APPROVED BY:

COMMITTEE CHAIRMAN

LAW ENFORCEMENT COMMITTEE
Cooperative State/Federal Interstate Transportation Meeting
MINUTES
Wednesday, January 22, 1997
Biloxi, Mississippi

Call to Order

Chairman Jerry Waller called the meeting to order at 1:07 p.m. The following members and others were in attendance:

Members
Suzanne Horn, NOAA/NMFS, St. Petersburg, FL
Jerry Waller, ADCNR/MRD, Dauphin Island, AL
Jeff Mayne, LDWF, Baton Rouge, LA
Perry Joyner, FDEP, Tallahassee, FL
David Rose, MDWFP, Biloxi, MS (*proxy for Terry Bakker*)
Jack King, TPWD, Austin, TX

Others
John Webb, U.S. Department of Justice, Washington, DC
David McKinney, NOAA/NMFS, Silver Spring, MD
Ronald Dearmin, NOAA/NMFS, Carriere, MS
Allan Coker, NOAA/NMFS, Niceville, FL
Michael Zack, USCG, New Orleans, LA
David Dean, ADCNR, Montgomery, AL
Mike Landrum, LDWF, Baton Rouge, LA
M. B. Adelson IV, FDEP, Tallahassee, FL
Boyd Kennedy, TPWD, Austin TX
Vernon Minton, ADCNR, Gulf Shores, AL
John Roussel, LDWF, Baton Rouge, LA
Bob Mahood, SAFMC, Charleston, SC
Ben Hartig, SAFMC, Charleston, SC

Staff
Larry B. Simpson, Executive Director, Ocean Springs, MS
James J. Duffy, Program Coordinator, Ocean Springs, MS
Cynthia B. Yocom, Staff Assistant, Ocean Springs, MS

Opening Remarks/Introductions

J. Waller thanked the GSMFC for facilitating the meeting and provided opening comments. He indicated the need for resolution of the issue of states' rights with respect to regulating interstate

transportation of marine products. Waller welcomed John Webb, U.S. Department of Justice, to the meeting. Self introduction followed, including everyone in attendance.

U.S. Department of Transportation Statutes Pertaining to Marine Products Transportation

Enforcement officials from the states briefly discussed various state perspectives and reasons for regulating marine products transportation. Consumer safety and product reputation were offered as reasons for aggressive regulation. Some indicated that state legal counsel had advised against attempting to regulate common carriers passing through state jurisdictions on federal thoroughfares. Others indicated lack of consistent licensure of shippers and carriers, both within states, and among states, as loopholes which rendered successful state prosecution unlikely. All indicated that Nat Jackson's (U.S. Department of Transportation) presentation of information to the GSMFC Law Enforcement Committee in October 1996 had rekindled their desire and commitment for states to aggressively regulate transportation of marine products across state lines.

J. Webb indicated that he was somewhat confused by the discussion among state enforcement officials, because the U.S. Supreme Court had made rulings which served as strong precedent on this issue. In "*Hughes versus State of Oklahoma*," the Supreme Court handed down an opinion that fish and wildlife, including marine products, were governed under the same interstate commerce standards as other natural resources. Also, in "*State of Maine versus Taylor*," Maine had banned the import of certain baitfish which would likely compete with indigenous species. The U.S. Supreme Court upheld Maine's decision based on the state's need to protet those indigenous species. Webb said states must be prepared to show legitimate reasons for an individual state measure. To pass Supreme Court muster, states must articulate what the regulation or law is for and why the state is implementing the measure. Webb welcomed the opportunity to talk with state counsels on the issue and thought that the states have much more authority to regulate interstate transport of marine products than the states currently believe. Webb said that the Lacey Act encourages the use of state fisheries law for initiating federal criminal cases. He also indicated that certain state laws can apply in the exclusive economic zone (EEZ) of the U.S. Gulf of Mexico. Webb said that in Lacey Act cases not only the shipper, but also the carrier (including the driver, company officers, etc.), may be prosecuted.

The group discussed various transportation scenarios and possible resolutions. Different types of carriers and vehicles such as airplanes and vessels were briefly discussed. J. Webb asked if states had different license fee schedules for resident and nonresident shippers and carriers. States indicated in the affirmative, but agreed that common sense must dictate the magnitude of the differences in license amounts. Webb said that if the reason for the license can withstand U.S. Supreme Court scrutiny, then the states are free to impose license requirements. He reiterated that the federal government uses underlying state law to initiate Lacey Act prosecution.

Lacey Act Impact on States' Rights

J. Webb indicated that his office is preparing a Lacey Act source book. This document will be all inclusive and available in spring 1997. Webb explained that he is an assistant chief with his agency, along with 12-15 other lawyers. He can travel throughout the U.S. and can prosecute in all federal jurisdictions. Federal prosecutors handled approximately 160-170 "serious" cases of illegal fish and wildlife offenses during 1996. Webb indicated that he can tell very quickly if an illegal activity is serious enough to put the defendant in jail, helping states prioritize enforcement and legal counsel resources for maximum efficiency. Illegal acts by commercial entities, those involving quarantine violations or valuable fish were offered as examples of potentially serious offenses.

The Lacey Act Outline handed out by Webb provides valuable information regarding the seriousness of various offenses, and states' relative ability to prosecute. False product labeling, harvesting undersized fish or shellfish, or selling/transporting marine products out of season can all be prosecuted with the proper justification. Webb stressed that the Lacey Act is a major enforcement tool. Webb pointed out in the Lacey Act Outline the basic premise of the Act, that it is unlawful to import/export etc. fish or shellfish in violation of any "fish-related" law of any state. For the Lacey Act to be invoked, the offense must incorporate the element of interstate transportation. Underlying state law does not have to be criminal to be prosecuted under the Act; it simply must be "wildlife" related. Further, state statutes of limitations do not hamper federal prosecution. A case can be federally prosecuted under the Act, even if the state limitations' statute has expired. False labeling of fish or fish products also can be prosecuted under the Lacey Act when the fish or fish products "have been or are intended to be transported in interstate commerce."

State law governs who is covered by a state law, where, when a violation occurs, etc. Webb indicated that knowledge of the state law determines whether a case will be prosecuted as a misdemeanor or as a felony. If a defendant can be shown to "know" that his or her act was illegal, then it can be prosecuted as a felony. If a defendant simply "should have known," then a misdemeanor prosecution is more likely. What defendants are expected to know increases with their level of sophistication or involvement (recreational versus commercial, catcher versus dealer, etc.).

Defendants typically challenge federal prosecution by attacking a perceived defect in the way a state law was promulgated or enacted. If a state law is challenged as unconstitutional, the state will be enlisted as a partner in court to explain and support the law. States also will be enlisted for verification of permits, for collection and safeguarding of evidence, and for verifying locations of violations.

Webb answered the question "how far out into the Gulf can states enforce state law?" by clarifying that in state territorial waters, states certainly have full legal jurisdiction. In the EEZ, state laws may apply to state residents in the absence of a Magnuson Fishery Management Plan (FMP). Webb indicated that the Magnuson-Stevens Act is a major impediment to state prosecution in the EEZ because of the Supremacy Clause (a clause of the constitution which gives supreme jurisdiction to the federal authorities). However, state jurisdiction applies anytime a vessel is registered in a state. An exception to this is if a state law conflicts with a Magnuson FMP. Webb interpreted this to mean when compliance with state law and federal law is physically impossible.

S. Horn pointed out that most federal attorneys will not take a case under Lacey Act if the case has been prosecuted in state court. Apparently, final disposition is the key. Federal attorneys will typically not prosecute a case which has been disposed in state court, unless "significant federal interests are left unvindicated."

State Legal Interpretation and Guidance

State enforcement officials and legal counsels summarized points of the meeting. States can apply product and activity licensing to dealers, regardless of how the product is shipped. Whether or not states can license common carriers at all, they can still regulate fish or fish products. Licensing, for instance, can increase product reliability and/or promote public health and indicate licensee's knowledge of the law, such as in oyster processing or shipping. Webb's guidance for states in promulgating license legislation was simple: licensing for public health or conservation probably would survive U.S. Supreme Court scrutiny and be constitutional, but licensing for economic protectionism would fail.

Other Business

L. Simpson announced to the group that the NOAA Fisheries Penalty Schedules meeting would convene the following day at 8:30 a.m.

S. Horn reemphasized the value of the Lacey Act for future state and federal fisheries prosecution. Horn offered any appropriate help to the states through the NOAA/NMFS.

There being no further business, the meeting was adjourned at 4:30 p.m.

APPROVED BY:

COMMITTEE CHAIRMAN

FLOUNDER TECHNICAL TASK FORCE MINUTES
January 30-31, 1997
New Orleans, Louisiana

Chairman Mike Johnson called the meeting to order at 1:15 p.m. The following were in attendance:

Members
Chuck Adams, University of Florida/Sea Grant, Gainesville, FL
Mike Brainard, MDMR, Biloxi, MS
Pete Cooper, Jr., *Saltwater Sportsman*, Buras, LA
Steve Hein, LDWF, Baton Rouge, LA
Rebecca Hensley, TPWD, Corpus Christi, TX
Mike Johnson, FDEP, Marathon, FL
David Ruple, MDMR, Biloxi, MS

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions

David Ruple, Chairman of the Habitat Subcommittee, introduced himself to the task force. As the habitat representative, he intends to seek input from the entire Habitat Subcommittee and include a broader habitat section into the management plan.

Jim Duffy introduced Pete Cooper, outdoor writer for *Saltwater Sportsman*. Mr. Cooper brings a recreational perspective to the management plan through his numerous contacts in recreational fishing. Also, as an accomplished outdoor writer, Mr. Cooper can provide editorial polish to the document.

Adoption of Agenda

Chuck Adams moved to adopt the agenda as presented. Rebecca Hensley seconded the motion which passed unanimously.

Approval of Minutes

Mike Johnson moved to adopt the minutes of the meeting held August 29-30, 1996, in New Orleans, Louisiana. R. Hensley seconded the motion which passed unanimously.

Sociological Representative

J. Duffy reminded the task force that a sociologist had not been recruited to work with the task force. C. Adams reported that he had contacted Susanna Smith, but she will be unable to help the task force. Adams noted it seems that of all the disciplines represented on scientific and statistics committees, sociologists have the highest turnover. He suggested Jim contact past and current task force representatives, Drs. Thomas and Ditton, respectively, to send the task force any data sources and/or publications. He also suggested Jim contact the South Atlantic Fishery Management Council in Charleston. Mike Jepson is a sociologist on the council staff and may have some suggestions. R. Hensley encouraged Jim to contact Dr. Priscilla Weeks, a sociology professor at the University of Houston in Clearlake.

Review of Section Progress

Sections 1 & 2 (Summary and Introduction) - will be completed by staff with input from the entire TTF.

Section 3 (Description of the Stock Comprising the Management Unit) - Mike Johnson noted that meshing both species together in this section was not as easy as originally thought. Johnson noted that the anomalies and abnormalities portion was added under physical and morphological description and seemed to fit well there. Editorial comments from M. Van Hoose and S. Hein were passed to Johnson for incorporation into the section. M. Johnson will check with M. Van Hoose so that a record-size flounder recently caught in Alabama is put into the section and cited with a personal communication. P. Cooper inquired about elevated salinities in Texas, and R. Hensley confirmed that there were, indeed, extreme elevations of salinity in the upper Laguna Madre. R. Hensley suggested adding a distribution map to the section. M. Johnson will mail a disk of the revised section to Steve Hein so he can add, revise, and edit species descriptions. Mike Brainard noted descriptions could easily become voluminous and encouraged Hein to keep them brief.

Section 4 (Description of Essential Habitat) - Dave Ruple noted that he will look at available data and describe substrate, vegetation, and environmental conditions such as temperature, salinity, dissolved oxygen, and turbidity. He noted that management implications may be difficult specifically to flounder, but it would be wise to include general information on habitat degradation and impacts of pollution. Ruple noted that through The Magnuson/Stevenson Act, the Gulf of Mexico Fishery Management Council is meeting this week to address an essential fish habitat document that the National Marine Fisheries Service (NMFS) has put together. The Council will have greater responsibility for the description and identification of essential fish habitat. This meeting is an indicator of the management impact that habitat will play in fisheries.

J. Duffy asked what sort of information is available from the states on the types of habitat at different life stages, where it exists, and in what quantity? D. Ruple noted that numbers are available on emergent wetland losses over time from the the NMFS and the U.S. Fish and Wildlife Service. It may be possible to identify the number of acres of coastal wetlands in each of the states and show losses over time. M. Brainard suggested NavOcean as a possible source of mapped information. M. Johnson asked if estuarine and bay systems for each state could be quantitatively described. Acreage information is available for both Louisiana and Texas (shoreline estimates with mean depths). Another source for information may be the Natural Estuary Program. S. Hein noted marsh management in Louisiana using weirs. A Herke publication is available on the impacts on fish before and after the weirs. Johnson noted the void in spawning area information for flounder. Flounder move out of estuarine and bay areas and go offshore to spawn. Johnson indicated that he is very interested in this portion of the section and will try to obtain any information on nursery grounds.

D. Ruple asked the task force if habitat data should be in both the biological description and the description of essential habitat. The task force agreed to pull the habitat information from the biological section to be placed into the habitat section. M. Johnson will send the biological section to Dave on disk so that he can extrapolate necessary portions.

Section 5 (Fishery Management Jurisdiction, Laws...) - Jack King was unable to attend the meeting, but Cindy Yocom reported that the section is progressing, and portions from Texas, Louisiana, and Florida have been incorporated. S. Hein edited the Louisiana portion, and C. Yocom indicated she will revise the draft; Alabama and Mississippi portions should also be available for review prior to the next meeting.

Section 6 (Description of the Fishery) - M. Van Hoose was unable to attend the meeting, but a draft section was distributed to the task force for their review. The task force agreed to send edits to the GSMFC office for distribution to Van Hoose. The task force agreed that effort and landings data should be included in the section, but value data will be incorporated into the economic section.

Section 7 (Description of the Processing/Economic Characters) - C. Adams distributed a revised draft for review and edit. If anybody knows of other available studies, please bring them to his attention. S. Hein mentioned a Louisiana study by Atkins. Adams noted that he intends to obtain the most recent MRFSS data, add real prices back to 1970 on table 7.2.1, add prices by gear type, draft the market channel portion from the surveys that are currently being coded, add import data, add consumption data from Alabama and Florida, and add other sources of supply. M. Johnson will check speciation for data in Florida.

Section 9 (Social and Cultural Framework) - Jim Duffy will call contacts as previously discussed. R. Hensley will send in the address and telephone number for Priscilla Weeks. A roundtable discussion on user groups, ancillary fishing, and the brief commercial fishery in Louisiana ensued. The task force asked if there was time to do a brief sociological survey. J. Duffy indicated there is.

Section 10 (Management Considerations/Stock Assessment) - Louisiana has a current stock assessment; Florida does not but has a document in lieu of a stock assessment; Mississippi and Alabama don't have stock assessments; Texas doesn't have a stock assessment but has a similar document. All states have trawl data. Chairman Johnson will contact Bob Muller and discuss a stock assessment for flounders.

Section 11 (Potential Management Measures) - Jim Duffy will draft this boilerplate section by early next month.

Section 12 (Management Recommendations) - This will prove to be the hardest section to write and may have to be written last after the Stock Assessment Team gets finished and has suggested what needs to be done in protecting size classes, etc.

Section 13 (Regional Research Priorities and Data Requirements) - All groups associated with the development of the flounder FMP will have input on this section. The TTF should note research priorities and data needs throughout plan development to be included in this section. These priorities may prove to be a "spring board" for Gulf work over the next five years or so.

Section 14 (Review and Monitoring of the Plan) - boilerplate section to be completed by staff.

Section 15 (References) - In order to prevent duplication and references that aren't actually cited in sections, citations should be compiled at the end of the drafting process. Repository reprints should be sent to the GSMFC once sections are complete.

Section 16 (Appendix) - Thus far, the appendix will contain the actual stock assessment.

Timetable/Next Meeting

Unfortunately, sticking points in the plan development process are going to be the sociological section and performing the stock assessment. The next meeting to review section progress is tentatively scheduled for May 22-23 or May 29-30 in Gulf Shores, Alabama.

Other Business

Cindy Yocom reported that travel guidelines have changed. A per diem increase went into effect in January, and the current rate is $36.00 per full day. For computing meals on quarter and half-day travel, refer to the revised guidelines.

There being no further business, the meeting adjourned Friday, January 31, 1997, at 10:30 a.m.

Jon Dodrill 8/24/9

TCC ARTIFICIAL REEF SUBCOMMITTEE
Wednesday, February 19, 1997
Jekyll Island, Georgia

Members
Mike Buchanan, MDMR, Biloxi, MS
Jan Culbertson, TPWD, Seabrook, TX
Les Dauterive, MMS, New Orleans, LA
Jon Dodrill, FDEP, Tallahassee, FL
Steve Heath, ADCNR, Dauphin Island, AL

Others
Todd Barber, Reef Ball Development Group, Doraville, GA
Jay Jorgenson, Reef Ball Development Group, Doraville, GA
Craig Lilyestrom, PRDNR, Puerta C Trerra, PR
Tom Maher, FDEP,

Staff
Ron Lukens, GSMFC, Ocean Springs, MS
Nancy Marcellus, GSMFC, Ocean Springs, MS

Chairman Jon Dodrill called the meeting to order at 9:00 am.

Adoption of Agenda

Lukens suggested that the order of agenda items "Prioritize Materials from Guidelines Publication" and "Materials Resolution" be switched since some of the discussion and decisions made on the resolution might affect the discussion on prioritization. Lukens also mentioned that there will be a conference call at 11:00 am regarding the USS Spiegel Grove.

The agenda was adopted with the above changes.

Approval of Minutes

The minutes from the May 7, 1996 meeting held in Key West, Florida, were adopted as presented.

Caribbean Attendance

Lukens reported that Caribbean participation was mentioned at the last Chairman's Meeting in Washington, DC, this past November. Because of the committees work on national issues, in

particular working on the National Plan, it was suggested that the Virgin Islands and Puerto Rico be contacted to see if they would be interested in joining the efforts.

Lukens talked to Craig Lilyestrom, from Puerto Rico, and invited him to participate. Steve Meyers from the Virgin Islands was also contacted. Lukens advised that he just wanted to make everyone on the Subcommittee aware that we would be seeking and helping to support Caribbean participation.

Sport Fish Restoration Administrative Program Activities

Lukens reported that the Commission has an approved agreement with the Fish and Wildlife Service (FWS) for 1997 and part of that agreement is to support work of the Artificial Reef Subcommittee. The Subcommittee is charged with the tasks of completing the gulf data base and republishing the data base document. As soon as the data is available to update the tables, everyone will be asked to review their program information in the document before republishing.

Prioritize Materials from Guidelines Publication

Status of Materials Guidelines Publication - Lukens reported that the document was sent to the printer a couple of weeks ago. Six hundred copies were ordered so each state will have copies to distribute. Lukens mentioned that everyone could be compiling their list of people and agencies or organizations that they would like to receive a copy. A reply postcard is included in the publication to get basic feedback from the users and to identify the target audience of the publication. Lukens also mentioned that now is the time to be thinking about ways and information to revise the document in the next 3-5 years.

Prioritization of Materials - L. Dauterive suggested that the Subcommittee go one step further and identify materials that are unacceptable. The Subcommittee was asked if they felt it would be a worthwhile project to look at the benefits and drawbacks and evaluate the materials that were identified in the guidelines document to come up with a list of acceptable materials and unacceptable materials.

It was decided that Lukens and Dauterive would get together and develop a matrix format to send to the Subcommittee for their evaluation and review

Materials Resolution

Lukens reported that in the past the Subcommittee has supported resolutions and position statements related to artificial reef materials. Specifically, the Commission has a position statement on tires and a position statement on the use of ash residue from combustion of coal. A draft resolution entitled "Resolution on the Use of Selected Materials of Opportunity as Artificial Reef Material" was distributed. A number of things have conspired to prompt the drafting this resolution.

There are some issues in Florida, there is the general issue of certain materials that have generally felt to be not suitable for artificial reef development, and then there is some criticism from the Corps of Engineers of our materials document since it doesn't say yes or no to a particular material. It was specifically intended for the materials guidelines document to be technical in nature and not to set policy. So all of these things coming into play this resolution was drafted for your consideration.

Dodrill opened the floor for discussion of this resolution. Culbertson asked if Lukens could report what the tire resolution included. Lukens said that it was done in the format a position statement. It provides a little introductory information about the use of tires and that tires have been used for many years. There are problems with them washing up on beaches, etc., and then it goes on to say that tires have been used successfully when properly ballasted. Then it goes on to say that we believe that if tires are going to be used that they should either be chipped up and put into a concrete module type thing as basically an aggregate kind of thing, or follow the guidelines developed by the New Jersey program for tire and concrete units which provide for adequate ballasting per tire, the amount of concrete per tire to achieve the kind of weight that would allow a tire and concrete unit to withstand most storm events. The jest of it is we do not think tires are good, but if you have to use them this is the way we think it should be done.

Dauterive felt that the Subcommittee has some obligation in evaluating and carrying the evaluation of the materials a step further in terms of putting some priority on materials that were identified in the guidelines document. There should be some kind of methodology of where we as a committee would evaluate the materials and come up with a final rating of pass or fail. We as a committee of state managers have some obligation to speak out as to which materials we feel are not acceptable.

S. Heath made a **motion** that the 5th WHEREAS read, "WHEREAS these criteria require that artificial materials be functional as long-term habitat..." The motion was seconded by M. Buchanan and was unanimously approved.

J. Dodrill made a **motion** to change automobile and other vehicle bodies to read automobile and other non-armored vehicle bodies. L. Dauterive seconded the motion which was passed unanimously.

Culbertson made a **motion** to include wooden vessels and other wooden materials in the list of unacceptable materials. The motion was seconded by Dodrill. S. Heath asked if there was documentation to support that since Alabama has some dry docks and wooden vessels that have been there for years. The Subcommittee agreed that in the materials guidelines document it is a questionable material at best. The motion was voted on and passed with Heath voting against it.

M. Buchanan made the **motion** to change aircraft to non-fighter aircraft. The motion was seconded by Dodrill and passed unanimously.
Ron - our intent in transferring a resolution of this nature to the COE, in the hopes that they would use it to establish their own policy. So it would translate into not using these materials.

A **motion** was made by S. Heath that the last paragraph read "BE IT FURTHER RESOLVED that this resolution be provided to the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service for application to consideration of permit request for development or enhancement of artificial reefs in the Gulf of Mexico region. The motion was seconded by M. Buchanan and passed unanimously.

There being no further discussion on the resolution, M. Buchanan made the **motion** to approve the resolution with the above changes so it could be forwarded to the Commission for final approval. The motion was seconded by Dauterive and passed unanimously.

Data Base Documentation and Format

The Subcommittee received a copy of the Gulf of Mexico Artificial Reef Data Base Documentation. This included the Site Profiles Data Base which is specific to particular deployments and the Program Profiles Data Base which is a quick look at a particular state program. Each data element included a short written description. The Subcommittee reviewed each data element to make sure all agreed on the description.

When this list is complete a file format will be set up using dBASE5 software and sent to you on disk to enter the data. If you are using different software it must be able to convert to dBASE.

Liability Work Session

Lukens reported that he had received a letter from Rick Kasprzak about the idea of holding a workshop to address liability issues as they relate to artificial reefs. Kasprzak felt that the idea of a workshop would be particularly useful in the Subcommittee's attempts to rewrite the National Plan. Kasprzak reported that one issue he felt needs to be addressed is that the National Plan absolves the permittee of any liability provided he is in compliance with the terms and conditions of the permit. He questions to what extent is the permittee covered? The National Plan also absolves the donor or any liability for material donated to a holder of a permit to construct an artificial reef provided those materials are not defective. What is the extent to which materials can be deemed defective? These are just a few of the questions that need to be answered.

The Subcommittee agreed that this was an important issue to pursue. Lukens noted that the Atlantic States Artificial Reef Subcommittee may be interested in joining us in this activity. Lukens will look into the possibility of holding such a workshop.

