaz, GSMFC-RFAC, Biloxi, MS
Behzad Mahmoudi, FMRI, St. Petersburg, FL

Staff
Richard L. Leard, Program Coordinator
Cindy Bosworth, Staff Assistant

Adoption of Agenda

The agenda was adopted as presented.

Adoption of Minutes

The minutes of the meeting held October 21-22, 1992, in Kenner, Louisiana, were adopted as written.

Status of Stock Assessment

Behzad Mahmoudi distributed a draft of the stock assessment for mullet. He reported that all states sent in information to compile and develop a current assessment for the mullet fishery and that the SAT had reviewed this preliminary draft. He stated that some additional data from Alabama were needed along with fishing mortality from Louisiana and bag seine data from Texas. He also noted that a revised assessment would be sent to the SAT for further review. The task force was asked to review the stock assessment document in detail and provide comments as soon as possible.

Review of Draft Sections

The task force reviewed draft sections and identified the following assignments to be completed:

- Summary - to be written near completion of the FMP; note the objectives met as compared to the goals stated in the introduction.
- Acknowledgements - all members need to provide names of those who have helped with draft sections, data inquiries, etc.
- Introduction - correct as discussed
- Section 3 (Description of Stock...)
  State representatives please review carefully
  Submit any other references

Behzad add 1990 egg and larval survey, develop description of larval distribution and spawning activity
Page 3-4 Harry check numbers from Broadhead '53
Page 3-4 Behzad compile a length/weight table by season for females
Page 3-4 Include a size-at-age table from the stock assessment
Page 3-5 Spawning duration - Thompson '89, Mahmoudi '91, Warren unpublished
Page 3-9 Rick may add to pesticides
Page 3-10 Need predation cites; Behzad to get some predation info on tarpon and dolphin; Harry might add on to (red drum)
Page 3-10, first paragraph - need cite on mullet forming smaller schools during feeding (may be able to get a personal communication from Gene Raffield)
Page 3-11 Harry check Jordan and Evermann 1896 on first paragraph
Page 3-11, 3.1.4 Behzad send in MARFIN studies
Page 3-11, 3.2 description from Kevin, Behzad check Gillmore paper on relevance to Gulf of Mexico habitat
Page 3-11, 3.2.1 third to last sentence - Harry to check if Thompson et al. 1990 should be 1991

- Section 4 (Fishery Management Jurisdictions, Laws, and Policies...)
  State representatives have these sections updated by appropriate state personnel
  change FDNR to FDEP
  Page 4-6 - update Mississippi info
  Page 4-6 - update Louisiana info
  Page 4-12, 4.4.1.6 add non-roe trip limit 500 lb per day per license (July, August, September)
  4.4.1.6.2 3" minimum mesh size state wide
  4.4.1.6.3 noon Friday - noon Monday

- Section 5 (Description of Fishing Activities...)
  Table 5.2 catch to harvest, check red drum harvest numbers especially 1988 & 1989
  5.1.1 - update first paragraph through 1993, Rick rewrite
  include pie chart with 1991, 1992, 1993
  5.1.2.2 - Skip review carefully and send comments
  5.1.2.3 - Buck review carefully and send comments
  5.1.2.4 - Harry try to find cite LSU-CFI-85-10, add a section on the recreational fishery, add a paragraph that relates landings to purse seine fishery
  5.1.2.5 - Kyle review carefully and send comments
  5.3 add haul seining

- Section 6 (Description of Processing, Marketing...) - section in progress by Keithly

- Section 7 (Description of Economic Characteristics...) - section in progress by Keithly

- Section 8 (Social and Cultural Framework) - section in progress by Dyer

- Section 9 (Management Considerations...)
  9.3 Rick and Behzad will summarize from the final stock assessment
  9.4.5 Harry expand - add salinity regime changes, subsidence, habitat degradation
  9.4.7 can be shorter
  9.4.9 put under data and research needs

- Section 10 (Management Measures)
  Add a general statement to the effect that this section deals with potential measures which might be used to regulate the fishery
  10.4 Florida's time closure

- Section 11 (Management Recommendations) - will be written when a more finalized draft is completed
- Section 12 (Regional Research Priorities and Data Requirements) - input needed from all
- Section 13 (Review and Monitoring) - complete
- Section 14 - add references as needed
- Section 15 - complete stock assessment when finalized

Timetable for Completion

Assignments are due December 31, 1994.