AFS Symposium in Monterey

Lukens reported that Chuck Wilson had taken the responsibility of putting together a session on artificial reefs at the AFS meeting in Monterey. The symposium would be an update with a few highlights from the '91 symposium. The session was only given 11 presentation slots. Wilson wants to allocate 3 slots to the joint group. One presentation would be to give an overview of monitoring with regards to needs, types, practices, and uses of monitoring under the umbrella of a management program. Then there would be 2 slots for actual monitoring that states are doing. Florida's program and Mel Bell's program were suggested. Wilson also wanted Mel to give a presentation in the materials and design section of the workshop. Wilson will need an abstract of these presentations by next Thursday to put before the planning committee.

Lukens advised that if this is what the Subcommittee wants to do he would be willing to fund the Subcommittee to attend and will schedule a Subcommittee meeting in conjunction with the AFS meeting. The Subcommittee agreed to proceed with planning for this meeting.

Culbertson asked about the possibility of presenting their ongoing monitoring program. Dodrill said he had no problem with Culbertson using his slot to present her work. It was decided that Culbertson would present her monitoring work and Dodrill would give an overview.

Status of National Plan Revision

Lukens gave an overview of the chairman's meeting held November 20, 1996, in Washington, DC. Delays in proceeding with the National Plan review and revision were experienced due to the inability to pursue S-K funding. Without dedicated funding no money was available to support the effort. However, Lukens indicated that the assignments made at the Key West meeting still hold.

L. Dauterive mentioned that he had not volunteered to work on any sections in Key West, but would be interested in participating in the management section of the Plan. He would also be willing to participate with Kasprzak on the regulatory requirements section.

Lukens distributed copies of a letter from Rolland Schmitten, NMFS, giving the Commissions permission to proceed in taking the lead to revise the National Plan.

Artificial Reef Memorandum of Understanding

Copies of a Memorandum of Understanding Between the Gulf States Marine Fisheries Commission and the Atlantic States Marine Fisheries Commission for the purpose of coordinating development, management, research, and data collection for state artificial reef programs were distributed to the Subcommittee. Lukens reported that the idea for this memorandum of understanding was discussed at the recent chairman's meeting. Essentially in this day and age in trying to forge formal partnerships, it was felt that it might be beneficial to formalize the working relationship of the Gulf and Atlantic Commissions. It is not tied to funding of any nature, but states that we should work together on issues of national scope. Lukens suggested that the Subcommittee members read it tonight and be prepared to review it at the joint meeting. Lukens also mentioned that funding for the Atlantic committees are in question at this time, so it is uncertain if the Atlantic Commission would be willing to sign on to a document encouraging the committees to work together if there is no funding to support it.

MMS Request for Investigation of Monitoring Needs and Practices

Lukens reported that he attended a MMS workshop recently and one of the discussions that came up was related to monitoring practices. They asked us in a formal fashion to consider looking into monitoring needs and practices relating to artificial reefs. We may have an opportunity of

coming up with some ideas for research as a committee, to answer questions that we have now. One way to approach this is the Subcommittee, assuming they wanted to go further, could start looking at monitoring as a long term issue and could start holding dedicated sessions at our meetings related to this issue. Then after that is completed we can start looking at other questions. The Subcommittee agreed to proceed with this issue for the future.

Essential Fish Habitat Issues

A copy of "Framework for the Description, Identification, Conservation, and Enhancement of Essential Fish Habitat" was distributed to the Subcommittee. The document discusses the purpose of the Magnuson-Stevens Fishery Conservation and Management Act and the definition of essential fish habitat (EFH). As defined in section 3(10) of the Magnuson-Stevens Act, essential fish habitat (EFH) is "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Lukens advised that the Subcommittee needs to start thinking about the issue of artificial reefs in regards to EFH. A lot of people that think that state artificial reefs are a way for states to dispose of unwanted items. The Subcommittee needs to be prepared to provide rationale about artificial reefs and the relationship that they have with fish populations.

Proprietary Construction Rights on Permitted Areas

Lukens reported on a situation he recently became aware of at a Mississippi Gulf Fishing Banks meeting. A person had some materials he wanted to put out and when pursuing the issue found that he could apply for an individual permit or could just put the materials on an existing site without contacting the permit holder as long as the he stayed within the guidelines of the permit. After hearing this, Lukens contacted the Mobile District of the Corps of Engineers and asked this question. The chief of the regulatory branch said he did not see how he could stop a person from doing this as long as that person stayed within the guidelines of the permit. The person would just need to send a letter to the Corps.

After discussing the issue Lukens agreed to take the lead in investigating this issue. He will first write a letter asking if is possible for an individual that is not the permit holder to place materials on an existing site as long as it meets the permit guidelines. Lukens will keep the Subcommittee updated on this issue.

Other Business

The Subcommittee discussed the possibility of including a Corps representative on the Subcommittee. After some discussion the Subcommittee decided they would not recommend having a Corps representative on the Subcommittee, but should consider inviting local Corps representatives to attend meetings in their areas.

The Subcommittee reviewed a letter from Todd Barber, President of Reef Ball Development Group, in support of the National Plan. The letter states that the National Artificial Reef Plan is an important document that will guide not only U.S. but potentially worldwide efforts to create artificial reefs since the world often looks to the U.S. for leadership and examples. The letter also asks that the National Plan place a special short term emphasis on designed materials.

There being not further action, the Subcommittee adjourned at 5:05 pm.

APPROVED BY:
COMMITTEE CHAIRMAN

COMMERCIAL FISHERIES INFORMATION NETWORK (ComFIN)
MINUTES
Tuesday, March 4, 1997
Washington, D.C.

Chairman, Joe Shepard, called the meeting to order at 1:00 p.m. The following members, staff and others were present:

Members
Steven Atran, GMFMC, Tampa, FL
Laura Bishop, NMFS, Galveston, TX
Julie Califf, GDNR, Brunswick, GA
Page Campbell, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Daniel Matos, PRDNER, Mayaguez, PR
Joe Moran, SCDNR, Charleston, SC
Trish Murphey, NCDMF, Morehead City, NC
Tom Schmidt, USNPS, Homestead, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Carolyn Belcher, GDNR, Brunswick, GA
Corky Perret, MDMR, Biloxi, MS
Kay Williams, SASI, Pascagoula, MS
Bob Zales, II, PCBA, Panama City, FL

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Approval of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes of the meeting held on September 25, 1996 in St. Croix, U.S. Virgin Islands were approved as written.

Follow-up from the Data Error Correction Work Session

P. Campbell suggested that training on connecting to the new SEF host system and data transfer to that system be conducted on site. L. Bishop stated that M. Camp's office will be available to provide assistance in connecting and training. R. Lukens suggested contacting M.Camp and requesting that she send information to users on how to get the support needed to connect to the new system and also to discuss the possibility of having on site training. L. Bishop suggested that training be combined with future port agents meeting.

Review of List of Personnel with Access to Confidential Data

Alabama - no change
Georgia - add Lisa Isbell
Louisiana - no change
Mississippi - no change
North Carolina - delete Paul Phalen and Walter Gibson; add Trish Murphey
South Carolina - no change
Texas - no change
Puerto Rico - 2 names added four weeks ago
U.S.V.I. - unavailable at this time
ASMFC - add Jeff Brust and Najih Lazar
GMFMC - no change
GSMFC - add Jim Duffy

Discussion of State/Federal Cooperative Ageing Activities in the Southeast Region

D. Donaldson reported that several work group meetings were held in Atlanta, Georgia in February and the issue of ageing fish by National Marine Fisheries Service (NMFS) personnel was discussed. Since Barbara Palko is retiring, no one yet is assigned to do this work. Since many of the states now have ageing laboratories, the possibility of having the states conduct this activity was discussed. J. Shepard suggested writing to the NMFS regional office to document the resources available at the state level, and the ability of the states to conduct ageing using otoliths. Staff will poll each state to determine their interest, capability, and the method used in ageing otoliths. Standardization among the states will be addressed.

R. Lukens explained that the Gulf States Marine Fisheries Commission (GSMFC) is in the process of bringing together experts in the field of ageing otoliths. The purpose of these meetings is to establish standards for the otolith ageing process, to include taking, preparing, reading, and interpreting otoliths on a species basis. After review of this document, a training workshop would be held for state personnel. This would assure that the ageing of a particular species would be done in a uniform manner. D. Donaldson reported that the guidelines document should be ready by the end of this year, with training to begin in 1998. GSMFC staff will contact Brad Brown of NMFS and indicate that some of the states now have the capability to begin ageing otoliths, and suggest developing a cooperative effort for conducting this work.

Discussion of the Data Collection Planning and Data Tracking Processes

Data Collection Planning Process - The objective is to determine the species that will be targeted for size frequency and bioprofile sampling. D. Donaldson reviewed the data collection planning process and the matrix that has been developed. Discussions followed on the timing of implementation, program procedures being documented and approved, and priorities set on different modules. The matrix will be sent to committee members for completion. The results will be compiled by staff and presented at the September meeting. At that time, the decision will be made to determine content and volume, and if goals are realistic to have a region-wide plan for collecting data.

Data Tracking Process - This is the development of a data collection plan that will identify priority species for data collection, how much and what type of data should be collected. This is related to the data error correction issue of data elements, etc. In conjunction with the data collection planning process, states will have quotas. The subject of possible conflicts between state and federal samplers was addressed, and Florida, with its' two unique coastlines, appears to be the only area at this time where this is a concern. The necessity to devise a system to avoid conflicts is essential. Therefore, a cooperative document specifying the responsibilities of each agency is required. L. Bishop explained that totals could be incorporated in a monthly report with a message that quotas had been reached for that sampling timeframe. The committee discussed training port agents in the

need to submit data in a timely manner, i.e., quarterly submission is acceptable, and monthly submission is preferable. L. Bishop noted that most agencies now provide their data on a monthly basis and two agencies do so on a quarterly basis. L. Bishop suggested that the GSMFC staff monitor the number of samples taken gulfwide, and landings gulfwide to be matched against distribution that has been set; also, timeliness of data submission can be monitored. L. Kline suggested that stock assessment team members notify the commissions of any shifts in priority, then the commission representatives would advise the ComFIN committee via conference call.

Data Collection Work Group Report

TIP data elements matrix - J. Shepard reported on the commercial data collection schematic/trip ticket system. The purpose of the fishery module is to collect catch/effort information on trips and the data elements that go into this module reflect the type of data needed. Another module is the species-specific module where the length/frequency and other biostatistical information is collected. Each module has a different focus. This program is statistically designed to get trip information, develop a universe, and get species information. The third module is market information. Each module can be stratified based on committee needs. The bioprofile module is the ageing information. All modules can be linked, but do not have to be linked. The work group did not feel comfortable dealing with economic information and felt an economic module could be added at a later time under either the fishery module or market module.

The fishery data module was reviewed in detail, changes and modifications were made, and staff will make corrections. There was lengthy discussion on species codes. This has been an ongoing, long term problem which the committee will address in greater detail in the future. J.Shepard suggested that committee members discuss the fishery data module with their stock assessment personnel to assure that the data elements include all areas they require. The subject of defining bycatch was addressed, and committee members agreed to use the definition in the Magnuson-Stevens Act.

Presentation of Data Collection Procedures Document

J. Shepard reported that the work group began developing data collection procedures and presented an outline to the committee. This outline describes each module and its function. The committee agreed to charge the data collection procedures work group with continued development of this document.

Election of Officers

The following officers were elected by rotation: Chairman - Joe Moran; the position of Vice-Chairman will be decided at a later date.

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

COMMERCIAL FISHERIES INFORMATION NETWORK (ComFIN)
DATA ERROR CORRECTION WORK SESSION
MINUTES
Tuesday, March 4, 1997
Washington, D.C.

Chairman, Joe Shepard, called the meeting to order at 8:35 a.m. The following members, staff, and others were present:

Members
Steven Atran, GMFMC, Tampa, FL
Laura Bishop, NMFS, Galveston, TX
Julie Califf, GDNR, Brunswick, GA
Page Campbell, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Skip Lazauski, AMRD, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Daniel Matos, PRDNER, Mayaguez, PR
Joe Moran, SCDNR, Charleston, SC
Trish Murphey, NCDMF, Morehead City, NC
Tom Schmidt, USNPS, Homestead, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Carolyn Belcher, GDNR, Brunswick, GA
Jeff Brust, ASMFC, Washington, DC
Corky Perret, MDMR, Biloxi, MS
Kay Williams, SASI, Pascagoula, MS
Connie Young-Dubovsky, USFWS, Washington, DC
Bob Zales, II, PCDA, Panama City, FL

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Approval of Agenda

The agenda was approved as written.

Overview of Current Data Error Correction Methods

Laura Bishop of the National Marine Fisheries Service (NMFS) Galveston, Texas reported that NMFS is currently trying to update the method used to submit data, however, most files are received by mail on diskette. There are edits built into the program and data goes through several error checks at the PC level. The files are then uploaded using File Transfer Protocol to the A7, and the data are then subjected to eight different edit programs. The first program checks for invalid characters in the file, then a series of species code checks for validity are performed. The next check is an edit of the individual elements. The next series of programs concerns site verification and gives warnings of possible errors regarding length range, hours/days fished, water depths, etc. At this point the agent is contacted by phone to verify data. The next series of programs deals with structural problems with the Trip Interview Program (TIP) file format. There are seven record types involved in the TIP interview and each record type is checked. The next program run is to check for misidentification of species between the different sections of the interview. The final program is an update which takes all the information after the edits have been run and appends it to a master file which is where the data is stored. The vessel identification is separated from the file for reasons of confidentiality and at present is not stored with the TIP data set. Anyone using their own programs for entering data has their own checks built into the system. However, there is a need for a second layer of editing on the mainframe.

Many agents have been doing TIP sampling for years, and until new agents begin, there is very little need to do error verification by phone at this time. Future plans call for sending printouts to agents indicating data errors, have the corrections made by the agents, then returning corrected printouts to NMFS. After becoming familiar with data and error corrections, agents will be able to get on the system and make their own corrections. It appears that it will be several months before NMFS is on the new system.

L. Bishop stated that files are being sent through the Internet and e-mail and this is the preferred method to diskettes. There was discussion on the amount of personnel time, access to the system, and scheduling the transmittal of data. R. Lukens suggested a protocol manual to improve the timeliness of reports. D. Donaldson stated that a data tracking process and a data collection planning process have been developed by the ComFIN Committee, and this should help to improve

receiving data in a timely manner. L. Bishop stated that quarterly reports will be generated giving a summary of all activity.

Development of Data Error Correction Process

Responsibility for editing data was discussed and the possibility of having error checks incorporated into the data entry process done by the states. Initial edits by the states should include validation of codes, duplication of interview numbers, vessel names and registration numbers, and duplication of tag numbers. Currently there are structural edits to assure that the format at the PC level is in line with the format on the mainframe system. L. Bishop stated that at the mainframe level, all fields that are not numeric are checked and these include, valid interview dates, state, county, port, area fished, gear codes, number of fish, sex codes, species codes, termination, trip type, fishery type, etc. Final edits are done by NFMS with port agent verification.

L. Bishop stated that ranges were set prior to 1989 and are very general. If an agency needs a new species code added to the entry program, M. Camp at NMFS/SEFSC is contacted, and the new species is then added to the data base. A diskette with the new species is sent to the requesting agent and is also added to the mainframe. S. Atran suggested sending annual updates to agencies.

L. Bishop noted that historically the problem with the TIP program has not been the edit checking procedures, but the interpretation of the data elements and the lack of confidence in the data. Since there are no guidelines for collecting data, there is a need for periodic meetings for the agents to exchange information on data elements. Ron Lukens suggested that this group formulate a method to dispense information to everyone in the system, and possibly to fund port agents meetings. Dave Donaldson suggested coordinating the port agents meeting with the FIN meeting in spring and fall. Daniel Matos requested that L. Bishop meet in Puerto Rico with their agents since the fishery in the Caribbean is different in some ways from the south Atlantic and the Gulf of Mexico. J.Shepard suggested that areas of responsibility be outlined throughout the system at all levels. R.Lukens suggested that this topic be discussed further at the ComFIN fall 1997 meeting, then schedule a port agents meeting for winter of 1998.

Recommendations

The recommendations set forth at this meeting will be interim measures to be used until such time that all agents are on the system, which could be up to one year.

- L. Bishop will mail printouts to specified individuals.

- Once errors have been identified, specified individuals will have 5 working days to make corrections and mail the printout back to L. Bishop.

There being no further business, the meeting was adjourned at 11:40 a.m.

FISHERIES INFORMATION NETWORK
MINUTES
Wednesday, March 5, 1997
Washington, D.C.

Chairman Nick Nicholson called the meeting to order at 8:40 a.m. The following members, staff and others were present:

Members
Steven Atran, GMFMC, Tampa, FL
Laura Bishop, NMFS, Galveston, TX
Julie Califf, GDNR, Brunswick, GA
Page Campbell, TPWD, Rockport, TX
Bob Dixon, NMFS, Beaufort, NC
Lee Green, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Daniel Matos, PRDNER, Mayaguez, PR
Joe Moran, SCDNR, Charleston, SC
Nick Nicholson, GDNR, Brunswick, GA
Maury Osborn, NMFS, Silver Spring, MD
Tom Schmidt, USNPS, Homestead, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Wilma Anderson, TSA, Aransas Pass, TX
Carolyn Belcher, GDNR, Brunswick, GA
Richard Christian, ASMFC, Washington, DC
Corky Perret, MDMR, Biloxi, MS
Bill Price, NMFS, Silver Spring, MD
Kay Williams, SASI, Pascagoula, MS
Bob Zales II, PCBA, Panama City, FL

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, Ms

Adoption of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes from the Fisheries Information Network meeting held on September 26, 1996 in St. Croix, U.S. Virgin Islands were approved as written.

Status of Memorandum of Understanding for RecFIN/ComFIN

D. Donaldson reported that Memorandum of Understanding (MOU) has been signed by all members with the exception of the U.S. Virgin Islands, where the governor's approval is required. Since S. Meyers will no longer be on this committee, and his replacement has not yet been named, staff will contact B. Kojis to update her on the situation, and determine protocol in an effort to have MOU signed.

Discussion and Review of FIN Brochure

D. Donaldson reported on the progress of designing the FIN brochure. Committee members discussed color, graphics and the logo. Editorial comments and changes were discussed and staff will make adjustments. **R. Lukens moved to change the word *depleted* to *stressed*. The motion was seconded and passed unanimously.** Committee members will attempt to develop a design for a logo and send suggestions to D. Donaldson by April 15, 1997. A draft brochure will then be sent to committee members for review approximately one month prior to the fall meeting.

Discussion of Development of FIN Annual Report

D. Donaldson suggested that the RecFIN and ComFIN annual reports be combined to produce a FIN annual report. This concept was approved by committee members and the draft annual report was reviewed by committee members. With editorial changes noted, **J. Moran moved to accept the FIN Annual Report. The motion was seconded and passed unanimously.**

Update and Status of Atlantic Coastal Cooperative Statistics Program (ACCSP)

L. Kline reported that the ACCSP issues are consistent with the RecFIN/ComFIN issues. Recreational and commercial fisheries were characterized through listing of fishery components. Information has been compiled on the magnitude of the fisheries on the Atlantic coast by state. The ACCSP has approved minimum standard data elements for both recreational and commercial fisheries that includes catch/effort, biological, social, and economic. Evaluation criteria have been set and evaluation of the existing programs on the Atlantic coast began in November. The majority of the high priority surveys are complete. The next step is development of the data collection system for both recreational and commercial programs. This will be presented to the Advisory Committee and the Coordinating Council for approval in May 1997. After approval, a week long workshop will be conducted in June. In July there will be a three-day workshop of the Socio-economic Committee. In September a bycatch workshop is planned. The data management system will begin in June and there is funding available for a computer consultant. The January 1, 1998 deadline is still in effect. When the updated ACCSP technical source document is complete, copies will be sent to members of the FIN committee for review and input.

Update and Status of NMFS Core Statistics Program

M. Osborn reported on how the Core Statistics Program (CSP) relates to the ACCSP, RecFIN, other state-federal programs, and to the Magnuson-Stevens Act. The CSP was created to improve NMFS basic data collection. Developing a set of standards for use in all regions is the goal of the program. A plan design team has been formed and will create a plan that will include input from all partners including RecFIN/ComFIN and ACCSP. Since the Magnuson-Stevens Act requires a national plan, the NMFS will solicit input from representatives of the commissions, councils, and states in order to coordinate efforts. The program is in draft form at this time and is comprised of two teams. One team will deal with the vessel registration system, and the other, the fishery information system. The two teams will finish drafting the proposal by August, and this report will be sent out to states, councils and commissions for comments and suggestions. The south Atlantic states, including Florida, have agreed with the data elements list being proposed for the program. M. Osborn suggested the GSMFC Data Management Subcommittee be informed of the

progress to date at their spring meeting and request their input. The Caribbean would also need to be informed. This data elements list and the ACCSP data elements list have been derived from the data elements originally designed by the RecFIN Committee.

Time Schedule and Location for Next Meeting

The next FIN meeting will be held during the week of September 22, 1997. First choice of location is San Antonio, Texas, and second choice is Austin, Texas.

Other Business

L. Kline reported that Connie Young-Dubovsky has been detailed from the USFWS to be the ACCSP program manager. Her office is located in the ASMFC office.

M. Osborn reported that their office is now named Office of Fisheries Statistics and Economics, part of the office of Science and Technology. Several positions have been filled recently.

M. Osborn also reported that the MRFSS is conducting an economic add on in the southeast.

There being no further business, the meeting was adjourned at 10:45 a.m.

APPROVED BY:

COMMITTEE CHAIRMAN

SOUTHEAST RECREATIONAL FISHERIES INFORMATION NETWORK [RecFIN(SE)]
MINUTES
March 5 - 6, 1997
Washington, D.C.

Chairman Nick Nicholson called the meeting to order at 1:15 p.m. The following members, staff and others were present:

Members
Steven Atran, GMFMC, Tampa, FL
Bob Dixon, NMFS, Beaufort, NC
Jack Dunnigan, ASMFC, Washington, DC
Lee Green, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Joe Moran, SCDNR, Charleston, SC
Nick Nicholson, GDNR, Brunswick, GA
Maury Osborn, NMFS, Silver Spring, MD
Tom Schmidt, USNPS, Homestead, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Wilma Anderson, TSA, Aransas Pass, TX
Jeff Brust, ASMFC, Washington, DC
Corky Perret, MDMR, Biloxi, MS
Bill Price, NMFS, Silver Spring, MD
Ron Salz, NMFS, Silver Spring, MD
Kay Williams, SASI, Pascagoula, MS
Bill Wright, NFI, Arlington, VA
Connie Young-Dubovsky, USFWS/ACCSP, Washington, DC
Bob Zales, II, PCDA, Panama City, FL

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Approval of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes of the meeting held on September 26 and 27, 1997 in St. Croix, U.S.Virgin Islands were approved with minor editorial changes.

1997 Operations Plan

D. Donaldson distributed copies of the 1997 Operations Plan to committee members. Included was the time table of tasks for RecFIN(SE) which covers 1996 through 2000. After reviewing this time table of tasks, several revisions were made and the Committee agreed that activities identified in the 1997 Operations Plan are being completed at this meeting or will be in the allotted time frame. **M. Osborn moved to accept the 1997 Operations Plan as amended. The motion was seconded and passed unanimously.** The revised 1997 Operations Plan represents the administrative record for this portion of the meeting. D. Donaldson will make corrections and mail copies to Committee members.

a. Measures of Precision for Catch and Effort Estimates from the Headboat Survey

M. Osborn discussed the issue of estimating variance for the component of the Marine Recreational Fisheries Statistics Survey (MRFSS) that is estimated. A statistician with an understanding of the program will be able to establish the variance. B. Dixon reported that the National Marine Fisheries Service (NMFS) is in the process of tying in the head boat logbooks with the snapper/grouper permit, gulf reef fish permit, as well as mackerel and tuna permits. Applications for renewal of these permits will not be complete without their reports being submitted. This is being done to achieve 100% compliance and implementation will begin shortly. M. Osborn stated that historical data going back to the 1970's are estimates and should have variances associated. N. Nicholson suggested delaying this issue until 1998 due to workload. B. Dixon noted it would be appropriate to wait in view of the new system of tying in the permits with mandatory reporting. R. Lukens stated that the Gulf States Marine Fisheries Commission (GSMFC), via the RecFIN/ComFIN administrative grant, can provide a service for the NMFS by hiring people for head boat and menhaden sampling. Funding for these two jobs has not been made available at this point in time. J. Shepard suggested notifying the Councils. **J. Moran moved to have staff draft a letter to A. Kemmerer on behalf of the RecFIN(SE) Committee suggesting NMFS use every**

avenue possible to identify funding for the head boat sampling in the Gulf of Mexico. The motion was seconded and passed with 10 votes for the motion, M. Osborn and W. Laney abstaining. R. Schmitten and W. Fox will be copied.

b. Discussion of Establishment of MRF Surveys in the Caribbean

M. Osborn noted that since the goal of having a recreational data collection program in the Caribbean has been identified, it is necessary to evaluate different methodologies to conduct a survey in the Caribbean. The lack of telephones, language differences, and other circumstances were discussed, as was the issue of representation by the U.S. Virgin Islands on the Committee. The Biological/Environmental Work Group has been charged with the task of evaluating different methodologies for data collection in the Caribbean and will report to the Committee at the fall meeting.

Discussion of Duplicative Data Collection and Management Efforts

D. Donaldson distributed copies of a matrix listing current marine recreational fishing sampling programs. L. Kline stated that the Atlantic Coastal Cooperative Statistics Program (ACCSP) will be meeting in one week, and noted the need for coordination between ACCSP and RecFIN(SE), particularly where the southeastern states are concerned. J. Shepard noted the need for a process of evaluation to be developed. R. Lukens suggested that a list of the overlaps be given to the Biological/Environmental Work Group for consolidation and recommendations. The following areas were identified by the Committee as having overlap:

- The U.S. Fish and Wildlife Service (USFWS) and MRFSS overlap in participation estimates every five years, as well as Alabama, and Georgia
- Everglades National Park and MRFSS overlap in catch and harvest information
- Biscayne National Park and MRFSS overlap in catch and harvest
- NMFS Panama City Charter Boat Survey is currently under evaluation
- NMFS Billfish Tournament/Non-Tournament Sampling possible overlap with South Carolina and North Carolina - catch and effort data
- North Carolina - Albermarle Sound Survey overlap with MRFSS - catch and effort data; Roanoke River Striped Bass Survey overlap MRFSS - catch and effort data

- South Carolina - Finfish Survey overlap with MRFSS - catch and effort data, lengths; Charter Boat Survey overlap with MRFSS - catch and effort data
- Florida - MRF Statistical Data Collection - Site description overlap with MRFSS; Angler Interview possible overlap with MRFSS
- Alabama - Inshore Private Boat Survey overlap with MRFSS - catch and effort data
- Mississippi - Creel Survey overlap with MRFSS - catch and effort data, and sites; Recreational Oyster Harvest potential overlap with MRFSS in 1996
- Louisiana - No duplication
- Texas - No duplication
- U.S. Virgin Islands - No duplication
- Puerto Rico - No duplication

The Biological/Environmental Work Group has been charged with the task of exploring and recommending possible alternatives, considering cost and efficiency. Other issues for the Work Group to consider are legal mandates, quota monitoring, estimates, precision, and site registers.

The meeting recessed at 4:40 p.m.

March 6, 1997

The meeting reconvened at 8:30 a.m.

Discussion of Licensing Structure Matrix for RecFIN(SE) Participants

D. Donaldson explained that this discussion is based on the recommendation to develop an integrated licensing permit data base that is suitable for using as a sampling frame. The Committee will determine if the sampling frame in the Southeast is adequate to capture the fishing population. The Committee will develop a criteria to insure that the marine recreational fishing licenses can be used as a regional sampling frame. The matter of exemptions and gratis licenses was addressed by the Committee. W. Laney noted that the North Carolina legislature is currently considering the issue of saltwater licenses. N. Nicholson reported that Georgia is also considering saltwater licenses but the outcome is unknown at this time. M. Osborn stated that the ACCSP will also be promoting the use of saltwater licenses. A license frame for the MRFSS would require a regional implementation,

side by side studies for at least a year with several states, and easy access to license frame data bases. There was general discussion on the situation in Florida concerning saltwater licenses. GSMFC staff will check with Florida and determine the situation regarding licenses for individuals, phone numbers, addresses, etc. J. Moran noted that only two states have computerized licensing at this time. Discussion ensued on the need to produce a document to educate the public and legislators on the need for salt water licenses. The Committee charged the Administrative Subcommittee with the task of developing a list of recommended minimum criteria and draft a justification document to be presented at the fall meeting.

Presentation of Findings Regarding Annual Review Process of MRFSS Data

Copies of the MRFSS Data Review Process Report were distributed to Committee members. R. Salz explained that there are two levels of data. One is the raw intercept data, which comes to NMFS as a "fish dump". The individual states can access this information directly from the contractor. The other level are estimates. R. Salz requested that the states give NMFS feedback in an attempt to keep the data as clean as possible. M. Osborn will send the states a list of projected dates of availability of data and will investigate the possibility of putting the fish dumps on the Internet. M. Osborn would like to see participants assist in developing standard ways to review the fish dumps. R. Lukens noted that general guidelines need to be developed for an annual review process. N. Nicholson noted the need for these data to be reviewed before it becomes public or before it is released to the Councils. R. Lukens noted that for the final annual estimates, the review does not necessarily have to be done at the February meeting. M. Osborn stated that in the past the target date for annual estimates has been March 15. R. Lukens requested that final estimates be sent to GSMFC for distribution to the states. **R. Lukens moved that the RecFIN(SE) Committee approve the report as written and task the Ad Hoc Data Review Work Group with developing a draft for guidelines and criteria for reviewing the data. This draft will be presented for consideration at the fall meeting. The motion was seconded and passed unanimously.** L. Kline noted that the ACCSP is meeting next week and will utilize information from this RecFIN(SE) and ComFIN meeting.

Biological/Environmental Work Group Report

a. Presentation of RecFIN(SE) QA/QC Document

Copies of the revised QA/QC document were sent to Committee members for review prior to the meeting. D. Donaldson reported that the Biological/Environmental Work Group felt that general guidelines would be an appropriate approach to the QA/QC document. Since many of the details on conducting various types of surveys can be found in other manuals, etc., the Work Group felt it was not necessary for this type of information to be included in the QA/QC document.

J. Shepard believed that the new QA/QC document is too general in nature, but could be added to the original document. R. Lukens suggested that the revised document be added to the original as an Introduction. Chairman Nicholson suggested that the Work Group revisit the QA/QC document and address additional methodologies to increase the scope of the document. Discussion followed on the need for the RecFIN(SE) Committee to produce a standards and guidance manual for conducting surveys. The Committee then charged the Biological/Environmental Work Group to revisit the QA/QC document and consider the following areas: intercept survey to determine catch, telephone survey to determine effort, intercept survey for biological sampling, logbooks for catch and effort, aerial survey for effort, and roving survey for effort. B. Dixon requested that the Committee prioritize tasks assigned to the Biological/Environmental Work Group. This subject will be discussed under Other Business.

b. Discussion of Process for Integrating RecFIN(SE) into Stock Assessment

D. Donaldson distributed copies of the Data Collection Planning Process. The Committee discussed the possibility of this item being on the FIN agenda since it deals with an issue common to both RecFIN(SE) and ComFIN.

R. Lukens noted that interstate species being done through GSMFC, will be handled by the Stock Assessment Team. In the case of federal species, these are prioritized at the Council level and then given to the NMFS Southeast Fisheries Science Center. S. Atran noted that the Council identifies a species for stock assessment approximately one year in advance. L. Kline explained how the ASMFC prioritizes species for stock assessment and also noted that the NMFS Northeast Center gathers their stock assessment personnel together for species selection. R. Lukens noted the lack of guidance in ascertaining which species should be selected for assessment. D. Donaldson stated

that he will send out the matrix for the data collection planning process and each member will fill out information for their agency. The Committee will evaluate this effort at the September meeting.

Update on Charter Boat Pilot Survey in the Gulf of Mexico

M. Osborn stated that cost estimates for the Pilot Charter Boat Survey in the Gulf of Mexico (Louisiana to Florida) had been developed. The NMFS personnel have come up with a statistically valid design for log book sampling. The budget negotiation process is underway, but has not been finalized at this time. In order for the survey to be successful, both the log book and telephone portions must be done. Therefore, if funds are not budgeted for the entire program, it will be delayed until 1998. R. Lukens stated that valuable information has already been collected. The Charter Boat outreach program will begin before the sampling since there will be the additional burden of several methodologies on the charter boat captains. The purpose of the outreach program is to receive some input from the captains in the early stages of the program, which eventually will benefit them and management. R. Lukens also noted that a comprehensive list of charter boat captains in the Gulf of Mexico has been developed by GSMFC and Florida. B. Dixon noted the importance of charter boat estimates and suggested this committee go on record as supporting the Pilot Charter Boat Survey. R. Lukens stated that in order to do this study gulfwide, involving the NMFS, states, and GSMFC, approximately $400,000 would be required. This figure does not include the logbook survey. R. Lukens noted that a presentation of the study plan will be made to the RecFIN(SE) Committee at the fall meeting. L. Kline requested that any information now available be sent to her for the ACCSP. **R.Lukens moved that the RecFIN(SE) Committee send a letter to the NMFS indicating support for the Pilot Charter Boat Study to compare methodologies in the charter boat sector and encourage the NMFS to fund this study beginning as early as possible in 1997. The Committee prefers the broadest geographic coverage, but as a minimum, funding for all three methodologies on the west coast of Florida. The motion was seconded and passed with M. Osborn abstaining.**

Other Business

Pacific RecFIN Update - M. Osborn reported that the budget for the Pacific coast has been used to fund the samplers. There has not been a plan to determine the most efficient expenditure of funds. At this time, D. Van Voorhees is on the west coast working with the subcommittee of the Pacific RecFIN and they are developing an outline for a strategic plan.

RecFIN(SE) Letterhead - R. Lukens reported that in the past, letters from this Committee have been printed on GSMFC letterhead or from the agency of the Chairman, and perhaps it would be more appropriate to have a FIN Committee letterhead. **M. Osborn moved to direct staff to develop a draft letterhead for consideration at the September meeting.** After discussion **M. Osborn amended the motion to have staff develop a letterhead at this time with a footer listing participating agencies. The motion was seconded and passed unanimously.**

Prioritize Work Group Tasks - D. Donaldson listed the following four tasks as assigned to the Biological/Environmental Work Group: metadata, QA/QC document, MRF surveys in the Caribbean, and duplicative data collection. Chairman Nicholson asked the Committee for input on the amount of work charged to the Work Group, and the Committee discussed the length of time required to have a productive work group meeting. It was determined that the Biological/Environmental Work Group could adequately address all of the identified issues and will proceed with these tasks during the year.

MRFSS Strategic Plan - M. Osborn reported that in developing a Strategic Plan, the NMFS may call on members of this Committee to participate.

There being no further business, the meeting was adjourned at 12:20 p.m.

APPROVED BY:

COMMITTEE CHAIRMAN

SEAMAP Subcommittee Meeting
MINUTES
Biloxi, MS
Monday, March 17, 1997

Chairman Richard Waller called the meeting to order at 1:16 p.m. The following members and others were present:

Members:
Jim Hanifen, LDWF, Baton Rouge, LA
Terry Cody, TPWD, Rockport, TX
Richard Waller, GCRL, Ocean Springs, MS
Joanne Shultz, NMFS, Pascagoula, MS
Mark Leiby, FDEP/FMRI, St. Petersburg, FL

Others:
Walter Tatum, Foley, AL
Scott Nichols, NMFS, Pascagoula, MS
Buck Sutter, NMFS, St. Petersburg, FL
Ken Savastano, NMFS, SSC, MS
Kaye Williams, Pascagoula, MS
Joe Smith, NMFS, Beaufort, NC
Butch Pellegrin, NMFS, Pascagoula, MS
Perry Thompson, NMFS, Pascagoula, MS

Staff:
Larry Simpson, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Adoption of Agenda

Agenda Item 9b will be discussed under Item 7. With this change, the agenda was adopted as submitted.

Approval of Minutes

Under "Update on SEAMAP Chlorophyll Sampling Proposal to EPA," the Louisiana Department of Wildlife and Fisheries will submit a proposal should be changed to the Gulf States Marine Fisheries Commission will submit a proposal. **With that change, J. Hanifen moved to approve the October 14, 1996 minutes as submitted.** Terry Cody seconded and it passed unanimously.

Administrative Report

The Spring Plankton Survey will be conducted in April/May of this year. The survey will cover Gulf waters from Florida Bay to Brownsville, Texas. This is the Bluefin Tuna cruise and vessels from Florida

and NMFS will participate. The purpose of the survey is to assess abundance of Bluefin Tuna eggs and larvae in the Gulf of Mexico.

The Summer Shrimp/Groundfish Survey is scheduled for June/July of this year. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas participate in the survey. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico.

The 1997 Marine Directory has been published and distributed to participants and will be distributed to the TCC and Commissioners and Proxies at this meeting. The proceedings of the general session *The Uses of Fishery-Independent Data* has been published and distributed. The draft 1994 Atlas has been distributed for comments and the final copy should be sent to the printer by the end of this month. Work is continuing on the 1995 Atlas and the funds will be obligated to publish this atlas at the end of the month. Hopefully, both Atlases will be distributed by the middle of this year.

To date there has been approximately 750 visitors to the GSMFC SEAMAP home page and D. Donaldson reminded the Subcommittee to set up links to their home pages. The format of the home page has been changed and D. Donaldson is working to get the real time data plots online for this year. When the real time information is mailed, he will note in the memo that the data plots are online for those people who has access to the Internet.

D. Donaldson asked the Subcommittee to review the information he distributed from the Polish Sorting and Identification Center. He said they are receiving information from the Center and things seem to be going well.

In mid-February T. Cody and D. Donaldson gave a presentation at the southern division AFS meeting in San Antonio, Texas. The presentation consisted of slides, printed material and a general overview of SEAMAP. Unfortunately, they were placed in a category of Biological Pollution and Other Topics so they didn't reach a very large audience. They felt this was a good learning experience and would know more what to expect for future meetings. The Subcommittee asked D. Donaldson to go forward on working on a traveling exhibit to be used for these type sessions. The exhibit should include slides, pictures, posters, printed material and anything else pertaining to SEAMAP.

Discussion of SEAMAP Atlas Format and Content

D. Donaldson stated that because of the changes/losses of NMFS personnel, the last two atlases have been delayed. He said that he, P. Thompson and N. Sanders discussed exploring the possibility of streamlining the atlas--possibly having it on a PC-Based level so it will be easier to process. K. Savastano suggested that before this is approved, to have a cost estimate of what it will take to streamline in terms of man hours, contractor time, operational time, etc. D. Donaldson also suggested possibly removing the twelve temperature plots in the atlas because the information is difficult to obtain and to plot and it really doesn't provide that much usefulness and it is not a SEAMAP activity. J. Hanifen disagreed stating that with the hypoxic area off Louisiana, this information can be very useful in the future.

After discussion, M. Leiby moved to form an ad hoc committee to explore streamlining the atlases and to examine removing/not removing the temperature plots. J. Shultz seconded it and it passed unanimously. The committee will consist of P. Thompson, N. Sanders, R. Minkler, D. Hanisko and D.

Donaldson. The committee will report at the joint meeting on the streamlining ideas and arguments to stop including the temperature plots and the Subcommittee will vote on the recommendations then.

Discussion of Possible SEAMAP Data Management System Presentation

The Subcommittee discussed having someone go to each state to give a presentation on how to use the SEAMAP Data Management System. J. Shultz said the idea evolved when she was asked for location information on left bongo samples and she thought the person should be able to obtain this information on his own. She suggested having a presentation at one of the GSMFC annual meetings, possibly a general session, that would be beneficial to the Subcommittee and others attending the meeting. K. Savastano said a new version of the SEAMAP data management system is currently in progress and will be out this month, but he feels a general session would not be useful because there is no outside access to the Miami computer due to confidential data. To gain access to the Miami computer, you must be a participant on the system and be approved for confidential data. He said they are currently working on a public access system at Stennis that will be available through Internet.

The Subcommittee also discussed the possibility of having a workshop at the joint meeting but decided that not only Subcommittee members need this training but others in their offices and it will be too expensive to have everyone go to Charleston. They would also need to have enough hardware to have a workshop. It was then suggested to wait until the new version was out and everyone had it loaded on their machines before actually having a work shop. The Subcommittee decided that the best place to have a user training work shop would be at Stennis because they would have the hardware capability and it wouldn't cost too much in travel. The Subcommittee also asked K. Savastano if he could possibly have a condensed instruction sheet with the new version along with the user manual. D. Donaldson said the Subcommittee will have to prioritize upcoming meetings because if they do have the work shop, they may not be able to afford work group meetings. The Subcommittee will invite the South Atlantic if they do have the training work shop.

Update on SEAMAP Chlorophyll Sampling Proposals/Environmental Data Work Group Report

J. Hanifen said that the proposal submitted to NASA was not funded and the peer reviews were not very favorable. D. Donaldson said they have not received a response from EPA yet but he has tried contacting R. Herring to see where it stands. The Subcommittee discussed the importance of all participants using the same method for sampling chlorophyll then Perry Thompson, submitted the following Environmental Work Group Report:

> At this time due to manpower constraints and funding, the Mississippi Laboratories cannot continue the spectrophotometric analysis of all the chlorophyll samples (chlorophyll a) that are collected by the SEAMAP participants. We are collecting and will continue to collect chlorophyll with the CTD mounted fluorometer. Also, other environmental data such as temperature, depth, salinity, turbidity and dissolved oxygen will still be collected with the CTD. We can collect environmental samples or biological samples for an agency, pending priority requirements during a cruise. We do have room aboard our research vessel for those who want to collect environmental or biological samples.
>
> The Mississippi Laboratories will offer their laboratory equipment to SEAMAP participants who would like to analyze their own samples. The CTD data profiles (1992 to 1996) are presently being sent to the Naval Oceanographic Office at the Stennis Space Center to be edited and will be available

in the near future to the SEAMAP participants upon request. The spectrophotometric chlorophyll data are in the SEAMAP data files.

The Mississippi Laboratories will commit to analyzing 150 chlorophyll samples/year for the years 1996, 1997 and 1998 to determine the relationship between the CTD fluorometer data and the spectrophotometric data (if that is what the Subcommittee wants). An Environmental Data Work Group meeting needs to be called to determine the allocation of the 150 samples to be collected, i.e., season, location, number of replicates per area, etc. Also, it needs to be decided on who will analyze these data. The last time the Environmental Work Group met was in March of 1995.

The Subcommittee discussed the issue further and agreed the fluorometer method is probably the best method available but the issue needs to be resolved. **J. Hanifen moved to charge the Environmental Data Work Group to meet as soon as possible to specifically address the question of chlorophyll methods, including priorities for the 1997 data collections, analysis of NMFS historical profile data, processing of the 1996 data, processing of salinity samples and resolving any other associated environmental data questions. The Work Group needs to make a recommendation to the Subcommittee at least with regards to the 1997 data, prior to the Summer Shrimp/Groundfish cruise and have a complete report in August at the Joint Subcommittee meeting.** J. Shultz seconded and it passed unanimously.

Presentation of Comparative Tow Results

B. Pellegrin gave a presentation of the Comparative Tow Results. The presentation is attached (Attachment 1). He stated that there were no significant differences in the RV Tommy Munro, Verrill, Pelican or Oregon II. A summary of the results is as follows:

* Nineteen of twenty-four species indicated no significant differences between vessels.

* Overall, NOAA Ship Oregon II caught greater numbers of eleven species and RV Tommy Munro, thirteen.

* Overall ratio of numbers caught by NOAA Ship Oregon II:RV Tommy Munro was 1.01:1.00.

* Of the five species indicating significant differences, NOAA Ship Oregon II caught significantly greater numbers of three species and RV Tommy Munro, two.

* Of the species indicating significant differences, there didn't appear to be a pattern of either vessel's net sampling a niche significantly more efficiently.

* Observed significant differences may have been due to non-random encounters of species aggregations.

Work Group Reports

Data Coordinating Work Group - K. Savastano distributed the SEAMAP Data Management Report (Attachment II) and reviewed each item. He said that since the October meeting, data processing of the 1996 data and the 1982-87 Gulf data is in progress, the processing of the 1994 SEAMAP Atlas has been completed

and processing of the 1995 Atlas is approximately 60% complete, 13 data requests have been filled, version 3.22 is expected to be completed at the end of March, and the SEAMAP on-line data base now contains 352 cruises with a total of 2,447,860 records. He also stated that a decision needs to be made on the chlorophyll and salinity data so they can finish processing the 1995 atlas.

Other Business

T. Cody updated the Subcommittee on the red tide off of Texas last year. He stated that at this point it seems spawning and large red and black drum hasn't been negatively impacted by the red tide.

J. Hanifen suggested the Subcommittee may want to do an in depth review, a complete reevaluation of the SEAMAP because of the changes in technology and funding problems. It was decided to have this as an agenda item at the joint meeting for the whole committee to discuss.

M. Leiby said Florida has approximately 1,000 samples that were taken by SEAMAP protocol that needs to be identified and sorted. He asked if it would be possible to send these samples, maybe in stages, to Poland. J. Shultz stated that Poland is asking for more funding if they continue to send more samples but she and M. Leiby will try to resolve this.

B. Sutter stated the final reports are due April 30, 1997 for the period of February 1, 1994 through January 31, 1997.

There being no further business, the meeting adjourned at 4:40 p.m.

ATTACHMENT I

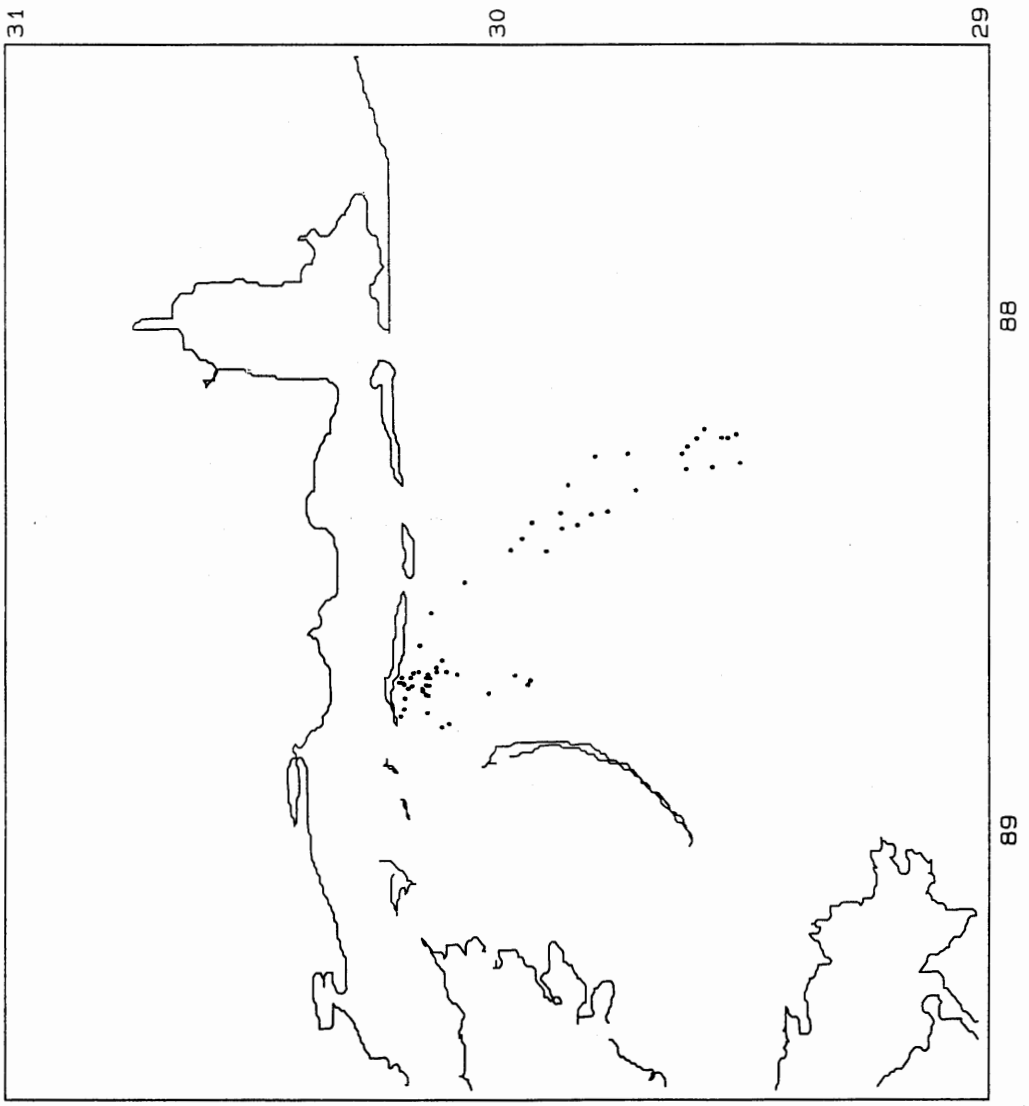
Comparison of Relative Fishing Powers of NOAA Ship Oregon II and RV Tommy Munro

- Sixty paired-comparison tows.
  1) Fifteen minute tows.
  2) Towing speed of 3.0 knots.
  3) South of Horn Island, Mississippi in 5 to 25 fathoms.