**There being no further business, the meeting was adjourned at 4:30 p.m., Friday, December 9, 1994.**

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# Gulf States Marine Fisheries Commission

Larry B. Simpson
Executive Director

## PROPOSED AMENDMENT OF SECTION 306 OF THE MFCMA

At the end of Section 306(a), add the following paragraph:

(4)(A) For any fishery for which there is no fishery management plan approved and implemented pursuant to this Title, a state may enforce its laws or regulations pertaining to the taking of fish in the EEZ off that state or the landing of fish caught in the EEZ providing there is a legitimate state interest in the conservation and management of that fishery.

(B)(1) For any fishery for which there is a fishery management plan approved and implemented pursuant to this Title, a state may enforce its laws or regulations pertaining to the taking or landing of fish caught in the EEZ, so long as such law or regulation is not inconsistent with any relevant fishery management plan approved and implemented under this Title. Any state may request that the Secretary of Commerce, in consultation with the relevant Regional Fishery Management Council, issue a determination of consistency with respect to any specific state law or regulation.

(2) Any state seeking a determination of consistency pursuant to this paragraph shall submit such a request to the Secretary and the relevant Regional Fishery Management Council. The Secretary shall immediately publish a notice in the Federal Register setting forth the request and inviting written data, views, or comments of interested persons. The state's laws or regulations subject to the request shall be deemed consistent with the Federal fishery management plan if the Secretary has not notified the state in writing of his denial of the consistency determination within 90 days of the receipt of the request by both the Secretary and the Council.

## Background

Coastal states have traditionally exercised considerable management authority over fish and shellfish species which are harvested in both state and federal waters. Section 306 of the Magnuson Fishery Conservation and Management Act (MFCMA), 16 U.S.C. 1856, continues the authority of coastal states to manage fisheries within the territorial sea and internal waters, while reserving the right of the federal government to manage fisheries in the U.S. exclusive economic zone (EEZ). A state is also authorized to regulate fishing vessels registered under the law of that state even if the vessel is fishing outside of its boundaries.

Enforcement problems occur when the harvest of fish and shellfish occur both within state waters and in the EEZ. Fishermen may claim that fish actually harvested in state waters were in fact caught in the EEZ in order to evade state imposed conservation and management measures. Coastal states have used state fishing laws and management measures developed in interstate fisheries agreements to enforce their fishery regulations. Without the ability to do so, enforcement of state laws and interstate marine fisheries compacts would be dramatically impeded.

Recent federal court decisions have raised into question the validity of state landing laws and interstate marine fisheries management measures. These cases have created uncertainty about whether the state laws and management measures developed in interstate marine fisheries agreements are valid in the face of claims from alleged violators that the harvest occurred in the EEZ. Without amendments to Section 306, the states will face increasing problems within the federal judicial system in trying to maintain the integrity of their conservation and management regimes.

## Proposed Amendment

The above amendment is being offered by the Pacific States Marine Fisheries Commission (PSMFC), the Gulf States Marine Fisheries Commission (GSMFC), and the Atlantic States Marine Fisheries Commission (ASMFC) to respond to the growing concern described above. The amendment is supported by a number of regional fishery management councils throughout the nation and many coastal states. The amendment addresses two situations.

First, the amendment would authorize a state to protect legitimate state interests in the conservation and management of fish caught in federal waters off the coast of that state in the absence of an approved federal fishery management plan (FMP). This does not preclude a fisherman from challenging any state landing law on the grounds that the state has overreached and does not have a legitimate state interest. To the extent that the state is able to articulate a legitimate conservation or management reason for the state law, it would not be precluded from carrying forward its duty to the public to effectively enforce its state interest.