- Species were ranked in descending order of catch frequency for all tows. Species selected for analyses were those whose cumulative percent composition comprised at least 90.0% of the total number of individuals caught.

- Valid observations were defined as paired tows in which a species of interest was caught in each vessel's net.

- Catch rates (number caught/15-minutes fished) were subjected to multiple regression analysis with dummy variables to arrive at one mathematical model to represent the relationship in catch rates between vessels for all species of interest (dummy variables describe no meaningful measurement level of a variable but rather act only to identify categories of a nominal variable).


31
30
29
88
89

$$Y = \beta_0 + \beta_1(X)$$

$$CPUE_{\text{Oregon II}} = \text{Y-intercept} + (\text{Slope})(CPUE_{\text{Tommy Munro}})$$

No difference between vessels implies Y-intercept $= 0$, Slope $= 1$

$$\text{Then, } CPUE_{\text{Oregon II}} = 0 + (1)(CPUE_{\text{Tommy Munro}})$$

$$\text{Or, } CPUE_{\text{Oregon II}} = CPUE_{\text{Tommy Munro}}$$

Table 1. Species selected to compare relative fishing powers of *NOAA Ship Oregon II* and *RV Tommy Munro* (n=60 paired tows).

	Name	Catch Frequency	Percent of Total Number Caught
1	Atlantic croaker	51	15.1
2	Bigeye searobin	47	4.4
3	Atlantic bumper	44	39.7
4	Brown shrimp	41	0.9
5	Spot	39	10.7
6	Iridescent swimming crab	38	1.3
7	Gulf butterfish	34	1.5
8	Lesser blue crab	32	1.2
9	Inshore lizardfish	30	0.3
10	Longspine porgy	27	7.4
11	Rock sea bass	26	0.2
12	Striped anchovy	25	1.9
13	Pink shrimp	25	0.3
14	White shrimp	25	0.3
15	Mantis shrimp	24	0.5
16	Harvestfish	23	0.5
17	Red snapper	21	0.1
18	Least puffer	21	0.3
19	Fringed flounder	20	0.1
20	Scaled sardine	18	0.9
21	Pinfish	17	0.5
22	Brown rock shrimp	17	0.3
23	Roughback shrimp	15	0.3
24	Dwarf sand perch	14	0.7
			89.4

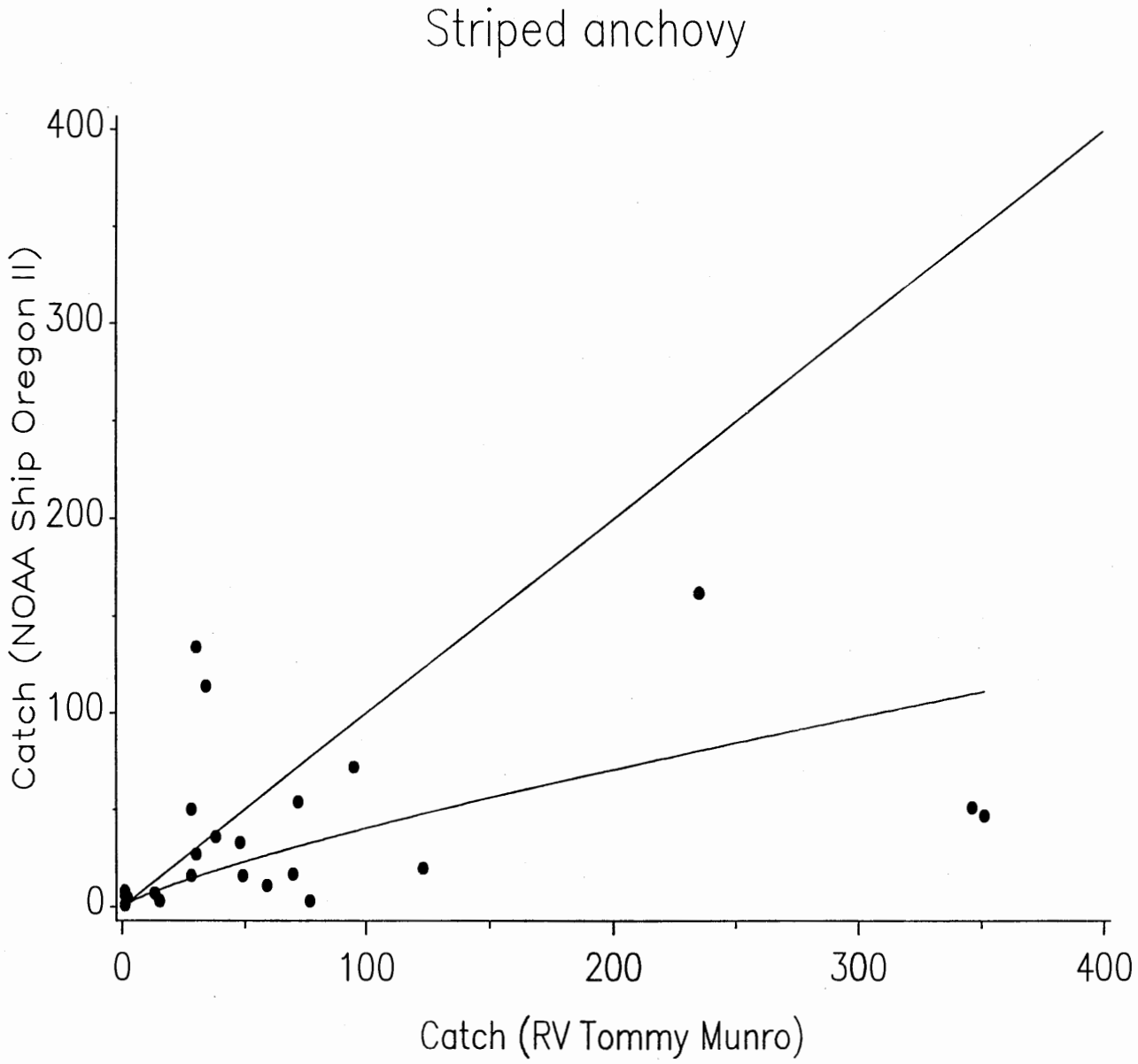
Table 2. Numbers caught and ratios (set to unity) of twenty four species most frequently caught by *NOAA Ship Oregon II* and *RV Tommy Munro* during paired comparison towing (*NOAA Ship Oregon II* cruise 223 (OT-96-05), n=60 paired tows).

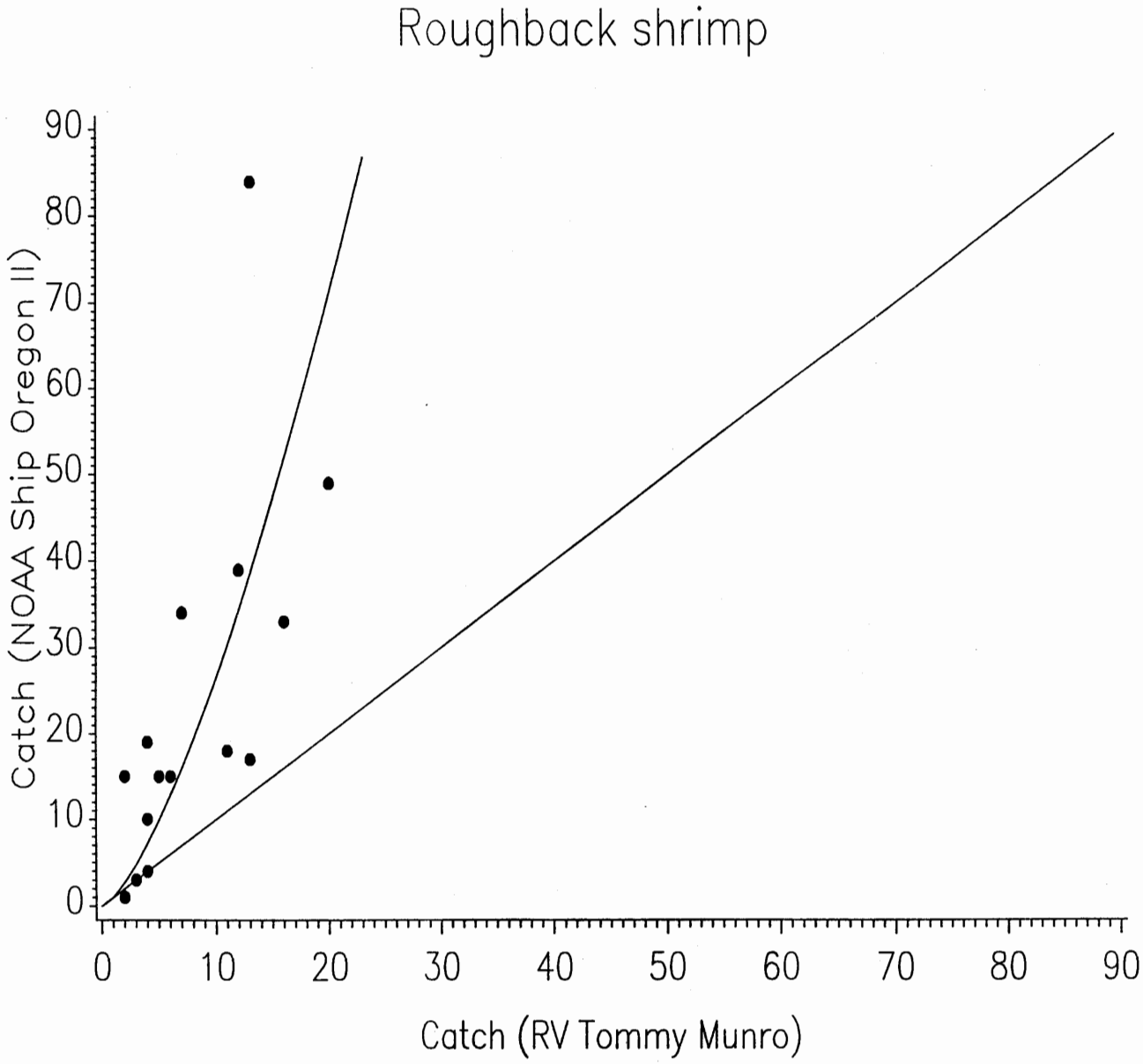
	Name	Numbers Caught		Ratio of Respective Vessels
		NOAA Ship Oregon II	*RV Tommy Munro*	
1	Atlantic croaker	10,143	10,496	1.00:1.03
2	Bigeye searobin	3,959	2,161	1.83:1.00
3	Atlantic bumper	26,218	28,097	1.00:1.07
4	Brown shrimp	671	601	1.12:1.00
5	Spot	6,730	7,935	1.00:1.18
6	Iridescent swimming crab	1,144	746	1.53:1.00
7	Gulf butterfish	1,045	1,122	1.00:1.07
8	Lesser blue crab	1,187	582	2.04:1.00
9	Inshore lizardfish	275	210	1.31:1.00
10	Longspine porgy	5,755	4,362	1.32:1.00
11	Rock sea bass	161	163	1.00:1.01
12	Striped anchovy	899	1,749	1.00:1.94
13	Pink shrimp	212	218	1.00:1.03
14	White shrimp	224	282	1.00:1.26
15	Mantis shrimp	423	307	1.38:1.00
16	Harvestfish	402	393	1.02:1.00
17	Red snapper	136	133	1.02:1.00
18	Least puffer	358	179	2.00:1.00
19	Fringed flounder	98	80	1.22:1.00
20	Scaled sardine	670	612	1.09:1.00
21	Pinfish	429	376	1.14:1.00
22	Brown rock shrimp	267	227	1.18:1.00
23	Roughback shrimp	356	122	2.92:1.00
24	Dwarf sand perch	576	394	1.46:1.00
	Sums	62,338	61,547	1.01:1.00

Results

- Significantly fitting full model ($p=0.0001$, $R^2=0.673$)
- Lines were not coincident ($p=0.0001$)
- Lines were not parallel ($p=0.0016$)
- Y-intercepts equal ($p=0.3906$) and not significantly different from zero; therefore, lines were refitted without constant terms (i. e. y-intercepts forced through the origin).
- Five species resulted in significant differences in catch rates between vessels.

Name	Fitted Model	Ratio (O:T)
Atlantic croaker	$N_o=N_T^{0.919935}$	1.00:1.03
Bigeye searobin	$N_o=N_T^{1.099153}$	1.83:1.00
Atlantic bumper	$N_o=N_T^{0.982408}$	1.00:1.07
Brown shrimp	$N_o=N_T^{1.018676}$	1.12:1.00
Spot	$N_o=N_T^{0.913216}$	1.00:1.18
Iridescent swimming crab	$N_o=N_T^{1.073595}$	1.53:1.00
Gulf butterfish	$N_c=N_T^{0.945622}$	1.00:1.07
Lesser blue crab	$N_o=N_T^{1.163387}$	2.04:1.00
Inshore lizardfish	$N_o=N_T^{1.028910}$	1.31:1.00
Longspine porgy	$N_o=N_T^{1.043651}$	1.32:1.00
Rock sea bass	$N_o=N_T^{0.789367}$	1.00:1.01
Striped anchovy	$N_o=N_T^{0.803644}$	1.00:1.94
Pink shrimp	$N_o=N_T^{0.922543}$	1.00:1.03
White shrimp	$N_o=N_T^{0.851180}$	1.00:1.26
Mantis shrimp	$N_o=N_T^{1.095699}$	1.38:1.00
Harvestfish	$N_o=N_T^{0.916688}$	1.02:1.00
Red snapper	$N_o=N_T^{0.922965}$	1.02:1.00
Least puffer	$N_o=N_T^{1.069291}$	2.00:1.00
Fringed flounder	$N_o=N_T^{0.788665}$	1.22:1.00
Scaled sardine	$N_o=N_T^{0.892613}$	1.09:1.00
Pinfish	$N_o=N_T^{0.943852}$	1.14:1.00
Brown rock shrimp	$N_o=N_T^{1.039400}$	1.18:1.00
Roughback shrimp	$N_o=N_T^{1.423642}$	2.92:1.00
Dwarf sand perch	$N_o=N_T^{1.104994}$	1.46:1.00


Striped anchovy
Catch (NOAA Ship Oregon II)
400
300
200
100
0
0
100
200
300
400
Catch (RV Tommy Munro)


Roughback shrimp
Catch (NOAA Ship Oregon II)
Catch (RV Tommy Munro)
0
10
20
30
40
50
60
70
80
90

Summary

- Nineteen of twenty four species indicated no significant differences between vessels.
- Overall, NOAA Ship Oregon II caught greater numbers of eleven species and RV Tommy Munro, thirteen.
- Overall ratio of numbers caught by NOAA Ship Oregon II:RV Tommy Munro was 1.01:1.00.
- Of the five species indicating significant differences, NOAA Ship Oregon II caught significantly greater numbers of three species and RV Tommy Munro, two.
- Of the species indicating significant differences, there didn't appear to be a pattern of either vessel's net sampling a niche significantly more efficiently.
- Observed significant differences may have been due to non-random encounters of species aggregations.

ATTACHMENT II

March 12, 1997

SEAMAP DATA MANAGEMENT

A. Data Processing Status

Status reports for the 1982 through 1996 SEAMAP data are shown in Attachments 1-10. All cruise data in the SEAMAP on-line data base have been reformatted to SEAMAP versions 3.0, 3.1, or 3.2. Data processing of 1996 data and 1982-1987 Gulf data is in progress.

B. Gulf Atlas Processing

Processing of the 1994 SEAMAP Atlas has been completed. Processing of the 1995 Atlas is approximately 60% complete.

C. Data Requests

One hundred and ninety-three SEAMAP requests have been received to date. One hundred and ninety-two have been completed and work is being done on the remaining request. Thirteen requests were filled since October 1996.

D. Software/System Progress

Version 3.22 of the SEAMAP Data management system is currently in progress and scheduled for release at the end of March 1997. This version will have fixes for any problem identified to date. It will have a new plot/graphic software program that was designed to plot SEAMAP data. It will also be able to run under DOS, 0S/2 and Windows 95.

Re-engineering the main frame SEAMAP software in order to take advantage of the ORACLE data base software is currently in progress. The development work is being performed on the SGI work station in Pascagoula.

E. On-line Data Base Status

Status of the SEAMAP data as of October 08, 1996 is shown in Attachment 11. The SEAMAP on-line data base had 332 cruises with a total of 2,230,802 records (approximately 87.8 megabytes of data). Since October 1996, twenty cruises were processed through version 3.2 and added to the on-line data base as shown in Attachment 12. The SEAMAP on-line data base now contains 352 cruises with a total of 2,447,860 records (approximately 97.2 megabytes of data).

Kenneth Savastano
Data Manager

ATTACHMENT 1

SEAMAP 1982

DATA SOURCE	VESSEL	CRUISE		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	821	CRUISE 821	3	13	11	86	11	*1	*1	*1	*1	*1	*1	*1	*1	121	3.0	17-Jun-94
MS	17	821	CRUISE 821	3	21	21	415	20	1365	*1	*1	*1	*1	*1	*1	*1	1842	3.2	18-Apr-96
TOTAL					34	32	501	31	1365								1963		

10-Mar-97

SEAMAP 1983

DATA SOURCE	VESSEL	CRUISE		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	831	CRUISE 831	3	18	18	217	18	*1	*1	*1	*1	*1	*1	*1	*1	271	3.0	27-Jun-94
MS	17	831	CRUISE 831	3	26	14	385	14	*1	14	832	*1	12	35			1320	3.2	18-Apr-96
TOTAL					44	32	602	32		14	832		12	35			1591		

10-Mar-97

SEAMAP 1984

DATA SOURCE	VESSEL	CRUISE		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	841	CRUISE 841	3	10	10	120	10	613	*1	*1	*1	*1	*1	*1	*1	763	3.0	27-Jun-94
MS	17	841	SUMMER SEAMAP	3	24	24	357	24	*1	6	165	*1	*1	*1	*1	*1	600	3.2	17-Aug-95
MS	17	842	ICHTHYOPLANKTON SURVEY	3	10	*1	*1	*1	*1	*1	*1	*1	10	30			40	3.1	25-Jul-95
US	4	145	SUMMER SEAMAP	3	289	220	5596	259	11816	186	5093	*1	68	204			23663	3.1	04-Dec-96
TOTAL					333	254	6073	293	12429	192	5258		78	234			25066		

10-Mar-97

SEAMAP 1985

DATA SOURCE	VESSEL	CRUISE		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	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
MS	17	851	SUMMER SEAMAP	3	36	31	754	31	*1	27	474	*1	5	15			1368	3.1	23-Feb-95
MS	17	852	FALL SEAMAP	3	60	40	893	40	1839	*1	*1	*1	20	60			2932	3.1	05-May-95
MS	17	853	WINTER SEAMAP	3	42	40	960	42	2752	40	1327	*1	2	6			5209	3.1	13-Jun-95
MS	17	854	FALL SEAMAP	3	16	15	290	15	785	*1	*1	*1	5	15			1136	3.1	19-May-95
US	4	153	SUMMER SEAMAP	3	355	317	6737	191	5226	292	15972	*1	38	112			29202	3.2	28-May-96
US	4	156	FALL SEAMAP	3	411	407	9261	322	19609	188	5261	*1	2	5			35464	3.2	15-Sep-95
TOTAL					951	879	19407	671	30448	558	23124		74	217			76255		

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

Attachment 2

SEAMAP 1986

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP STATION	SHRIMP L/F	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	*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	3	20	14	378	18	833	12	233	*1	6	18			1526	3.1	11-Jan-95
MS	17	863	SUMMER SEAMAP	3	14	14	412	12	624	13	165	*1	*1	*1	*1	*1	1254	3.1	17-Jan-95
MS	17	864	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	27			45	3.1	17-Jan-95
MS	17	865	FALL SEAMAP	3	18	18	327	18	*1	*1	*1	*1	*1	*1	*1	*1	381	3.1	11-Jan-95
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	160	SUMMER SHRIMP/GROUNDFISH	3	214	165	4114	159	4885	128	4574	*1	43	129			14368	3.1	05-Dec-94
US	4	161	FALL ICHTHYOPLANKTON	3	128	*1	*1	119	*1	*1	*1	*1	91	273			520	3.0	04-Mar-94
US	4	163	FALL SHRIMP/GROUNDFISH	3	306	305	6025	300	19008	*1	*1	*1	64	192			26136	3.1	26-Oct-94
TOTAL					977	732	16371	867	54268	164	5048		246	720			79147		

10-Mar-97

SEAMAP 1987

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP STATION	SHRIMP L/F	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	33	3.0	26-Jul-9
AL	23	872	SUMMER SEAMAP	3	12	12	124	12	*1	3	4	*1	*1	*1	*1	167	3.0	08-Oct-9
AL	23	873	FALL ICHTHYOPLANKTON	3	10	*1	*1	10	*1	*1	*1	*1	10	10		30	3.0	08-Oct-9
AL	23	874	FALL SEAMAP	3	5	5	42	*1	*1	*1	*1	*1	*1	*1	*1	52	3.0	08-Sep-9
AL	23	875	FALL SEAMAP	3	8	8	45	8	*1	*1	*1	*1	*1	*1	*1	69	3.0	08-Oct-9
MS	17	871	BUTTERFISH CRUISE	3	53	53	1349	*1	4310	*1	*1	*1	*1	*1	*1	5765	3.0	04-Aug-9
MS	17	872	SUMMER SEAMAP	3	76	68	1979	70	3827	41	807	*1	8	24		6892	3.0	06-Dec-9
MS	17	873	FALL ICHTHYOPLANKTON	3	19	*1	*1	19	*1	*1	*1	*1	19	42		80	3.0	09-Jul-9
MS	17	874	FALL SEAMAP	3	22	18	488	18	593	*1	*1	*1	4	9		1148	3.0	16-Jul-9
SC	51	871	SPRING SEAMAP	3	52	52	2065	52	7455	*1	*1	*1	*1	*1	*1	9676	2.02	15-Jan-9
SC	51	872	SUMMER SEAMAP	3	52	52	2018	52	6919	*1	*1	*1	*1	*1	*1	9093	2.02	19-Jan-9
SC	51	873	FALL SEAMAP	3	52	52	1811	52	4847	*1	*1	*1	*1	*1	*1	6814	2.02	15-Jan-9
SC	51	874	FALL SEAMAP	3	54	54	2213	54	5269	*1	*1	*1	*1	*1	*1	7644	2.02	15-Jan-9
SC	51	875	WINTER SEAMAP	3	52	52	2075	52	5455	*1	*1	*1	*1	*1	*1	7686	2.02	19-Jan-9
US	4	167	SEAMAP SUMMER SHRIMP/GROUNDFISH	3	509	463	9063	240	58315	308	7008	*1	44	131		76037	3.0	10-Nov-9
US	4	169	FALL ICHTHYOPLANKTON	3	91	*1	*1	91	*1	*1	*1	*1	91	273		455	3.0	18-Feb-9
US	4	171	SEAMAP FALL SHRIMP/GROUNDFISH	3	359	350	7968	163	35358	*1	*1	*1	24	72		44270	3.0	06-May-9
TOTAL					1427	1240	31271	893	132348	352	7819		200	561		175911		

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 3

10-Mar-97

SEAMAP 1988

DATA SOURCE	VESSEL	CRUISE		STATUS	INVENTORY	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP STATION	SHRIMP L/F	L/F	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-9
AL	23	882	SUMMER SEAMAP	3	4	4	43	4	85	*1	*1	*1	*1	*1	*1	*1	140	2.02	17-May-9
AL	23	883	RED DRUM/KING MACKEREL	3	10	*1	*1	10	*1	*1	*1	*1	10	10			30	2.02	17-May-9
FL	36	881	SPRING ICHTHYOPLANKTON	3	17	*1	*1	17	*1	*1	*1	*1	17	47			81	2.0	16-Nov-9
FL	36	882	FALL ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1	*1	36	107			179	2.0	16-Nov-9
LA	25	883	SUMMER SEAMAP	3	21	21	195	21	2064	*1	*1	*1	21	21			2343	3.2	30-Jul-9
LA	25	885	FALL SEAMAP	3	21	21	193	21	1410	*1	*1	*1	21	21			1687	3.2	30-Jul-9
LA	35	881	SPRING SEAMAP	3	24	24	563	24	7323	*1	*1	*1	11	26			7984	3.1	12-Oct-9
LA	35	882	SUMMER SEAMAP	3	24	24	571	24	7888	19	328	*1	12	36			8914	3.1	17-Jan-9
LA	35	884	FALL SEAMAP	3	20	20	489	20	5255	18	278	*1	10	27			6127	3.1	19-Jun-9
LA	35	886	FALL SEAMAP	3	24	23	668	24	8036	*1	*1	*1	8	24			8799	3.2	12-Aug-9
MS	17	881	SUMMER SEAMAP	3	47	41	926	47	6200	24	525	*1	6	17			7827	3.0	01-Jul-9
MS	17	882	FALL ICHTHYOPLANKTON	3	33	*1	*1	33	*1	*1	*1	*1	33	82			148	2.02	04-Jun-9
MS	17	883	FALL SEAMAP	3	26	23	644	26	4377	*1	*1	*1	3	9			5105	3.0	01-Jul-9
SC	51	881	SPRING SEAMAP	3	52	52	1593	32	4096	*1	*1	*1	*1	*1	*1	*1	5825	2.02	20-Nov-9
SC	51	882	SUMMER SEAMAP	3	52	52	1839	50	5518	*1	*1	*1	*1	*1	*1	*1	7511	2.02	01-Dec-9
SC	51	883	SUMMER SEAMAP	3	52	52	2063	44	9235	*1	*1	*1	*1	*1	*1	*1	11446	2.02	02-Dec-9
SC	51	884	SUMMER SEAMAP	3	52	52	1988	52	7234	*1	*1	*1	*1	*1	*1	*1	9378	2.02	20-Nov-9
SC	51	885	FALL SEAMAP	3	52	52	2347	52	8807	*1	*1	*1	*1	*1	*1	*1	11310	2.02	20-Nov-9
SC	51	886	FALL SEAMAP	3	52	52	2190	52	7501	*1	*1	*1	*1	*1	*1	*1	9847	2.02	01-Dec-9
SC	51	887	FALL SEAMAP	3	52	52	2223	52	6533	*1	*1	*1	*1	*1	*1	*1	8912	2.02	26-Nov-9
SC	51	888	FALL SEAMAP	3	52	52	2351	42	7552	*1	*1	*1	*1	*1	*1	*1	10049	2.02	02-Dec-9
TX	31	881	SUMMER SEAMAP	3	16	16	344	16	1706	13	442	*1	*1	*1	*1	*1	2553	2.02	04-Aug-9
TX	31	882	FALL SEAMAP	3	16	16	76	16	160	*1	*1	*1	*1	*1	*1	*1	284	2.02	05-Aug-9
TX	32	881	SUMMER SEAMAP	3	16	16	299	16	1312	14	290	*1	*1	*1	*1	*1	1963	2.02	04-Aug-9
TX	32	882	FALL SEAMAP	3	16	16	225	16	969	*1	*1	*1	*1	*1	*1	*1	1242	2.02	05-Aug-9
TX	33	881	SUMMER SEAMAP	3	16	16	117	16	330	5	13	*1	*1	*1	*1	*1	513	2.02	04-Aug-9
TX	33	882	FALL SEAMAP	3	16	16	247	16	1003	*1	*1	*1	*1	*1	*1	*1	1298	2.02	05-Aug-9
TX	34	881	SUMMER SEAMAP	3	16	16	144	16	644	10	43	*1	*1	*1	*1	*1	889	2.02	04-Aug-9
TX	34	882	FALL SEAMAP	3	16	16	210	16	920	*1	*1	*1	*1	*1	*1	*1	1178	2.02	05-Aug-9
TX	40	881	SUMMER SEAMAP	3	16	16	239	16	905	16	249	*1	*1	*1	*1	*1	1457	2.02	04-Aug-9
TX	40	882	FALL SEAMAP	3	16	16	131	16	461	*1	*1	*1	*1	*1	*1	*1	640	2.02	05-Aug-9
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	1569	2348	4537	3.0	20-Sep-95
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					2800	2140	43188	1581	202832	341	7025	103	731	1050	3033	5474	269567		

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

10-Mar-97

SEAMAP 1989

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	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	SUMMER SHRIMP/GROUNDFISH SVY	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)

ATTACHMENT 5

10-Mar-97

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-9
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-9
AL	23	903	FALL KING MACKEREL/REDDRUM/PLAN	3	10	*1	*1	10	*1	*1	*1	*1	10	10			30	2.0	26-Mar-9
AL	23	904	FALL SHRIMP GROUNDFISH	3	13	13	203	9	775	*1	*1	*1	*1	*1	*1	*1	1013	2.0	26-Mar-9
FL	36	901	SPRING 1990 ICHTHYOPLANKTON	3	21	*1	*1	21	*1	*1	*1	*1	21	61			103	2.0	22-Jul-9
FL	36	902	FALL 1990 ICHTHYOPLANKTON	3	30	*1	*1	30	*1	*1	*1	*1	30	90			150	2.0	22-Jul-9
LA	35	901	LA WINTER SEAMAP	3	24	18	457	23	3581	15	128	*1	6	15			4261	2.0	28-Jul-9
LA	35	902	LA SUMMER SEAMAP	3	31	24	444	31	3151	15	171	*1	7	21			3888	2.0	28-Jul-9
LA	25	903	LA AREA SEAMAP CRUISE 903	3	21	21	142	21	1436	9	202	*1	21	42			1894	2.0	28-Jul-9
LA	35	904	LA FALL SEAMAP	3	31	24	381	25	2954	18	174	*1	7	20			3627	2.0	28-Jul-9
LA	25	905	LA FALL SEAMAP	3	21	21	125	21	833	7	121	*1	21	42			1191	2.0	28-Jul-9
LA	35	906	LA WINTER SEAMAP	3	25	21	554	24	5978	20	952	*1	4	12			7586	2.0	28-Jul-9
MS	17	901	SUMMER SHRIMP/GROUNDFISH	3	44	40	1086	44	8868	10	395	*1	4	12			10499	2.0	01-Nov-9
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-9
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-9
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-9
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-9
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-9
TX	31	901	SUMMER SHRIMP/GROUNDFISH	3	16	16	128	16	456	9	69	*1	*1	*1	*1	*1	710	2.0	27-Mar-9
TX	32	901	SUMMER SHRIMP/GROUNDFISH	3	16	16	267	16	1569	11	431	*1	*1	*1	*1	*1	2326	2.0	27-Mar-9
TX	33	901	SUMMER SHRIMP/GROUNDFISH	3	16	16	289	16	1605	14	205	*1	*1	*1	*1	*1	2161	2.0	27-Mar-9
TX	34	901	SUMMER SHRIMP/GROUNDFISH	3	16	16	125	16	606	5	101	*1	*1	*1	*1	*1	885	2.0	27-Mar-9
TX	40	901	SUMMER SHRIMP/GROUNDFISH	3	16	16	120	16	786	7	218	*1	*1	*1	*1	*1	1179	2.0	27-Mar-9
TX	31	902	SHRIMP/GROUNDFISH SURVEY	3	16	16	127	16	288	*1	*1	*1	*1	*1	*1	*1	463	2.0	30-Mar-9
TX	32	902	SHRIMP/GROUNDFISH SURVEY	3	16	16	244	16	894	*1	*1	*1	*1	*1	*1	*1	1186	2.0	30-Mar-9
TX	33	902	SHRIMP/GROUNDFISH SURVEY	3	16	16	146	16	497	*1	*1	*1	*1	*1	*1	*1	691	2.0	30-Mar-9
TX	34	902	SHRIMP/GROUNDFISH SURVEY	3	16	16	99	16	496	*1	*1	*1	*1	*1	*1	*1	643	2.0	30-Mar-9
TX	40	902	SHRIMP/GROUNDFISH SURVEY	3	16	16	197	16	872	*1	*1	*1	*1	*1	*1	*1	1117	2.0	30-Mar-9
US	4	187	SEAMAP ICHTHYOPLANKTON	3	151	*1	*1	139	*1	*1	*1	*1	139	408			698	2.0	07-Jan-9
US	4	189	SPRING SHRIMP/GROUNDFISH	3	290	267	5620	230	34308	219	6083	*1	19	57			47074	2.0	27-Sep-9
US	4	190	PLANKTON SURVEY GULF OF MEXICO	3	133	*1	*1	131	*1	*1	*1	*1	108	320			584	2.0	20-Sep-9
US	4	191	SEAMAP/GROUNDFISH SURVEY GOM	3	293	290	6725	218	39457	*1	*1	2	39	117			47102	2.0	23-Sep-9
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-9
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

10-Mar-97

SEAMAP 1991

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	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
PR	56	911	CARIBBEAN SURVEY	3	417	417	415	*1	*1	*1	*1	1741	*1	*1	*1	*1	2990	3.2	01-Jul-96
PR	57	912	CARIBBEAN SURVEY	3	102	102	89	*1	*1	*1	*1	341	*1	*1	*1	*1	634	3.2	24-Jun-96
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					2884	2204	35184	1954	166697	652	16736		551	1352	2578	6202	238525		

STATUS CODES:

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ATTACHMENT 7

10-Mar-97

SEAMAP 1992

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	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-9
AL	23	922	FALL SEAMAP	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	2.1	08-Jan-9
AL	23	923	FALL SEAMAP	3	8	8	193	8	1099	*1	*1	*1	*1	*1	*1	*1	1316	2.1	08-Jan-9
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	426	834	1325	2.02	20-Sep-9
LA	35	921	SPRING SEAMAP	3	30	24	625	30	7061	24	233	*1	6	18			8045	3.0	16-Nov-9
LA	35	922	SUMMER SEAMAP	3	31	24	373	31	4215	12	88	*1	7	21			4795	3.0	16-Nov-9
LA	35	923	FALL SEAMAP	3	25	20	342	23	2551	19	315	*1	5	10			3305	3.0	16-Nov-9
LA	35	924	WINTER SEAMAP	3	31	24	659	31	7812	23	674	*1	7	20			9274	3.0	16-Nov-9
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-9
MS	17	922	SUMMER SEAMAP	3	44	42	1093	38	8408	32	916	*1	2	6			10579	2.02	08-Mar-9
MS	17	924	FALL GROUND FISH	3	15	15	335	15	2445	*1	*1	*1	*1	*1	*1	*1	2825	3.0	08-Oct-9
PR	56	921	CARIBBEAN SURVEY	3	600	600	734	*1	*1	*1	*1	2674	*1	*1	*1	*1	4608	3.2	22-Jul-96
PR	56	922	CARIBBEAN SURVEY	3	647	647	327	*1	*1	*1	*1	709	*1	*1	*1	*1	2330	3.2	22-Jul-96
PR	57	922	CARIBBEAN SURVEY	3	90	90	160	*1	*1	*1	*1	628	*1	*1	*1	*1	968	3.2	03-Jul-96
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-9
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-9
SC	51	923	FALL SEAMAP	3	188	188	4958	188	9692	89	1198	*1	*1	*1	*1	*1	16501	2.02	27-Jan-9
TX	31	921	SUMMER SEAMAP	3	16	16	168	16	827	12	159	*1	*1	*1	*1	*1	1214	2.02	25-Mar-9
TX	32	921	SUMMER SEAMAP	3	16	16	197	16	1043	7	34	*1	*1	*1	*1	*1	1329	2.02	25-Mar-9
TX	33	921	SUMMER SEAMAP	3	16	16	195	16	805	7	23	*1	*1	*1	*1	*1	1078	2.02	26-Mar-9
TX	34	921	SUMMER SEAMAP	3	16	16	158	16	769	12	90	*1	*1	*1	*1	*1	1077	2.02	26-Mar-9
TX	40	921	SUMMER SEAMAP	3	16	16	147	16	727	9	63	*1	*1	*1	*1	*1	994	2.02	26-Mar-9
TX	31	922	FALL SEAMAP	3	16	16	227	16	1141	*1	*1	*1	*1	*1	*1	*1	1416	3.0	01-Jul-9
TX	32	922	FALL SEAMAP	3	16	16	291	16	1655	*1	*1	*1	*1	*1	*1	*1	1994	3.0	01-Jul-9
TX	33	922	FALL SEAMAP	3	16	16	160	16	454	*1	*1	*1	*1	*1	*1	*1	662	3.0	01-Jul-9
TX	34	922	FALL SEAMAP	3	16	16	270	16	1442	*1	*1	*1	*1	*1	*1	*1	1760	3.0	01-Jul-9
TX	40	922	FALL SEAMAP	3	16	16	193	16	910	*1	*1	*1	*1	*1	*1	*1	1151	3.0	01-Jul-9
US	4	199	SPRING ICHTHYOPLANKTON	3	248	*1	*1	208	*1	*1	*1	*1	147	436			892	2.02	09-Mar-9
US	4	200	SUMMER SEAMAP	3	284	260	6763	221	39987	174	3463	*1	41	123			51275	2.02	19-Jan-9
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	378	732	52900	3.0	20-Sep-9
US	28	923	REEFISH CRUISE	3	179	147	113	149	*1	*1	*1	607	29	147			1342	3.0	14-Jul-9
US	28	925	FALL ICHTHYOPLANKTON	3	118	*1	*1	116	*1	*1	*1	*1	73	219			453	3.0	02-Sep-9
VI	58	922	VIRGIN ISL REEFFISH 1992	3	63	63	85	*1	*1	*1	*1	128	*1	*1	*1	*1	339	3.1	19-May-9
VI	59	922	VIRGIN ISL REEFFISH 1992	3	16	16	12	*1	*1	*1	*1	20	*1	*1	*1	*1	64	3.1	19-May-95
TOTAL					3569	3006	35033	1929	161531	571	8924	4840	417	1272	2687	5323	228685		

STATUS CODES:

*1 NOT TAKEN
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ATTACHMENT 8

10-Mar-97

SEAMAP 1993

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	930	COMPARITIVE TOW	3	22	22	494	18	441	*1	*1	*1	*1	*1			997	3.0	19-Jan-9
AL	23	931	SUMMER SEAMAP	3	10	10	212	10	953	5	95	*1	*1	*1	*1	*1	1295	3.0	19-Jan-9
AL	23	932	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9	*1	*1	27	3.0	19-Jan-9
AL	23	933	FALL SEAMAP	3	9	9	199	9	1108	*1	*1	*1	*1	*1			1334	3.0	19-Jan-9
AL	23	934	REEFFISH TRAP/VIDEO	3	11	11	24	11	*1	*1	*1	343	*1	*1	*1	*1	400	3.0	06-Jul-9
FL	26	932	FALL ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1	*1	36	108			180	3.0	15-Feb-9
FL	30	931	SPRING ICHTHYOPLANKTON	3	19	*1	*1	19	*1	*1	*1	*1	19	57			95	3.0	10-Nov-9
LA	35	931	SPRING SEAMAP	3	31	24	680	30	8117	20	189	*1	7	21			9112	3.0	08-Apr-9
LA	35	932	SUMMER SEAMAP	3	31	24	443	30	5597	22	535	*1	7	21			6703	3.0	08-Apr-9
LA	35	933	FALL SEAMAP	3	31	24	501	29	5012	19	414	*1	7	21			6051	3.0	18-Apr-9
LA	35	934	WINTER SEAMAP	3	29	24	619	29	7615	23	721	*1	5	15			9075	3.0	18-Apr-9
MS	17	930	SEAMAP COMPARATIVE TOW	3	22	22	551	*1	409	*1	*1	*1	*1	*1	*1	*1	1004	3.0	15-Oct-9
MS	17	931	TRAP/VIDEO	3	8	8	2	8	*1	*1	*1	4	*1	*1	*1	*1	30	3.0	08-Mar-9
MS	17	932	SUMMER SEAMAP	3	37	35	908	37	7420	29	832	*1	2	6			9304	3.0	08-Mar-9
MS	17	933	FALL ICHTHYOPLANKTON	3	48	*1	*1	48	*1	*1	*1	*1	48	48			144	3.0	17-Jun-9
MS	17	934	FALL ICHTHYOPLANKTON	3	47	*1	*1	47	*1	*1	*1	*1	47	53			147	3.0	05-Jul-9
MS	17	935	FALL ICHTHYOPLANKTON	3	27	25	688	27	4713	*1	*1	*1	2	6			5486	3.0	07-Jun-9
PR	56	931	CARIBBEAN CRUISE	3	600	600	466	*1	*1	*1	*1	1297	*1	*1	*1	*1	2963	3.2	22-Jul-9
PR	56	932	CARIBBEAN CRUISE	3	563	563	468	*1	*1	*1	*1	1106	*1	*1	*1	*1	2700	3.2	24-Jul-9
PR	57	932	CARIBBEAN CRUISE	3	499	496	316	*1	*1	*1	*1	746	*1	*1	*1	*1	2057	3.2	05-Nov-9
PR	57	933	CARIBBEAN CRUISE	3	561	561	435	*1	*1	*1	*1	1013	*1	*1	*1	*1	2570	3.2	05-Nov-9
SC	51	931	SPRING SEAMAP	3	210	210	4267	210	8920	80	1080	*1	*1	*1	*1	*1	14977	3.0	03-Feb-9
SC	51	932	SUMMER SEAMAP	3	156	156	3680	156	8484	65	1604	*1	*1	*1	*1	*1	14301	3.0	28-Jan-9
SC	51	933	FALL SEAMAP	3	188	188	4471	188	8600	105	1868	*1	*1	*1	*1	*1	15608	3.0	28-Jan-9
TX	31	931	SUMMER SEAMAP	3	16	16	328	16	1807	14	106	*1	*1	*1	*1	*1	2303	3.0	24-Mar-9
TX	32	931	SUMMER SEAMAP	3	16	16	250	16	1414	10	37	*1	*1	*1	*1	*1	1759	3.0	30-Mar-9
TX	33	931	SUMMER SEAMAP	3	16	16	271	16	874	8	98	*1	*1	*1	*1	*1	1299	3.0	30-Mar-9
TX	34	931	SUMMER SEAMAP	3	16	16	110	16	513	2	14	*1	*1	*1	*1	*1	687	3.0	30-Mar-9
TX	40	931	SUMMER SEAMAP	3	16	16	213	16	1056	11	345	*1	*1	*1	*1	*1	1673	3.0	30-Mar-9
TX	31	932	FALL SEAMAP	3	16	16	215	16	882	*1	*1	*1	*1	*1	*1	*1	1145	3.0	01-Jul-9
TX	32	932	FALL SEAMAP	3	16	16	253	16	1040	*1	*1	*1	*1	*1	*1	*1	1341	3.0	01-Jul-9
TX	33	932	FALL SEAMAP	3	16	16	304	16	1057	*1	*1	*1	*1	*1	*1	*1	1409	3.0	01-Jul-9
TX	34	932	FALL SEAMAP	3	16	16	113	16	331	*1	*1	*1	*1	*1	*1	*1	492	3.0	01-Jul-9
TX	40	932	FALL SEAMAP	3	16	16	200	16	1189	*1	*1	*1	*1	*1	*1	*1	1437	3.0	01-Jul-9
US	4	203	MARINE MAMMAL/ICHTHYO	3	212	*1	*1	107	*1	*1	*1	*1	116	425			744	3.0	16-Nov-9
US	4	204	ICHTHYOPLANKTON MAMMALS	3	274	*1	*1	160	*1	*1	*1	*1	121	367	1267	2168	4236	3.0	20-Sep-9
US	4	205	SUMMER SEAMAP	3	298	277	6899	222	40984	178	5465	*1	41	122			54445	3.0	06-May-9
US	4	207	FALL ICHTHYOPLANKTON	3	11	*1	*1	11	*1	*1	*1	*1	10	30			52	3.0	31-May-9
US	4	208	FALL GROUNDFISH	2	303	285	7624	245	46394	*1	*1	*1	36	108			54959	3.1	15-Jul-9
US	28	934	SPRING ICHTHYOPLANKTON	3	91	*1	*1	82	*1	*1	*1	*1	82	235	1096	1840	3344	3.0	20-Sep-9
US	28	935	REEFFISH ICHTHYOPLANKTON	3	213	185	89	180	*1	*1	*1	387	28	107			1161	3.0	16-Feb-9
US	28	936	FALL ICHTHYOPLANKTON	3	162	*1	*1	159	*1	*1	*1	*1	72	216			537	3.0	04-May-9
VI	58	931	VIRGIN ISL REEFFISH 1993	3	15	15	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	30	3.1	23-May-9
VI	59	932	VIRGIN ISL REEFFISH 1993	3	30	30	8	*1	*1	*1	*1	9	*1	*1	*1	*1	77	3.1	19-May-9
VI	60	932	REEFFISH SURVEY	3	24	24	43	*1	*1	*1	*1	92	*1	*1	*1	*1	183	3.1	10-Nov-9
TOTAL					4997	3988	36344	2277	164930	591	13403	4997	695	1975	2363	4008	239873		

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.