Second, the amendment would permit a state to carry forward with a management regime which complements an existing federal FMP. This would be accomplished by seeking a determination from the Secretary of Commerce, in consultation with the relevant regional fishery management council, that the proposed state law or interstate marine fishery management measure is consistent

with the FMP. Under existing law, all FMPs and FMP amendments must be consistent with the seven national standards set forth in §301 of the Act, 16 U.S.C. 1851(a). A consistency determination from the Secretary pursuant to this proposed amendment would therefore be consistent with the national standards as well. The consistency determination would assure that the substantive protections built into the Magnuson Act would guard against arbitrary actions by the states.

Additionally, the amendment would create an expedited procedure for issuing consistency determinations. The Secretary of Commerce would have 90 days to reach a decision, starting from the time the request for a consistency determination has been received by both the Secretary and the relevant fishery management council. To the extent no decision is rendered within this period, the state fishing law or interstate marine fishery management measure would be deemed consistent with the federal FMP. The proposal provides for immediate publication in the Federal Register to give the public ample opportunity to comment on the request.

Substantial governmental resources must be dedicated to the proper enforcement of fishery laws. The vast expanse of national coastline makes it impossible for the National Marine Fisheries Service or the Coast Guard to effectively monitor all harvesting activities in federal waters. It is therefore critical that the states and interstate marine fisheries commission be allowed to mesh their management and enforcement efforts with that of the federal government. The above amendment would accomplish this objective.

## Specific Examples

Pacific Coast

Dungeness Crab

The fishery for Dungeness crab off Washington, Oregon, and California harvests an average of 26 million pounds of crab per year, valued in 1991 at about $42.9 million. Approximately 1,100 fishing vessels participate annually. All three states (WA, OR, and CA) require individual fishermen to buy state licenses in order to fish in state waters, or to land and sell raw fish in their respective states. Commercial fishing vessels must also be registered in each state.

The three state fish and wildlife agency directors have signed a memorandum of understanding declaring their intent to take mutually supportive actions in managing the crab fishery. The memorandum also endorses an industry agreement (an agreement facilitated by PSMFC) which establishes a protocol for delaying the scheduled fishery opening during years when too many crab are in an unmarketable condition in early December. This latter agreement can be frustrated by fishermen in the EEZ outside of state waters.

Through time, the states have developed equivalent management regulations to promote an orderly crab fishery:

- season opens on the same day (December 1) in northern California, Oregon and Washington
- only male crab may be taken

- minimum size is 6.25 inches
- all pots must have 4.25-inch diameter escape rings and some form of biodegradable escape mechanism

The offshore extent of the fishery varies; however, it is based primarily on the width of the continental shelf. Most of the fishery off California occurs in state waters, but off Washington an estimated 60% to 80% of the fishery occurs in the federal EEZ. Information on where the fishery occurs off the coast of Oregon is less precise, ranging from little fishing effort in federal waters to the 60%-80% range which occurs off the coast of Washington. Dungeness crab also move offshore and inshore to cross state-federal boundaries. Fishermen follow these movements, and some also move north and south to cross state boundaries. In an average season about 6% of coastal crab fishing vessels make landings in more than one state, but in some recent seasons nearly 14% have done so. Managers know that other fishermen operate in the EEZ offshore of neighboring states and return to their home states to land, but there are no accurate estimates of the extent to which this occurs.

Management and enforcement of fishing regulations outside state waters is complicated, since a state can control only the activities of fishermen and vessels it licenses. Crab stocks are currently considered healthy, but the fishery itself is considered over-capitalized. Regulatory seasons are approximately 8 to 9 months long, but the effective period of harvest has become so compressed over time that most crabs are now landed within the first month of the season. Attempts by any state to limit effort or gear will only be completely successful if all other states agree (and have the legal ability) to control fishing in both state waters and the federal EEZ.

Thresher Sharks

Thresher sharks are found off the coast of Washington, Oregon, and California. They apparently pup off California in the spring, and adults migrate north to the coastal waters of Oregon and Washington in the summer. Recent California landings have ranged from a high of 2.4 million pounds in 1982 to a low of 422,000 pounds in 1992. The states of Oregon and Washington opened an experimental fishery in 1986 through 1988. Catches ranged from 110,000 pounds to 646,000 pounds.