ATTACHMENT 9

10-Mar-97

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
AL	23	941	SUMMER SEAMAP	3	8	8	223	8	1570	5	202	*1	*1	*1			2024	3.1	08-Nov-94
AL	23	942	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.1	17-Jul-95
AL	23	943	FALL SEAMAP	3	8	8	159	8	1036	*1	*1	*1	*1	*1	*1	*1	1219	3.1	26-Jun-95
AL	23	944	TRAP/VIDEO	3	11	11	25	11	*1	*1	*1	379	*1	*1	*1	*1	437	3.1	04-Aug-95
FL	36	941	SPRING ICHTHYOPLANKTON	3	5	*1	*1	5	*1	*1	*1	*1	5	15			25	3.1	19-Oct-94
FL	36	942	FALL ICHTHYOPLANKTON	3	29	*1	*1	29	*1	*1	*1	*1	29	87			145	3.1	16-Feb-95
LA	35	940	COMPARATIVE TOW	3	49	49	1433	11	398	42	268	*1	*1	*1	*1	*1	2250	3.1	21-Sep-94
LA	35	941	SPRING SEAMAP	3	31	24	697	31	9424	23	153	*1	7	19			10402	3.1	21-Sep-94
LA	35	942	SUMMER SEAMAP	3	31	24	539	31	6411	17	465	*1	7	21			7539	3.1	28-Apr-95
LA	35	943	FALL SEAMAP	3	31	24	588	31	5943	23	439	*1	7	21			7100	3.1	28-Apr-95
LA	35	944	WINTER SEAMAP	3	24	20	465	24	4253	20	571	*1	4	10			5387	3.1	28-Apr-95
MS	17	940	COMPARATIVE TOW	3	49	49	1427	*1	496	*1	*1	*1	*1	*1	*1	*1	2021	3.0	21-Sep-94
MS	17	941	SUMMER SEAMAP	3	39	37	993	39	8131	28	923	*1	2	6			10196	3.1	17-May-95
MS	17	942	REEFFISH SURVEY	3	9	9	20	9	*1	*1	*1	99	*1	*1	*1	*1	146	3.1	07-Apr-95
MS	17	943	FALL ICHTHYOPLANKTON	3	47	*1	*1	47	*1	*1	*1	*1	47	51			145	3.1	25-Jul-95
MS	17	944	FALL ICHTHYOPLANKTON	3	2	*1	*1	2	*1	*1	*1	*1	2	6			10	3.1	25-Jul-95
MS	17	945	FALL GROUNDFISH	3	23	23	562	12	4204	*1	*1	*1	*1	*1	*1	*1	4824	3.1	07-Apr-95
PR	56	941	CARIBBEAN SURVEY	3	170	170	237	*1	*1	*1	*1	775	*1	*1	*1	*1	1352	3.2	03-Jul-96
PR	57	942	CARIBBEAN SURVEY	3	499	499	336	*1	*1	*1	*1	698	*1	*1	*1	*1	2032	3.2	05-Nov-96
PR	57	943	CARIBBEAN SURVEY	3	595	595	689	*1	*1	*1	*1	1843	*1	*1	*1	*1	3722	3.2	05-Nov-96
SC	51	941	SPRING SEAMAP	3	210	210	4051	210	7228	52	454	*1	*1	*1	*1	*1	12415	3.1	21-Sep-94
SC	51	942	SUMMER SEAMAP	3	156	156	3360	156	7227	56	1109	*1	*1	*1	*1	*1	12220	3.1	13-Oct-94
SC	51	943	FALL SEAMAP	3	188	188	5319	188	11833	116	2903	*1	*1	*1	*1	*1	20735	3.1	16-Feb-95
TX	31	941	SUMMER SEAMAP	3	16	16	200	16	1278	6	70	*1	*1	*1	*1	*1	1602	3.1	21-Jun-95
TX	32	941	SUMMER SEAMAP	3	16	16	199	16	1124	8	34	*1	*1	*1	*1	*1	1413	3.1	21-Jun-95
TX	33	941	SUMMER SEAMAP	3	16	16	147	16	353	5	35	*1	*1	*1	*1	*1	588	3.1	21-Jun-95
TX	34	941	SUMMER SEAMAP	3	16	16	127	16	675	10	117	*1	*1	*1	*1	*1	977	3.1	21-Jun-95
TX	40	941	SUMMER SEAMAP	3	16	16	129	16	668	5	28	*1	*1	*1	*1	*1	878	3.1	21-Jun-95
TX	31	942	FALL SEAMAP	3	16	16	270	16	1519	*1	*1	*1	*1	*1	*1	*1	1837	3.1	21-Jun-95
TX	32	942	FALL SEAMAP	3	16	16	251	16	1456	*1	*1	*1	*1	*1	*1	*1	1755	3.1	21-Jun-95
TX	33	942	FALL SEAMAP	3	16	16	140	16	538	*1	*1	*1	*1	*1	*1	*1	726	3.1	21-Jun-95
TX	34	942	FALL SEAMAP	3	16	16	121	16	525	*1	*1	*1	*1	*1	*1	*1	694	3.1	21-Jun-95
TX	40	942	FALL SEAMAP	3	16	16	146	16	562	*1	*1	*1	*1	*1	*1	*1	756	3.1	21-Jun-95
US	4	209	SPRING ICHTHYOPLANKTON	3	217	*1	*1	155	*1	*1	*1	*1	122	505			877	3.1	12-Oct-94
US	4	210	SUMMER SEAMAP	3	273	246	6212	239	42521	193	5352	*1	42	125			55161	3.1	16-Feb-95
US	4	214	FALL GROUNDFISH	3	288	253	7781	251	51577	*1	*1	*1	48	144			60294	3.1	18-May-95
US	28	944	ICHTHYOPLANKTON SURVEY	3	60	*1	*1	60	*1	*1	*1	*1	60	173			293	3.1	19-Oct-94
US	28	945	REEFFISH SURVEY	3	191	160	111	159	291	*1	*1	432	30	115			1459	3.1	23-Mar-95
US	28	946	FALL ICHTHYOPLANKTON	3	121	*1	*1	88	*1	*1	*1	*1	88	264			473	3.1	22-Mar-95
VI	59	941	VIRGIN ISL REEFFISH 1994	3	88	88	38	*1	*1	*1	*1	63	*1	*1	*1	*1	277	3.1	19-May-95
VI	60	941	REEFFISH SURVEY	3	34	34	62	*1	*1	*1	*1	167	*1	*1	*1	*1	297	3.1	09-Nov-94
TOTAL					3655	3045	37057	1973	171241	609	13123	4456	509	1571			236730		

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 10

SEAMAP 1995

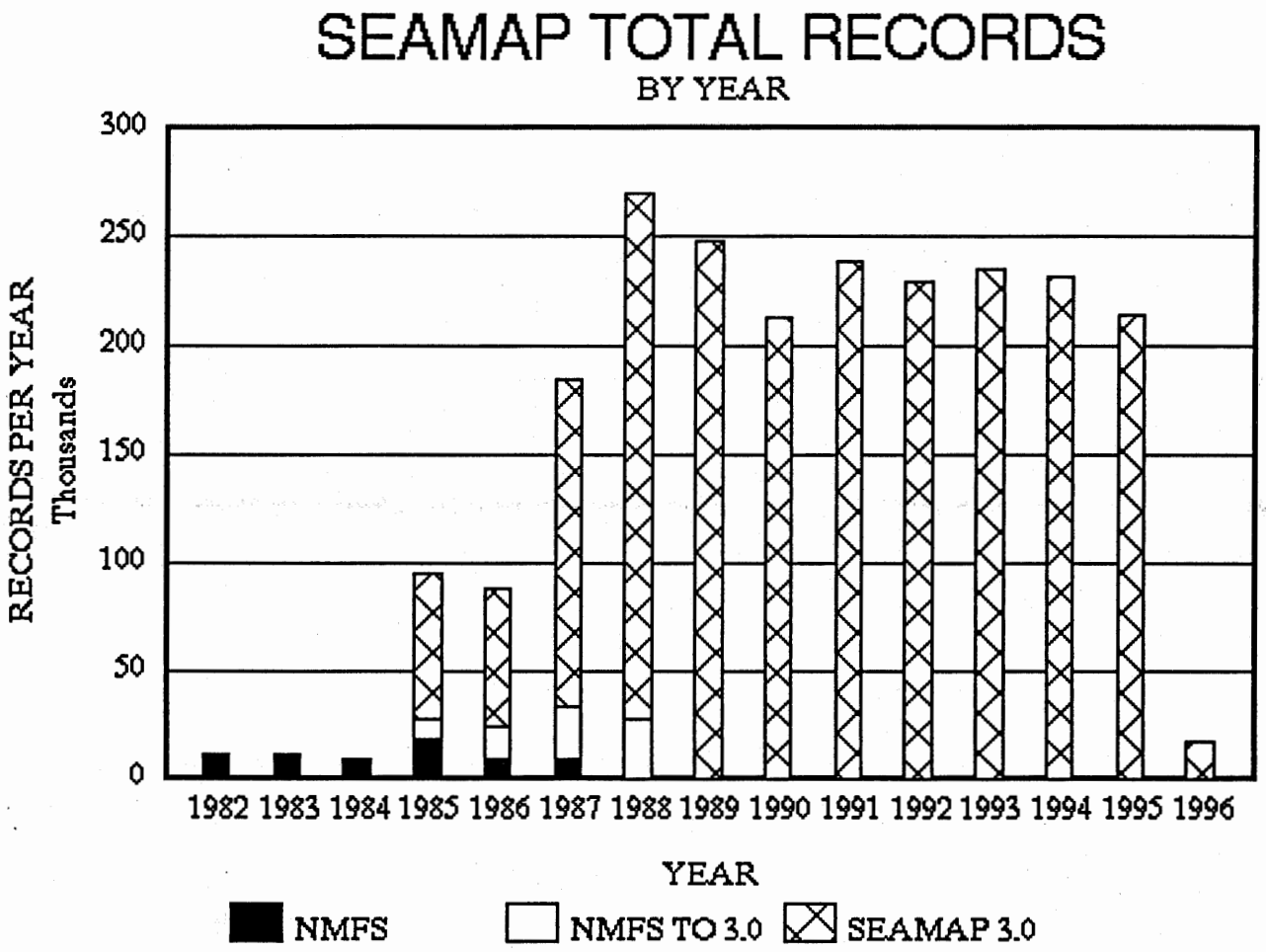
DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP STATION	SHRIMP L/F	ICHTHYOPLANKTON MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED
AL	23	950	TRAP/VIDEO	3	12	12	21	12	*1	*1	*1	231	*1	*1	*1	*1	288	3.2	16-Oct-96
AL	23	951	SUMMER SEAMAP	3	10	10	205	10	1440	10	316	*1	*1	*1	*1	*1	2001	3.2	01-Aug-96
AL	23	952	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.2	01-Aug-96
AL	23	953	WINTER SEAMAP	3	6	6	127	6	942	*1	*1	*1	*1	*1	*1	*1	1087	3.2	01-Aug-96
FL	26	951	SPRING ICHTHYOPLANKTON	3	15	*1	*1	15	*1	*1	*1	*1	15	45			75	3.1	04-Aug-95
FL	26	952	FALL ICHTHYOPLANKTON	3	25	*1	*1	25	*1	*1	*1	*1	25	74			124	3.2	01-Mar-96
LA	35	951	SPRING SEAMAP	3	31	24	534	31	5361	20	166	*1	7	21			6188	3.2	30-Jul-96
LA	35	952	SUMMER SEAMAP	3	25	18	404	25	5024	15	352	*1	7	21			5884	3.2	30-Jul-96
LA	35	953	FALL SEAMAP	3	31	24	385	31	3316	19	271	*1	7	21			4098	3.2	30-Jul-96
MS	17	951	SUMMER SEAMAP	3	40	38	1126	40	9015	34	1051	*1	2	6			11350	3.2	23-May-96
MS	17	952	FALL ICHTHYOPLANKTON	3	49	*1	*1	49	*1	*1	*1	*1	49	64			162	3.2	07-Oct-96
MS	17	953	TRAP/VIDEO	3	8	8	5	8	29	*1	*1	*1	*1	*1	*1	*1	58	3.2	23-May-96
MS	17	954	FALL SEAMAP	3	26	25	531	26	3103	*1	*1	*1	1	3			3714	3.2	23-May-96
PR	57	952	CARIBBEAN SURVEY	3	350	350	308	*1	*1	*1	*1	1127	*1	*1	*1	*1	2135	3.1	09-Nov-96
SC	51	951	SPRING SEAMAP	3	210	210	4696	210	10439	92	987	*1	*1	*1	*1	*1	16844	3.1	21-Jul-95
SC	51	952	SUMMER SEAMAP	3	156	156	4075	156	11806	95	2053	*1	*1	*1	*1	*1	18497	3.2	01-Mar-96
SC	51	953	FALL SEAMAP	3	188	188	4229	188	9885	99	2206	*1	*1	*1	*1	*1	16983	3.2	12-Mar-96
TX	31	951	SUMMER SEAMAP	3	16	16	233	16	1184	6	55	*1	*1	*1	*1	*1	1526	3.2	30-Jul-96
TX	32	951	SUMMER SEAMAP	3	16	16	372	16	2621	15	365	*1	*1	*1	*1	*1	3421	3.2	30-Jul-96
TX	33	951	SUMMER SEAMAP	3	16	16	175	16	466	7	22	*1	*1	*1	*1	*1	718	3.2	30-Jul-96
TX	34	951	SUMMER SEAMAP	3	16	16	149	16	507	8	11	*1	*1	*1	*1	*1	723	3.2	30-Jul-96
TX	40	951	SUMMER SEAMAP	3	16	16	161	16	796	11	352	*1	*1	*1	*1	*1	1368	3.2	30-Jul-96
TX	31	952	FALL SEAMAP	3	16	16	237	16	780	*1	*1	*1	*1	*1	*1	*1	1065	3.2	24-Jul-96
TX	32	952	FALL SEAMAP	3	16	16	287	16	1581	*1	*1	*1	*1	*1	*1	*1	1916	3.2	24-Jul-96
TX	33	952	FALL SEAMAP	3	16	16	206	16	943	*1	*1	*1	*1	*1	*1	*1	1197	3.2	24-Jul-96
TX	34	952	FALL SEAMAP	3	16	16	182	16	758	*1	*1	*1	*1	*1	*1	*1	988	3.2	24-Jul-96
TX	40	952	FALL SEAMAP	3	16	16	120	16	363	*1	*1	*1	*1	*1	*1	*1	531	3.2	24-Jul-96
TX	31	953	TRAP/VIDEO	3	2	2	6	*1	41	*1	*1	*1	*1	*1	*1	*1	51	3.2	31-Dec-96
US	4	216	SPRING ICHTHYOPLANKTON	3	309	*1	*1	266	*1	*1	*1	*1	266	778			1353	3.2	16-Oct-96
US	4	217	SUMMER SEAMAP	3	233	220	6353	203	45116	172	7538	*1	21	62			59897	3.2	20-Mar-96
US	4	219	FALL SEAMAP	3	249	234	7114	208	46287	*1	*1	*1	23	64			54156	3.2	11-Apr-96
TOTAL					2144	1685	32241	1678	161803	603	15745		432	1168			218425		

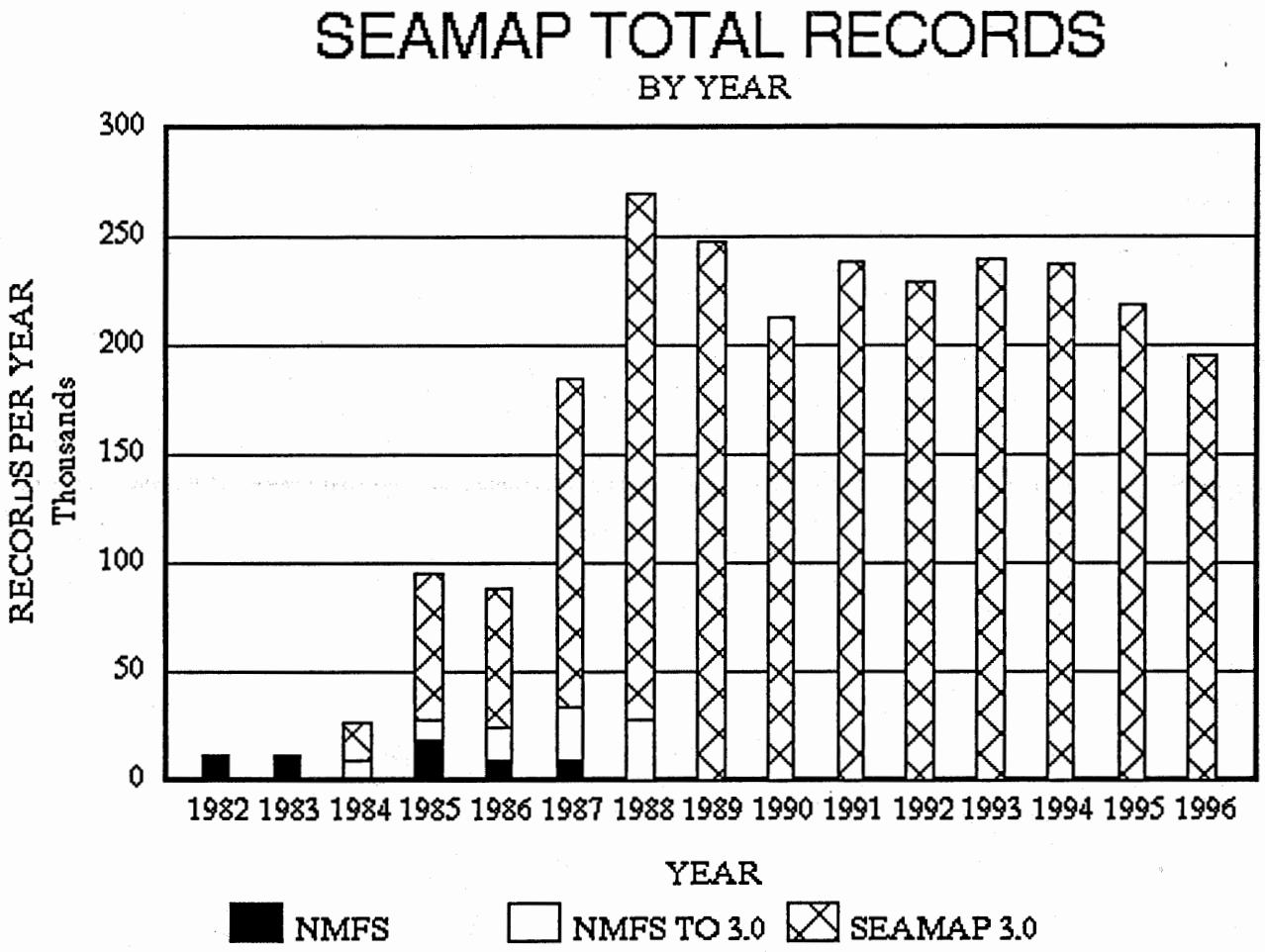
SEAMAP 1996

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
FL	26	961	SPRING ICHTHYOPLANKTON	3	18	*1	*1	18	*1	*1	*1	*1	18	54			90	3.2	29-Jan-97
LA	35	960	WINTER SEAMAP	3	31	24	462	31	4915	23	426	*1	7	19			5931	3.2	19-Aug-96
LA	35	961	SUMMER SEAMAP	3	30	24	399	30	4339	12	360	*1	6	18			5212	3.2	27-Nov-96
LS	35	962	FALL SEAMAP	3	31	24	333	31	2972	13	70	*1	7	21			3495	3.2	27-Jan-97
MS	17	961	SUMMER SEAMAP	3	40	38	925	40	7102	28	642	*1	2	6			8821	3.2	27-Nov-96
SC	51	961	SPRING SEAMAP	3	210	210	2615	210	7502	37	219	*1	*1	*1	*1	*1	11003	3.2	11-Jul-96
SC	51	962	SUMMER SEAMAP	3	156	156	4053	156	10559	102	2059	*1	*1	*1			17241	3.2	15-Jan-97
SC	51	963	FALL SEAMAP	3	188	188	6390	188	14853	149	4297	*1	*1	*1	*1	*1	26253	3.2	29-Jan-97
US	4	220	SPRING ICHTHYOPLANKTON	3	172	*1	*1	165	*1	*1	*1	*1	172	506			843	3.2	16-Oct-96
US	4	221	SUMMER GROUNDFISH	3	255	236	6027	215	41026	173	4999	*1	22	66			52997	3.2	27-Nov-96
US	4	223	GEAR COMPARISON	3	63	63	1428	*1	2457	*1	*1	*1	*1	*1			4011	3.2	06-Jan-97
US	4	224	FALL SEAMAP	3	270	243	7454	221	50421	*1	*1	*1	43	129			58738	3.2	27-Jan-97
US	28	965	FALL ICHTHYOPLANKTON	3	90	*1	*1	90	*1	*1	*1	*1	90	270			450	3.2	15-Jan-97
TOTAL					1554	1206	30086	1395	146146	537	13072		367	1089			195085		

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)


SEAMAP TOTAL RECORDS
BY YEAR
RECORDS PER YEAR
Thousands
300
250
200
150
100
50
0
1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996
YEAR
NMFS
NMFS TO 3.0
SEAMAP 3.0


SEAMAP TOTAL RECORDS
BY YEAR
RECORDS PER YEAR
Thousands
300
250
200
150
100
50
0
1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996
YEAR
NMFS
NMFS TO 3.0
SEAMAP 3.0

APPROVED BY:
COMMITTEE CHAIRMAN
09/29/97

TCC ANADROMOUS FISH SUBCOMMITTEE
Monday, March 17, 1997
Biloxi, Mississippi

Chairman Doug Frugé called the meeting to order at 8:30 am. The following were in attendance:

Members
Norman Boyd, TPWD, Port O'Connor, TX
Doug Frugé, USFWS, Ocean Springs, MS
Alan Huff, FDEP, St. Petersburg, FL
Skip Lazauski, ADCNR, Gulf Shores, AL
Charles Mesing, FGFFC, Midway, FL
Larry Nicholson, GCRL, Ocean Springs, MS
Gary Tilyou, LDWF, Baton Rouge, LA

Staff
Ronald R. Lukens, Assistant Director
Nancy K. Marcellus, Administrative Assistant
James J. Duffy, IJF Program Coordinator
Virginia Herring, Executive Assistant

Others
Bob Cooke, USFWS, Atlanta, GA
Don Jackson, MSU, MS
John Jackson, MSU, MS
Laura Jenkins, USFWS, Panama City, FL
Russ Oben, GDNR, Albany, GA
Wally Walquist, USFWS, Atlanta, GA

Adoption of Agenda

The agenda was adopted as presented. Frugé mentioned that he would update the Subcommittee on the West Pearl River navigation project under Other Business.

Approval of Minutes (10/14/96)

A. Huff moved to adopt the minutes from the October 14, 1996, meeting held in New Orleans, Louisiana. The motion was seconded by C. Mesing, and the minutes were approved as presented.

1997 Sport Fish Restoration Administrative Program Activities

Lukens updated the Subcommittee on activities that will be conducted under the Sport Fish Restoration Program in 1997. The first project is the second year of a final genetics study on striped bass with Dr. Wirgin. This is the extension of the previously completed study on archived striped bass samples. The first study was conducted using mitochondrial DNA and this study is being conducted to analyze nuclear DNA.

The next two projects will be on the Pascagoula River system. The first is a temperature survey to be conducted during the months of July and August. The purpose is to try and locate thermal refugia and other habitat parameters that might be suitable for striped bass in that system. The Jackson, Mississippi, office of the U.S. Geological Survey Water Resources Office will be conducting that study.

The other project to be conducted on the Pascagoula River is a contaminants survey. This survey will be based on existing data. Several data bases will be analyzed to gather information which will then be entered into a GIS system. This will allow plotting out sections of the river to determine if there are problems with water quality or sediment contaminants from identified sources along the river.

Finalize Plan for Implementing Stewardship Project

Frugé gave the Subcommittee an overview on the stewardship project. Last spring the Fish and Wildlife Service's Gulf Coast Fisheries Coordination Office and the Panama City Fisheries Resource Office jointly developed and submitted a proposal under the FWS' Fisheries Stewardship grant program. The proposal focused on striped bass restoration in three Gulf of Mexico River systems (Apalachicola, Pascagoula, and Lake Pontchartrain Rivers). The proposal was recently selected for funding in the amount of $296,000 annually for three years. The FWS decided to utilize it's partnership with the Gulf States Marine Fisheries Commission (GSMFC) as a way of accomplishing the project through the GSMFC's members and other participating states. The FWS and GSMFC will negotiate a cooperative agreement which will transfer funding to the GSMFC. The GSMFC will then negotiate subcontracts with participating state agencies for the component projects. Some of the funding may be used by the FWS to hire a staff biologist at the Gulf Coast FCO to help coordinate the project and participate in project activities.

The proposal identified accomplishments and deliverables for the project. The project would incorporate five distinct components, with time lines and deliverables as follows:

Native Gulf striped bass broodstock collection: This component would occur during March-April each year of the project. Approximately 40-60 adult striped bass broodfish would be collected each year for production of approximately 10 million fry yielding 3 million fingerlings to support restoration stocking. Tangible benefits would include maintenance of the native Gulf race striped bass gene pool, and quality, though limited, sport fisheries for striped bass in Gulf rivers (FMP 8.5.2).

Striped bass stocking and evaluation: In an effort to enhance the probability of achieving restoration goals, stocking must continue (FMP 8.4.3). Stocking strategies are needed to economically facilitate the successful reestablishment of striped bass in various aquatic habitats along the Gulf of Mexico (FMP 8.5.8). Evaluation of the stocked fish would occur during spring and winter each year of the project. A tagging program may also be utilized. Products would be yearly reports of stocking success and population dynamics data (FMP 8.5.2).

Striped bass creel surveys: This component would occur during periods of each year when striped bass are sought by local anglers. Products would be yearly striped bass catch and harvest data, which could be utilized to perform stock assessments of striped bass populations in the rivers. As restoration efforts increase across the region, a creel census program will be critical to the realization of goals and objectives, and a way to measure progress (FMP 8.5.1).

Striped bass habitat surveys: This component would begin at project initiation and continue through the duration of the project. Striped bass adults seek out cool water (thermal refuges) during warmer months. The size and location of thermal refuges in these selected rivers are not known. This information would help determine if sufficient thermal refuges are present to sustain populations, and help prevent the loss of this critical habitat. Products would be a final report at the end of the project on important striped bass habitats in each river and the initiation of efforts to protect and restore those habitats (FMP 8.5.4, 8.5.7).

Harvest regulation assessment: This component would begin at project initiation and continue through the duration of the project. Products would be an assessment of harvest regulations for each river, along with initiation of any alternative/additional measures that should be implemented. There is a significant lack of data with which to establish appropriate bag and size limits. Appropriate limits will increase the probability of more fish reaching a larger size, thus increasing the probability of a larger spawning stock, while still allowing some recreational harvest (FMP 8.4.2).

Coordinated management strategies and recommendations for actions: Activities will provide information and a means of continued evaluation of ongoing management. Information will be used to develop management recommendations for specific river systems. Management recommendations will include plans for evaluation in ensuing years.

Agencies were asked to submit a brief outline and approximate budget for those components in which their agency would be interested in participating. They were instructed to use the *Experimental Design* section of the proposal as a general guide. The following were submitted for consideration:

"Fisheries Stewardship Proposal for the Restoration of Striped Bass in the Apalachicola/Chattahoochee/Flint River System" submitted by the Alabama Game and Fish Division, Florida Game and Fresh Water Fish Commission, Georgia Department of Natural Resources, and the U.S. Fish and Wildlife Service. Funding provided through the Fisheries Stewardship program would enable additional work to be conducted and continued in accordance with the ACF Striped Bass Restoration and Evaluation Plan dated September 1996. Components to be addressed are native gulf striped bass broodstock collection, striped bass stocking and evaluation, striped bass creel surveys, and striped bass habitat surveys.

"Striped Bass Habitat Surveys in the Pascagoula River, Mississippi" submitted by Donald C. Jackson, Department of Wildlife and Fisheries, Mississippi State University. This project will identify, enumerate, and characterize critical spawning areas and summer thermal refuges for striped bass in the Pascagoula River and to ascertain striped bass use of these resources. Surveys of physical habitat in the Pascagoula River will be conducted to locate and identify spawning, thermal refuge, and other important striped bass habitat areas. Comprehensive efforts will be made to gather physical data (i.e. temperature, dissolved oxygen, substrate composition) in areas that appear to be important habitat. Subsequent to an initial habitat survey, adult striped bass will be implanted with radio transmitters and tracked to ascertain fish use of these habitats and to identify critical locations. Diving and electrofishing will be employed to evaluate use of suspected important habitat areas. Comparison of fish size and water temperature differences will help to determine critical habitat. Activities such as navigation maintenance, industrial development and operations, and land use patters will also be evaluated to determine potential impacts on critical striped bass habitats.

"Gulf Coast Research Laboratory's Striped Bass Stewardship Proposal - FY97" submitted by the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. To move the process of restoration forward

the Gulf Coast Research Laboratory and the U.S. Fish and Wildlife Service entered into a Cooperative Agreement in 1995 to determine potential growth and/or survival differences between Gulf and Atlantic race striped bass. The results of phase I and phase II rearing studies revealed a difference in survival and growth between the two races of fish. Evaluation of survival and growth of released fish is premature as the fish have not entered the fishery. If a comparable scenario is manifested after the fish recruit into the fishery, the Gulf race striped bass will offer distinct advantages for restoration programs working in coastal tributaries of the Northern Gulf. The study initiated in 1995 to determine if any growth and/or survival differences are discernable between Gulf and Atlantic race striped bass will be continued. Striped bass growth and survival will be compared during both phase I and phase II culture in GCRL's intensive culture system. The study will include the following components: striped bass stocking, restoration evaluation, and data analysis and reports. A final report will be prepared that will evaluate all aspects of the comparison of Gulf and Atlantic race striped bass, and the restoration program for the Pascagoula River.

"Fisheries Stewardship Proposal - Louisiana" submitted by the Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana. Louisiana will conduct their efforts on the Pearl River system to coordinate work with Mississippi and ongoing research in the Pearl River system regarding Gulf sturgeon. There are two principle components of the study which include striped bass stocking and evaluation and striped bass habitat surveys. While conducting the work for the other two components, attempts will be made to collect information on striped bass from fishermen, both recreational and commercial. It will be their goal to identify the anglers pursuing striped bass and set up a voluntary reporting system.

The Subcommittee spent considerable time discussing administrative details of the proposal submissions. V. Herring indicated that the GSMFC would be sending out a formal request for proposals with a deadline of April 30 for receiving the proposals in the GSMFC office.

Discussion of Striped Bass Workshop

Frugé reported that last Fall the FWS Regional Director decided to conduct a striped bass workshop which would be funded by Federal Aid. In February Lukens and Frugé attended a meeting in Atlanta to discuss details for the workshop. The workshop will be held somewhere between Mobile, Alabama and New Orleans, Louisiana towards the end of October and mid-November, 1997.

The workshop will be by invitation, with a definite focus to answer specific questions regarding striped bass restoration in the Gulf of Mexico. Expected participation will be 20-30 persons. The workshop will be a stand alone event, not held in conjunction with any other meeting. The meeting will also be managed by a professional facilitator.

The purpose of the workshop is to answer the following questions: What are the state-federal interests, commitments, and priorities in striped bass restoration in Gulf of Mexico river drainages and what Gulf of Mexico river drainages are most important for consideration of future striped bass restoration efforts?

The proposed agenda will include an introductory overview presentation; presentations by state and federal agency representatives; a facilitated session to focus on the question of what are the state-federal interests, commitments, and priorities in striped bass restoration in Gulf of Mexico river drainages; technical presentations; a facilitated session to focus on the question of what Gulf of Mexico river drainages are most important for consideration of future striped bass restoration efforts; and a wrap-up session to summarize

workshop results and consider the need for a follow-up workshop(s) to explore other questions regarding Gulf of Mexico striped bass restoration.

The Subcommittee recommended continuing with plans to conduct the workshop. Comments were made that it may be beneficial to delay the workshop until results are received from the Fisheries Stewardship Proposals.

Next Meeting Time and Place

The Subcommittee agreed to have Lukens pursue planning to conduct the fall meeting of the Subcommittee at Tara, outside of Vicksburg, Mississippi, along the Mississippi River.

Other Business

Frugé gave a brief update on the West Pearl River Navigation Project. Information was received from a FWS project biologist in Vicksburg, Mississippi indicating that the FWS issued a revised biological opinion on the project last summer to incorporate new information to satisfy concerns of the judge. Based on this new opinion, the Corps was to develop a new decision document which has not been done as of this date. Meanwhile, there is a spring 1997 deadline for the Corps to initiate construction as a maintenance project after which time they would lose their authorization. Frugé mentioned that the Corps has recently come under fire for using outdated information and have since been proceeding slowly on a lot of projects. They may also be experiencing budget problems which may prevent them from achieving the deadline, thus stopping the project.

N. Boyd reported that he had been contacted by a graduate student looking for funding to conduct a Sabine River tracking study. Boyd noted that the student had visited the GSMFC Internet site and was requesting an endorsement from the Subcommittee to seek funding sources to conduct the study. Lukens expressed his reluctance to endorse a project which he had not seen or read, especially for a project that has already been conducted. Further, Lukens noted, the Subcommittee does not have the authority to make endorsements and it would have to go through the proper channels for a Commission endorsement. Lukens asked that the student write a letter explaining his goals and objectives and that the student be advised to pursue an alternate river site so that some useful information might be obtained.

L. Jenkins mentioned that a striped bass brochure may be a good project for the Subcommittee to pursue in the future. It was agreed to place that item on the agenda for the next meeting.

G. Tilyou, on behalf of the Subcommittee members, thanked Frugé for all of his efforts in pursuing and obtaining funds for striped bass work in the Gulf of Mexico.

There being no further business the meeting adjourned at 4:50 pm.

APPROVED BY:

COMMITTEE CHAIRMAN

TCC CRAB SUBCOMMITTEE
& BLUE CRAB TECHNICAL TASK
FORCE - JOINT MEETING MINUTES
March 17, 1997
Biloxi, Mississippi

Vince Guillory, Chairman of the TCC Crab Subcommittee and Blue Crab Technical Task Force, called the meeting to order at 1:15 p.m. The following were in attendance:

Members
Vince Guillory, LDWF, Bourg, LA
Paul Hammerschmidt, TPWD, Austin, TX
Ed Holder, Port Arthur News, Groves, TX
Perry Joyner, FDEP, Tallahassee, FL
Harriet Perry, GCRL, Ocean Springs, MS
Phil Steele, FDEP/FMRI, St. Petersburg, FL
Tom Wagner, TPWD, Rockport, TX

Others
Tom Herrington, FDA, Stennis Space Center, MS
Wendell Lorio, MSU, Stennis Space Center, MS
Don Perkins, GSMFC Commissioner, Houston, TX
Mike Ray, TPWD, Austin, TX
Dale Shively, TPWD, Austin, TX

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Adoption of Agenda

H. Perry moved to accept the agenda as presented. P. Steele seconded, and the agenda was adopted by consensus.

Approval of Minutes

P. Steele moved to accept the minutes of the meeting held October 14, 1996, in New Orleans, Louisiana, as written. The motion was seconded by H. Perry and approved by consensus.

State Reports

Texas - P. Hammerschmidt reported that Texas is continuing data analyses on blue crab stocks. The bill on license limitation has been filed. This legislation would give TPWD permission and general authority to establish a crab license and then establish through the proclamation process eligibility entry requirements for the fishery. This process has had good support from the crabbing industry itself. The TPWD conducted eight workshops, and from these workshops, a group was selected to participate in the drafting process for the bill on license limitation. This group met six times and reached some consensus during the process. The

crab fishermen did not want transfers to allowed for a minimum of four years; however, the bill was drafted to allow heirs to inherit through a transfer. The impetuous to establishing a license limitation in the crab fishery was user conflict and the significant decline in the relative abundance of legal size crabs in Texas.

T. Wagner reported one regulatory proposal being discussed this spring is for a degradable panel be required in all crab traps. There are two options in the proposal. One is for a minimum 3"x6" inch panel to be cut out and resewn with twine; the other option is for the tie-down strap to be sewn with twine. Public hearings are underway, and no problems are foreseen. Another proposal being considered is basically to clean-up a loophole in the stone crab law. The language will be changed so that possession of undersize claws is unlawful anywhere (not just on the water).

Wagner reported preliminary commercial landings of 5.1 million pounds through November 1996. Landings continue to decline since 1987's peak of 11 million pounds. However, the average price per pound is over $1.00 which may augment effort. Through the crab TPWD trap tag sales program, effort is being estimated.

Louisiana - The Louisiana Crab Task Force is in the process of developing a limited entry bill for the crab fishery. A proposed draft states that all the current license holders will be eligible; to remain eligible for a license in the future, a fisherman will have to show 25% of their income from commercial fishing; once this income criteria is in effect, ½ of the licenses of the fishermen who are removed will be reissued. Those licenses will be reissued under a lottery system which will be devised so that those who are currently fishing commercially will have first priority. In 1996, there were 2,900 license holders. The limited entry process will continue until the number of licenses is brought down to 2,000. At that time, the number of licenses will be frozen. During the period of time in which the lottery system is in effect, a fisherman cannot transfer a license; however, a license can be inherited by a spouse or children. A review panel will be set up consisting of nine fishermen and four nonfishermen (dealers and processors, etc.) which will initially look at hardship cases to see if any fishermen who should have been licensed were not. The review panel will also peruse the status of the limited entry program and make suggestions on changes, if needed. The review panel will report to the Louisiana Wildlife and Fisheries Commission which will be given authority to make changes to the limited entry bill.

Over the summer, a mail survey was sent to every tenth of the 2,934 crab licensees in Louisiana. The survey was brief and asked for information on fisheries income, specifically crab fishing income. The survey return was 64%. Of these, 10% were full time crab fishermen, but 30% had no (0) income from crab fishing. Some sport fishermen had commercial licenses in order to use over ten traps. A significant number did not fish for crab and were speculators who had purchased licenses during the moratorium. About 60% of the license holders were full time fishermen (of any kind). In Louisiana, most of the crab fishermen are also involved in other fisheries such shrimp, oyster, alligators, crayfish, bait minnows, etc.

There is much interest in the Louisiana blue crab fishery. LSU Sea Grant has sponsored a series of workshops each year, and this year's topic is blue crab. The audience consists of crab fishermen, and the purpose is to get public information out to the fishermen. Guillory reported he spent three days in the previous week at these workshops which were held in several coastal cities. His presentation is on the biological status of the resource; other presentations were given on licenses, economics of the fishery, proposed legislation, and present regulations. The presentations were received positively, and he will be making one more presentation next week.

An escape ring bill has been introduced by one legislator. Another bill being introduced by a legislator states that all commercial fishermen must have their commercial gear license letters on the side and top of their boat for easier identification. The department has submitted a package of crab bills consisting of escape rings, degradable panels (two options - jute tie down or panel), recreational bag limits, dual liability (only the fisherman is liable for the possession of undersize crabs at this time), and to correct a loophole in the undersize possession statute as written.

The Louisiana Department of Wildlife and Fisheries Commission will consider regulations later this spring dealing with the ghost trap problem. Proposed regulations include size restrictions on the buoys from 6" up to 7 ½", eliminate plastic bottles and floats, require nonfloating line, and trap identification having a trap tag on the inside (bait well) that includes the fisherman's name, address, and telephone number.

Guillory reported Louisiana's preliminary landings are 38 million pounds through December 1996. This is actually an increase over the last two years landings of 34-36 million pounds per year.

Florida - P. Steele reported Florida's landings were up to 14½ million pounds, an increase for the fourth year in a row. The East Coast fishery continues to lag behind the West Coast fishery. Prices are up, landings are up, and fishermen are happy. There is a controversy in the fishery due to the shift in effort from the net fishery. Blue crabs are a restricted species in Florida which in itself is a form of limited entry. You must make $5,000 or 25% of your income from fishing to be eligible for a blue crab license. The industry is looking toward an even more restrictive limited entry. There are approximately 1300-1400 fishermen in the fishery at this time, but there are 350,000 blue crab traps in the state of Florida. Catch per unit of effort is down, but prices are up.

Steele reported that Florida Sea Grant received a substantial grant from the Florida Governor's office in an effort to put some of the displaced (net ban) fishermen back to work. Sea Grant proposes to assemble a demonstration trailer to educate fishermen around the state on soft shell shedding procedures. They will also provide a starter kit for interested fishermen. While he agrees with seafood promotion, Steele felt that the soft shell fishery probably won't get any larger than it already is, and this effort may meet with considerable resistance from existing members of the industry. The state will probably be more closely monitoring this industry.

In other studies, the juvenile monitoring data has been completed and depicts some interesting trends. Florida has shut down the Fort Walton Beach lab for now, but data will be gathered from Apalachicola Bay. In the stone crab fishery, several fishermen have applied for disaster relief money as a result of the tremendous outbreak of octopus who prey upon stone crabs. Many fishermen would like to see some form of limited entry into this fishery. CPUE is relatively stable, but shift in effort may be affected. Lt. Joyner reported that Florida Marine Patrol is supporting proposed legislation for trap reduction but would rather see entry limited up front.

Mississippi - Harriet Perry reported that Mississippi and Alabama will continue monitoring settlement. Blue crab settlement in 1996 was very poor at just over 2,000 compared to 1996 which was the highest year at 146,000. Shelf circulation features and climatological data are being reviewed for impact to settlement in 1996. Patterns tended to shift megalopae to the east toward Florida.

H. Perry reported she is finishing up a project examining heavy metal content in red crabs. Red crabs were examined from several different areas in the Gulf including off Mississippi, Alabama, and

Tampa, Florida. They looked for any evidence of bioaccumulation in 36 heavy metal contaminants including cadmium, arsenic, scandium. The information is now be compiled, but one of the biggest problems found is that there are no FDA standards in terms of what is considered safe levels of heavy metal consumption.

H. Perry asked what action was taken regarding the letter of concern to the Gulf Council requesting they reconsider their decision not to manage the Gulf of Mexico golden crab (*Chaecon fenneri*) fishery in the EEZ. Chairman Guillory reported that the request for approval of this action failed at the October meeting. [The request was approved by the Technical Coordinating Committee, but motion for approval failed at the Commission Business Session.] The Gulf Council had thoroughly reviewed the issue and did not want to go through the public review process because they felt that the Gulf fishery was too limited. Perry noted that there is plenty of effort in the Gulf fishery and more and more interest. Council felt that the economic factor involved in the fishery will limit that fishery in the Gulf. P. Steele noted that the Ocean View fleet is operating out of Florida, and millions of pounds are being harvested. H. Perry noted the fishery is predominantly targeting females in areas north of Tampa.

V. Guillory suggested this item warrants further discussion at the next subcommittee meeting, and complete, up-to-date information should be gathered for review. P. Hammerschmidt moved that Harriet Perry and Phil Steele present the subcommittee with biological and fleet information, respectively, at the next subcommittee meeting. As much effort data as possible should be included. P. Steele seconded the motion which passed unanimously. P. Steele will also contact Rick Leard of the Council office for the official rationale of why there is no management plan for this fishery. All agreed that if there are documented trends in the fishery that are of concern, then it is the responsibility of the subcommittee to continue to report to the TCC and make any necessary recommendations.

Alabama - not represented.

Blue Crab Literature Repository

Harriet Perry reported that she has entered into a database all the reprints on blue crab that are accessible through the Gulf States office. Approximately 67 references were sent in on blue crab from development of the first FMP. J. Duffy noted that for purposes of plan development it may be best to wait until after FMP revision to send in new references currently not on site. The reference list will change until the document is final. Waiting will help dispel the duplication problem. V. Guillory noted that each representative should be gathering their state's research reports during the FMP process. Section authors should also gather literature from their sections. V. Guillory also requested that the Commission request two volumes of *Bulletin of Marine Science*. Both volumes were dedicated exclusively to blue crab and will be utilized in FMP revision.

Blue Crab Predator-Prey Symposium - Spring 1998

V. Guillory reminded the group that last fall the subcommittee discussed having a symposium on blue crab predator-prey relationships. At that time, the subcommittee decided it was too early to bring to the TCC for approval but would be presented at this meeting. This is a hot issue in Mississippi, Alabama, Louisiana, and Texas. T. Wagner noted predator-prey is a very controversial issue, and a symposium may do more harm than good. Guillory posed the question, "What happens to small juveniles before they reach harvestable size?" Juvenile crabs can tolerate almost all environmental conditions.

V. Guillory suggested that a symposium on juvenile mortality may be the more appropriate title. He believes that natural mortality of smaller juveniles is a driving force of the fishery. Looking at the latest data, the numbers of smaller juveniles (<40 mm) fluctuate erratically from year to year, but on the long term, numbers have actually increased. Even with the increase in juveniles, there is not a comparable increase in adults or larger juveniles.

A majority of the members felt that the issue would open a can of worms, could be self-defeating, and wondered if any positive output could result. The symposium (mortality of blue crabs) will be revisited after discussions on stock assessment at the National Shellfisheries Association (NSA) meeting. H. Perry noted that a more appropriate arena may be at next year's crustacean session of the NSA.

Northern Gulf Blue Crab Database

At the recent FMP work session held in the Commission office, the work group agreed to divide data into management units. Florida is a unit, the north central Gulf is a unit, and Texas is a unit. V. Guillory reported that Paul Prejean spent several weeks consolidating different data sets for the north central Gulf. It involved many format changes including changing variable names. The databases from Louisiana, Mississippi, and Alabama now have the same variable names and are compatible. They are still separate data sets, but can be merged together. CPUE can be calculated by different sizes using the data. There is a separate database from Mississippi and Alabama that includes some of the biological data including measurement of weight, sex, parasite codes, etc. The text file accompanying the database is being compiled and will be finished shortly. The database covers from 1967 to 1996. P. Hammerschmidt asked V. Guillory to provide Texas with a copy of the variables, and they will make their data set for that unit reasonably compatible. The subcommittee agreed that this data set is preliminary and should not be released. If anyone happens to request the database, they should be instructed to request the data from each individual state. V. Guillory commended P. Prejean for the tremendous amount of work done on this database.

National Shellfish Association

H. Perry reported that she has not received much correspondence from the NSA regarding the upcoming meeting in April. There are only two additional blue crab papers submitted from the NSA membership. She emphasized the need for participation from the Atlantic in the stock assessment workshop. T. Wagner reported that Maryland Department of Natural Resources is sending a representative (Louis J. Rugolo) to the roundtable discussion on stock assessment. H. Perry noted that Doug Vaughan (NMFS, Beaufort Laboratory) would be a great help at the workshop, and requested he be encouraged to attend by the Commission.

J. Duffy reported on the Stock Assessment Team work session held March 10-11, 1997, in Baton Rouge. The SAT had previously agreed to review task force effort on the stock assessment. Further, they have begun to review modeling techniques and data elements used in the Chesapeake blue crab stock assessment. In addition, they are reviewing techniques of length-based modeling that do not consider age.

Blue Crab FMP Progress

V. Guillory noted there had been some discussion on the time line for FMP revision. J. Duffy reported that timing is not as critical for an update as compared to an original FMP. The process began January 1996, and the target date for publication is mid to late 1998. The TTF agreed to use data through

December 1996. The sociological section has been a sticking point for FMPs, and a broad, simplistic description of the blue crab harvesting and processing sector could be done within 18 months. A group from Mississippi State University is being explored to provide this input. They have recently completed a federal project describing fisheries on river systems and are excited about moving their work to the coast. The report from this project will be distributed to the TTF for their review.

P. Steele has only received comments on his draft of the habitat section from V. Guillory. He has habitat literature from Louisiana and Florida, but needs information from the other states. P. Hammerschmidt noted the Galveston Bay Estuary Report. Mississippi is currently reevaluating acreage for emerging vegetation, and several ecological assessment studies are being done. Steele is working on a chart of suitable blue crab habitat for the entire Gulf. Historical data is in the profile.

H. Perry is in need of more predator-prey information. Send her anything that has not been published in *Bulletin of Marine Science*. She is working on the parasites table.

T. Wagner submitted an updated law section on disk. Hard copies will be made and distributed to the TTF for review. If any of the states have legislation changes, please send any changes in to T. Wagner for revision.

V. Guillory updated the fisheries draft and distributed to the TTF for review and comment. V. Guillory reported that he has not received any information from Walter Keithly on the economic section, but felt he had presented an excellent paper at the Baltimore Symposium that would mesh well into the FMP. P. Prejean and V. Guillory will attempt to compile the bibliography for the plan.

Needed research discussed by the TTF so far have been fishery dependent data, bycatch, predator-prey, mortality variables, the effects of imports, and bootlegging.

Other Business

Several members of the group commended Vince Guillory for his presentation on crab trap tagging at the last meeting. The presentation was originally scheduled for the Technical Coordinating Committee who then requested Guillory present to the Commissioners at Commission Business Session. The group concurred that V. Guillory had shown a great effort and made an excellent presentation on behalf of the Crab Subcommittee and Blue Crab Technical Task Force.

There being no further business, the meeting adjourned at 4:37 p.m.