The states of Washington, Oregon, and California completed an interjurisdictional FMP under the auspices of the PSMFC in 1990. The states of Oregon and Washington closed the net fishery in state waters at that time due to concerns for the status of the shark resource, and to higher than anticipated bycatch of marine mammals and sea turtles.

In 1992 approximately 70% to 80% of the thresher shark landed in California were caught in state waters. An unknown percentage of the remainder were caught in federal waters off Oregon and Washington. California boats have been sighted in recent years fishing for shark off the Oregon and Washington coasts outside of three miles. Vessels registered to fish in Oregon and Washington can be effectively prohibited from this area, but these states at present cannot stop vessels registered in other states from fishing for shark in federal waters.

The Pacific Fishery Management Council is at present underfunded to administer its existing groundfish and salmon FMPs. The Council has declined to undertake a shark FMP. With a shark fishery ex-vessel value of $500,000 in 1992, it is probably not even cost effective to develop a federal FMP. Providing for the conservation and management of the thresher shark resource in an existing interjurisdictional FMP is by far the most cost effective and timely alternative. Amending Section 306 of the MFCMA to grant state authority for fishing up to 200 miles where a federal FMP does not exist would allow the present interjurisdictional FMP to be fully implemented.

The Scallop Fishery

The 1992 landings in the state of Oregon totaled 79 pounds. In 1993, the landings increased to 270,000 pounds. Landings in 1993 for the state of Washington totalled 245,934 pounds. The combined total ex-vessel value for scallops landed in Oregon and Washington was approximately $1.24 million. Recent events in the scallop fisheries in the East Coast have accounted for the increased fishing effort and have raised concern about the level of effort which may be directed at this resource in the future.

The East Coast scallop fisheries have recently been placed under limited entry management plans. This resulted in some vessels moving toward Alaskan waters where the fishery was still open to new entrants. The North Pacific Fishery Management Council heard of the potential for a number of new entrants in what they believed to be a fully capitalized fishery and decided to take action. The Council announced its intention to start an amendment to the groundfish FMP with an early 1993 cutoff date for participation.

The Council action resulted in some vessels stopping in federal waters off the coast of Washington to prospect for scallops. The vessels found scallops and proceeded to land in a Washington port. The state scallop season was closed, but the state could not document that the vessels had caught the scallops in state waters. A Washington Department of Fisheries attorney subsequently advised the department that it could not prosecute the fishermen.

Scallops are very sensitive to fishing pressure. Sudden increases in fishing effort may have long-term negative consequences to the recuperative capability of scallop beds. An interjurisdictional FMP could be developed by Oregon and Washington which are both trying to implement forms of limited entry and/or quota systems. Without the ability to enforce regulations outside three miles, however, this plan would be frustrated. The value of the fishery does not justify a federal FMP, and the resource would in all likelihood be severely impacted before the FMP could be implemented.

Gulf of Mexico

Menhaden

The Gulf of Mexico menhaden fishery is the second largest fishery in quantity in the U.S. In 1991, Gulf production was 954.3 million pounds and valued at $49.4 million which is in excess of 90% of all U.S. landings of menhaden. Fishing takes place in the nearshore waters of all the

states of the Gulf of Mexico. The bulk of the industrial fishery is in Louisiana, Mississippi, and Alabama. Over 80% of the landings are in state waters, and most occur west of the Mississippi River.

There is no federal FMP in place for this fishery. The states with industrial menhaden fisheries have, however, established seasons to prevent over-harvest and to protect spawning stocks in the EEZ. This key management measure was developed under an interjurisdictional FMP by the GSMFC in cooperation with the industry, scientists, and managers. There are currently no enforcement problems with this fishery; however, concern has been raised that there may be a growth in the fishery in the U.S. EEZ. Uncontrolled growth in the federal fishery would increase opportunities for fishing on spawning stocks and would thwart the management efforts set forth by the interjurisdictional FMP.

Spotted Seatrout

In 1992 commercial landings for spotted seatrout were 2,368,000 pounds in the Gulf. The two million pound quotas are 85% of the total Gulf commercial landings. Spotted seatrout are found in all Gulf state waters. There is both an active commercial and recreational fishery in existence.

There is no federal fishery management plan for the spotted seatrout fishery in the EEZ. The states of Louisiana and Florida each have adopted approximately 1 million pound commercial quotas for spotted seatrout. Under each state's management plans, the seasons are closed once the quotas are landed. Texas and Alabama have prohibited a commercial net fishery for seatrout through state statute.

No enforcement problems have been identified at this time; however, the state fishery managers remain concerned about the potential for a growth in the fishery inconsistent with their conservation and management regimes.

Mullet

The Gulf of Mexico produces approximately 90% of the U.S. production of roe mullet in the United States. Florida accounts for 85% of Gulf production. Average landings Gulf-wide are 27.5 million pounds annually.

There is no federal FMP for roe mullet in the Gulf. Florida currently limits the number of fishing days for roe mullet under a plan to allow for a 35% spawning potential ratio in the offshore stocks. The Florida plan is designed to assist in the rebuilding of the roe mullet by providing for scientifically-based spawning goals. The plan is supported by commercial fishermen, processors, and trade associations. If additional fishing was allowed on those stocks in the EEZ, Florida is concerned that it would not be able to enforce its spawning protective measures and the biological health of the resource could be threatened.

Further impacts could also occur in the markets for this special fishery product. To the extent that the fishery grows too fast, dockside price may drop as the market is glutted. There is

concern by some fishery managers that roe stripping may occur in the unregulated EEZ as fishermen seek to maximize production of roe through discards and waste.

White Shrimp

Total Gulf shrimp landings for 1991 were 222.1 million pounds for all species. This ranks second in value and seventh in quantity for all U.S. commercial species. Roughly 13,000 fishing vessels participated in the fishery in 1990. Approximately one-third of the entire landings of shrimp Gulf-wide were white shrimp. The center of production is Louisiana and Texas.

A shrimp count is a management tool which limits the harvest of smaller shrimp. Its basic purpose is to increase the value of the fishery because the markets pay a premium based on larger size. To maximize the value of the shrimp harvest for its fishermen, the state of Louisiana prohibits the take of white shrimp in excess of 100 count (100 shrimp per pound). The Gulf of Mexico Fishery Management Council developed a federal FMP for white shrimp as well. The federal FMP initially did not include a shrimp count because most of the shrimp harvested in the EEZ are usually larger than those in state waters.

The failure to include a count requirement in the federal FMP effectively prevented Louisiana from enforcing its 100 count white shrimp possession law when fishermen said that they had caught the smaller shrimp in the EEZ. The Gulf Council and the industry agreed with Louisiana's efforts to maximize the value of white shrimp; however, it took almost three years to adopt and implement Amendment 4 to the FMP to correct the enforcement problem.

The amendment proposed by this paper would have enabled Louisiana and the Gulf Council to seek the Secretary of Commerce's assistance in expediting a determination that the white shrimp count was consistent with the underlying goals and objectives of the federal FMP.

Spanish Mackerel

The total harvest of Spanish mackerel in the South Atlantic is roughly 5.25 million pounds annually. In 1993, 2.73 million pounds was taken by the commercial fisheries, and 2.52 million was harvested by recreational users. The lion's share of the commercial landings of Spanish mackerel occur off the coast of Florida, averaging 93% of the Gulf-wide catch since 1980. 95% of the total commercial harvest and 61% of the recreational harvest occurs in state waters.

The South Atlantic Council's FMP contains a commercial quota but no trip limits. Florida's management measures, in contrast, impose trip limits on landings of Spanish mackerel in the commercial fishery. The trip limits do not prevent the taking of the full quota and were designed to fairly distribute the allowable catch among users and provide greater economic benefits.

These management measures were enacted by Florida with the full knowledge and approval of the South Atlantic Council. Fishermen may seek to avoid the state trip limits by claiming that the fish were harvested in the EEZ, creating an enforcement dilemma for Florida fishery managers. The proposed amendment would permit Florida and the South Atlantic Council to

obtain a consistency determination without the time delays associated with a formal plan amendment cycle.