APPROVED BY:

COMMITTEE CHAIRMAN

DATA MANAGEMENT SUBCOMMITTEE
MINUTES
Tuesday, March 18, 1997
Biloxi, Mississippi

Chairman Skip Lazauski called the meeting to order at 8:40 a.m. The following members and others were present:

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

Staff
David Donaldson, SEAMAP Coordinator
Jim Duffy, IJF Coordinator
Madeleine Travis, Staff Assistant

Others
Terry Cody, TPWD, Rockport, TX
Joe Smith, NMFS, Beaufort, NC
Kay Williams, SASI, Pascagoula, MS
Buck Sutter, NMFS, St. Petersburg, FL
Vince Guillory, LDWF, Baton Rouge, LA
L. Don Perkins, GSMFC, Houston, TX
Alan Huff, FMRI, St. Petersburg, FL
Corky Perry, MDMR, Biloxi, MS

Adoption of Agenda

The agenda was approved with the following modification:
Moving Protocols and Guidelines for Aging Using Otoliths and Stock Assessment Training Workshop items before the State/Federal Reports.

Approval of Minutes

The minutes for the meeting held on October 15, 1996 in New Orleans, Louisiana were approved with minor editorial changes.

Protocols and Guidelines for Aging Using Otoliths

J. Duffy stated that Mike Murphy from Florida is currently developing a process for aging fish using otoliths. This activity includes the initial development of the process and protocols, review of these protocols and once a final set of protocols and guidelines are developed, conducting a series of workshops

to describe and explain how to use these guidelines for aging fish. M. Murphy has distributed the outline which has been reviewed by a variety of personnel. The next step is to begin developing the document which should occur later this year. S. Lazauski suggested that this information could be included as chapter in the AFS Fisheries Survey Techniques publication.

Stock Assessment Training Workshop

J. Duffy stated that the stock assessment team is planning to attend a workshop which describes how to combine a variety of data sources into comprehensive stock assessments. There is the potential that the group may develop a poster or abstract or even present a paper at this meeting. The team discussed the need for new personnel to begin learning stock assessment techniques. Several member agreed to begin exploring the possibility of developing a formal process to teaching assessment techniques to interested personnel. Tentatively, there will be another workshop scheduled for summer 1998.

State/Federal Reports

Louisiana - J. Shepard reported that their trip ticket program still do not have any funding. If the funding is not available this year, it probably will not get funded, although Louisiana is optimistic. There are several potential sources of funding for the program. The Corps of Engineers is still interested in the program as well as using some disaster funding for initial costs of the program. As of April 1st, gill netting will be prohibited in Louisiana waters. The only time gill nets may be used is during mullet season. The Department has presented stock assessments for various recreationally and commercially-important species.

Texas - P. Campbell reported that Texas Commission of Parks and Wildlife is considering several regulations regarding marine species. It is now required that crab trap panels have to be constructed of biodegradable material and modifying the regulations on king mackerel and amberjack to make Texas' regulations more compatibility with the federal regulations. Texas is also exploring the possibility of implementing a limited entry program for the crab fishery. A freeze occurred last winter which killed an estimated 300,000 fish. There was a major red tide event during the fall 1996 which killed some large red drum and there was concern that this kill might affect the red drum populations off Texas. However, preliminary results show that there does not appear to be any lasting effects from the red tide. Texas recently implemented an automated, point-of-sale licensing system and although there are some expected bugs, the system seems to be working fine.

GMFMC - R. Leard reported that an intermediate measure of 10 inch minimum size limit for vermillion snapper will be in place in about 2 months and will remain in effect for 180 days. The measure will be in place so the GMFMC can determine is the regulations will allow for the recovery of the vermillion snapper population. Reef fish amendment 15 replaces amendment 8 (which deals with ITQs) and amendment 15 refers reef fish and developing a licensing limitation effort for red snapper. It also contains provisions for development of a scoping document regarding determination of better method for handling bag limits. The mackerel stock assessment team is scheduled to meet in April. It appears that the data for king mackerel is inconsistent with previous data. A workshop will be scheduled to report on Gulf of Mexico king mackerel. The GMFMC will continue working on Gulf and South Atlantic king mackerel issues. Shrimp amendment 9 refers to by catch and has been sent to the NMFS for adoption. In this amendment, only one type of by catch reduction device (BRD) has been certified for use by the shrimp fishery. This requirement will not be implemented until one year after its adoption. Mackerel amendment 8 is still at the Southeast Regional Office. The amendment refers to a moratorium on king mackerel licenses. There is also

a mackerel options paper which examines the impact and effects of the moratorium as well as derby fishing and area and/or seasonal closures. The regulations for amberjack included a 20 fish bag limit and in this bag limit, amberjack as well as sea basses, grunts, porgies, and pin fish. Since pin fish are included in the limit, this has caused some problems and the GMFMC is currently developing a technical amendment which will exclude pin fish from the limit. And the GMFMC is exploring the issue of phasing out fish traps over the next 10 years.

Florida - J. O'Hop reported that there is about a 4-6 week lag between receiving the trip tickets and getting them entered into the system. Florida is also increasing the quality checks the data are subjected to and exploring the possibility of collecting more information on the trip ticket. The recreational pilot data collection survey conducted in the Tampa Bay area has been completed. Florida is currently waiting on the 1996 MRFSS data so the two data set can be compared and he will report the results to the group when they are calculated. There is a problem in the stone crab fishery with the number of octopi being caught. Apparently, there are so many octopi in the area, they are reducing the stone crab population due to predation. The fishermen are going to submit for some federal aid/disaster funds, but this event probably will not qualifty under the rules.

Alabama - S. Lazauski reported that Alabama has successfully spawned and grown red snapper at their mariculture center. The oyster beds in Alabama were closed for 6-8 weeks due red tide. Alabama is conducting a inshore creel survey which consists of on the water interviews and overflights. Due a reestimation of freshwater and saltwater split, the Wallop-Breaux funding for Alabama has increased and the Division will receive the allotted 27% that was calculated. Artificial reef permit has been extended indefinitely. Currently, there are a variety of proposed regulations being discussed for crabs and shrimp. One of these regulations is a permanent closures of upper area of Mobile Bay for crabbing and shrimping. Alabama is also exploring the possibility of developing a limited entry for the crab fishery.

RecFIN/ComFIN Discussion

Recap of Spring ComFIN/RecFIN(SE) Meetings - D. Donaldson stated that the ComFIN, FIN and RecFIN(SE) Committees met from March 4-6, 1997 in Washington D.C. The ComFIN Committee consisted of a Data Error Correction Work Session where the group addresses several issues such as who is responsible for editing the data, the method will be used to correct errors found in the data, how to ensure the data are submitted on a routine basis, and how to track the data to maximize the efficiency of data collection. During the Committee Business meeting, the group discussed the possible development of a State/Federal cooperative ageing program in the Southeast Region, the data collection planning and data tracking processes and revisions of Trip Interview Program. During the FIN Committee meeting, the group discussed the FIN Brochure and approval of the FIN Annual Report. And during the RecFIN(SE) Committee meeting, the group approved the 1997 Operations Plan, and discussed duplicative data collection and management efforts, using recreational licenses as a sampling frame, and the development of annual review process of MRFSS data. S. Lazauski stated that the Atlantic Coastal Cooperative Statistics Program (ACCSP) is designed to get the state fisheries directors directly involved in the process of developing these data collection and management program. He asked if ComFIN/RecFIN(SE) should be redesigned to mirror this approach. It was noted that although ComFIN/RecFIN(SE) does not directly involve the state directors, there is constant communication between committee members and the directors. J. Shepard pointed out that there was not really a need to modify how ComFIN/RecFIN(SE) is structure since the programs seem to be operating efficiently and there is not a need to be exactly the same as the ACCSP.

Update on MRFSS Pilot Charter Boat Survey in the Gulf of Mexico - D. Donaldson stated that the Gulf States and the NMFS are participating in charter boat pilot survey in the Gulf of Mexico. The survey will compares three methods for collecting effort. The three methods are the current MRFSS telephone survey, a captains telephone survey, and a statistically valid logbook survey. There have been several meeting to plan activities for this survey and activities have focused on three aspects. The first is the development of a sample frame. Florida and GSMFC are currently finalizing list which should be completed by the end of the month. The second component is public outreach. The group will conduct meetings and design brochures to inform industry about survey activities. It has been noted that it is essential to get the industry's input because without industry buy-in, the effort will not be successful. The last part is the actual data collection activities. Unfortunately, there no funding currently available to conduct survey.

Development of Generic Trip Ticket Program

D. Donaldson stated that at the last ComFIN meeting, the Committee tasked the Future Needs Work Group with developing a generic trip ticket system that states could use as a guide when designing such a program for their state. It was thought that the Data Management Subcommittee could provide a general outline of how the program could be designed to the Work Group. Information regarding trip ticket systems from various agencies was distributed to the Subcommittee as a starting point. The Subcommittee discussed the issue and decided to develop an outline as well as necessary data elements that need to be collected via a trip ticket system. The outline would include an introduction and a list of necessary data elements. The group developed the list of necessary data elements which included vessel ID, participant ID, species, quantity landed, market condition, quantity units, market size range, ex-vessel value or price, county (minimum) or port (optional) landed, state landed, dealer ID, transaction date, market or grade, gear(s), area fished, distance from shore. This information was be provided to the Future Need Work Group to assist in the development of a trip ticket program. There was some discussion regarding the need for trip ticket systems to improve the available data. It was noted that there is always need for additional and better data for fisheries management and any effort that can improve the data should be embraced by fisheries managers. After some discussion, **J. Shepard moved that the staff develop a letter to the GMFMC and state directors asking them to endorse the development of trip ticket program which will allow for better collection of data thus benefitting the management of marine resources in the Gulf of Mexico. The motion was seconded and passed unanimously.**

Comparison of ComFIN/RecFIN(SE) and ACCSP Necessary Data Elements

D. Donaldson stated that in an effort ensure that the ComFIN/RecFIN(SE) and ACCSP continue to be compatible and support the development of an inter-regional program, it was suggested that the two programs list of necessary data elements for recreational and commercial data be compared. The Subcommittee was provided a list of both the ComFIN/RecFIN(SE) and ACCSP necessary elements and the group compared the two lists. First, the group focused on the commercial data collection and compared the elements. After reviewing the lists, **J. Shepard moved that the necessary commercial data elements of the ComFIN/RecFIN(SE) and ACCSP are similar and the only differences occur with the frequency of the trip-based information. The motion was seconded and passed unanimously**. Next, the group reviewed the two lists regarding recreational data collection. After reviewing the lists, **J. Shepard moved that the necessary recreational data elements of the ComFIN/RecFIN(SE) and ACCSP are similar. The motion was seconded and passed unanimously.**

There being no further business, the meeting was adjourned at 3:55 p.m.

APPROVED BY:

COMMITTEE CHAIRMAN

S-FFMC MENHADEN ADVISORY COMMITTEE
MINUTES
Tuesday, March 18, 1997
Biloxi, MS

Randy Rader, Chairman, called the meeting to order at 1:00 p.m., with the following in attendance:

Members
Dalton Berry, Zapata Protein (USA), Inc., Mandeville, LA (*Alternate for Pryor Bailey*)
Randy Rader, Gulf Protein, Inc., Amelia, LA
Borden Wallace, Daybrook Fisheries, Inc., Empire, LA
Ed Swindell, Daybrook Fisheries, Inc., Empire, LA (*New Alternate for Borden Wallace*)
Corky Perret, MDMR (*Proxy for Glade Woods*)
Vince Guillory, LDWF, Bourg, LA
Joseph Smith, NMFS, Beaufort, NC (*Proxy for John Merriner*)
Jerry Mambretti, TPWD, Port Arthur, TX

Others
Mike Ray, TPWD, Austin, TX
Norman Boyd, TPWD, Port O'Connor, TX
Buck Sutter, NMFS, St. Petersburg, FL

Staff
Larry Simpson, Executive Director, Ocean Springs, MS
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions, Review of Membership

L. Simpson noted a change of alternate for Borden Wallace of Daybrook Fisheries, Inc., from Wilmer LaPointe to Ed Swindell. Chairman Rader welcomed Mr. Swindell to the MAC. Simpson indicated that R. Condrey would be removed from the "others" list, now that his bycatch characterization work was complete.

Adoption of Agenda

J. Smith asked to be allowed to go directly into his discussion of the 1997 forecast after his 1996 review. The agenda as amended was adopted by consensus.

Approval of Minutes

D. Berry moved and V. Guillory seconded that the minutes of the meeting held October 15, 1996 in New Orleans, Louisiana, be approved as written. The motion carried without objection.

Final Review of 1996 Gulf of Mexico Menhaden Fishing Season

J. Smith provided a 1996 fishing season review. Through September, Gulf landings totaled just under 480,000 mt (1.6 billion standard fish). This represents a 3% increase over the total landings from 1995, but a decrease of 12% on the five-year average for 1990-1995. This has been accomplished with only five plants operating instead of six. If the exceptional year of 1994 is thrown out as an outlier, 1996 landings compare favorably with previous years. April, May, and June landings went well, but schools scattered in July through August making fishing difficult until September. October, due to the extended season, was a very good month in 1996. The hypoxic zone and red tides may have affected the landings during mid-season. About 50 vessels operated in the Gulf menhaden fishery during 1996. Age-II fish ran about 60% of the port samples, while age-I's ran about 30%-32%. Glitches in port sampling at Empire included personnel changes and freezer failure. Fishing effort during 1996 totaled approximately 440,000 vtw. Actual 1996 landings fell 11% below projections based on effort.

1997 Gulf of Mexico Menhaden Fishing Season Forecast

J. Smith provided a forecast for the 1997 fishing season. Five reduction plants are expected to operate during 1997 with 51 vessels (including bait boats) prosecuting the Gulf menhaden fishery. Effort in 1997 is expected to total approximately 445,000 vtw, with estimated landings around 513,000 mt. Smith pointed out that the Atlantic forecast was included in the document with the Gulf.

Smith indicated the Category 3 rating for menhaden purse seine fisheries under MMPA would likely persist for the foreseeable future, at least through 1998. CDFR forms have been mailed out to all the companies along with guide books. CDFR data for 1994, 1995, and 1996 have been entered, and 1994 and 1995 data have already been edited. Some minor editing can be expected for the 1996 data prior to availability. Approximately 25,000 set records from CDFRs per year exist in the database. Smith invited the companies operating in the Gulf to prevail upon the data and canned NMFS programs for fishing information during the coming fishing seasons.

Smith mentioned a book by Rodney Barker which is a docudrama based on an actual outbreak of a dinoflagellate in the genus *Pfisteria* up the east coast. The book chronicles the discovery of the organism and the results of its occurrence. Nutrient enrichment was implicated as the cause for the proliferation of the organism. Young of the year menhaden are typically at high risk of death from an overabundance of this "phantom dino," so named because the organism exhibits about 24 different morphological forms. The organism has been found as far south as the St. John's River in Florida.

V. Guillory indicated that during the winters of 1995 and 1996, water temperatures, coastal rainfall, and river discharge were all below average, and resulting salinities were above average. These conditions appear to favor menhaden recruitment. Juvenile abundance based on trawl samples for 1996 was higher than either 1994 or 1995. Lake Calcasieu trawl samples indicated the highest menhaden abundance since the mid-1980s. These data suggest that a very good age-1 year class should be entering the fishery in 1997. Guillory projected between 450,000 and 525,000 mt of landings for Louisiana for 1997. Guillory indicated he would send out copies of the Louisiana forecast report to the industry.

B. Wallace asked V. Guillory if any data was available that might show the influence of the Bonnet Carre' spillway openings back in the early 1980s on menhaden indices of abundance. Guillory indicated that

he recalled good years for the industry, particularly in oil yields during spillway openings. The industry representatives concurred.

Port Sampler Cooperative Agreement Update

L. Simpson opened a discussion of the data system for menhaden fisheries. The menhaden data system includes port sampling and CDFRs, which documents greater than 95% of all individual sets. Simpson commended the industry for developing and embracing this high-quality data system. The port sampling portion of the data system dates back to 1964. Simpson indicated that the Commission has had an excellent working relationship with the Beaufort Lab in port sampling for the past two years. Simpson indicated an enhanced commitment by GSMFC to formalize data collection for recreational and commercial fisheries under RecFIN and ComFIN. In 1997, a problem has occurred in funding for menhaden port sampling. The GSMFC submitted a single proposal for a three-tasked data collection program which included menhaden port sampling, RecFIN/ComFIN, and headboat sampling. The NMFS has funded all this work in the past. The NMFS in 1997 required the GSMFC to revise the proposal to include only RecFIN and ComFIN leaving 1997 menhaden port sampling unfunded. A letter has been written to A. Kemmerer, the SE Regional Director of NMFS, indicating the critical nature of this oversight. Only $40,000 is required for the 1997 menhaden port sampling. A. Kemmerer is seeking Saltonstall-Kennedy funding for the 1997 port sampling. Five samplers are required to conduct Gulf port sampling. Moss Point is sampled by a NMFS employee from the Pascagoula Lab, but the other four plants have no such luxury. A general discussion ensued, with all attendees expressing distress at the potential for loss of this 33-year-old data collection program.

Gulf Menhaden Fishery Pamphlet Development

J. Smith updated the MAC on development of an informational brochure for menhaden fisheries. Smith indicated that progress had been slow, but some revisions based on MAC input had been made. The MAC reviewed the draft document, and editorial comments were offered. Smith indicated that he would incorporate the group's suggestions, and mail a revised copy out for further review. The GSMFC will support the printing costs associated with the brochure. J. Mambretti offered that the success of management of this fishery should be highlighted.

"Chanty men" Video

L. Simpson presented two videotapes, one of an NBC news clip on menhaden "chanty men" and another of the menhaden fishery as a success story. The MAC reviewed the tapes with interest.

Other Business

B. Wallace revisited the issue of menhaden stock assessment in light of attacks on the menhaden industry by environmentalists. Apparently, there is a worldwide movement to remove fish meal and oil products from the marketplace. The World Wildlife Federation intends to develop "eco-labeling," and to appoint its own board to certify fisheries circumventing governmental monitoring. Wallace had hoped that the stock assessment could have been conducted in 1997 in the belief that a current assessment could provide some measure of protection from irrational attack. Wallace indicated that the current reduction in landings over unprecedented highs earlier in the decade could be misconstrued to show a troubled fishery.

Wallace moved that the MAC recommend the S-FFMC write a letter to Rollie Schmitten, Bill Fox, Andrew Kemmerer, and Brad Brown, expressing dismay at the failure of NMFS to continue funding menhaden port data collection and to urge an immediate review of the issue so that funding will be forthcoming to ensure that no gap will occur in a 33-year-old database in the largest United States Gulf fishery by weight. D. Berry seconded the motion, which passed unanimously.

J. Smith indicated that D. Vaughan intended to conduct a full stock assessment during the coming winter which would include 1997 data (if available). Smith requested the state representatives J. Mambretti and V. Guillory to provide fishery-independent indices to Vaughan for VPA tuning.

L. Simpson indicated that B. Mahmoudi of FDEP had called prior to the meeting and apologized for not being able to attend, but suggested the at the next meeting, he would like to make a presentation to the MAC regarding pre- and post-net ban status of menhaden fisheries off Florida.

There being no further business, the meeting was adjourned at 4:00 p.m.

APPROVED BY:
COMMITTEE CHAIRMAN

TCC HABITAT SUBCOMMITTEE
MINUTES
Tuesday, March 18, 1997
Biloxi, Mississippi

Chairman, David Ruple, called the meeting to order at 9:00 am. The following members and others were present:

Members
David Ruple, Chairman, MDMR, Biloxi, Mississippi
Dale Shively, TPWD, Austin, Texas
Phil Steele, FDEP/FMRI, St. Petersburg, Florida
Mark Thompson, NMFS, Panama City, Florida
Larry Goldman, USFWS, Daphne, Alabama
Paul Coreil, LSUCE, Baton Rouge, Louisiana

Staff
Ron Lukens, Assistant Director
Nancy Marcellus, Administrative Assistant
Larry B. Simpson, Executive Director

Others
Mike Ray, TPWD, Austin, Texas
Albert King, GMFMC, Gulf Shores, Alabama
Tom Herrington, FDA GOMP, Stennis Space Center, Mississippi
Walter Tatum, Retired, Foley, Alabama

Adoption of Agenda

The agenda was amended to include several items under other business, including the discussion of a habitat poster, membership status, and river diversion issues. The amended agenda was approved without objection.

Approval of Minutes

L. Goldman made a motion to approve the minutes as presented from the October 1996 meeting. The motion was seconded and passed without objection.

Status of FMP Habitat Sections

Chairman Ruple indicated that there are three fishery management plans (FMP) that are currently under development or revision, and the Habitat Subcommittee was asked to provide primary authorship on the habitat sections for those FMPs. Those FMPs and primary contacts include spotted seatrout, Dale Shively; flounder, Dave Ruple; and blue crab, Phil Steele.
The contact individuals also serve as members on the Technical Task Forces (TTF) for these species. Lukens reminded the Subcommittee that the GSMFC had made a policy decision early in the formulation of the Interjurisdictional Fisheries Management Program that interstate FMPs should, to the extent possible, be

compatible in format and content with federal FMPs developed by the councils. He further stated that, because the essential fish habitat provisions of the council plans have not yet been finalized, we do not yet know how those sections will be structured. That presents a problem with regard to the current FMP development and in particular the development of the habitat sections. Chairman Ruple asked that each contact individual provide a brief update on the status of those FMP sections.

Blue Crab FMP - P. Steele indicated that he had been involved as a primary writer of the original habitat section of the blue crab FMP, and since he remains on the Blue Crab TTF, he will continue to provide the liaison between the TTF and the Habitat Subcommittee, which will include writing the revised habitat section. He indicated that the original habitat section was primarily descriptive in nature, meaning that it provided information regarding the kinds of habitats that blue crabs require for the various life stages. He stated that there is some concern that now habitat may be a limiting factor on the stock size, and that issue will require a more extensive treatment of blue crab habitat in order to understand the impact of declining habitat on the population. In general, the revision of the habitat section for the Blue Crab FMP is about 50% complete, but will require a lot of work to finish. The Blue Crab TTF has a full first draft and is in the process of reviewing it. Albert King raised the issue of water quality as it relates to habitat quality. His belief is that water is the most important habitat component for aquatic organisms, but it receives the least attention in terms of rehabilitation. An in-depth discussion of water quality issues ensued, with **a general agreement that water quality must be elevated in importance and must be a prominent part of any overall habitat management program.**

Spotted Seatrout - D. Shively indicated that not much progress has been made in drafting the habitat section for spotted seatrout. He has attended Spotted Seatrout TTF meetings and has made some contacts regarding acquiring information to write the section; however, not much information has been provided to date. He indicated that he needs good contacts from each of the states regarding the information needs for each subsection in the habitat section. Lukens indicated that Jim Duffy, GSMFC IJF staff, can serve as a focal point for contacting state and federal scientists and for acquiring information to assist the Subcommittee's TTF liaison in completing the writing tasks. Shively brought up the approach of developing a habitat FMP that cuts across all species, rather than addressing habitat on a species-by-species basis. Some discussion ensued regarding this issue, with the general conclusion that, no matter what approach is taken, there will still be a need to specify habitat status and requirements on a speices and life stage basis, because different species and life stages may require the same habitats but it will be at different times and perhaps at different levels of quantity and quality. Lukens added that federal FMPs under the essential fish habitat requirements will require a species approach, simply because each existing FMP must be amended, by law. One approach discussed in that regard is to develop all the information for federal FMPs and do a single amendment, so that the legal requirements of the amendment process will have to take place only once. He stressed that, even in that approach, the information and data needs will still have to be addressed on a species-by-species basis. There was general ageement that the FMPs should progress as planned, and that at some point, the Subcommittee may be able to compile an overal habitat FMP that takes into account all species and all life stages.

Flounder - D. Ruple indicated that the Flounder TTF had already included a great deal of habitat information in the other sections of the FMP draft. He indicated, he is trying to have his flounder section complete by the end of the year. Shively indicated that it might be useful for Ruple, Shively, and Steele to coordinate their work, since much of the habitat for all three species will be the same. They agreed to that approach. Goldman reemphasized the need to address water quality issues in the context of the FMPs, and expressed his concern that the Subcommittee had not yet addressed how that would occur. Each habitat

section coordinator indicated that they would pay particular attention to any information that is available on water quality and bioassays for the species. Goldman clarified that there are two standards, at least, with two different administrative structures in place that deal with water quality issues. The first includes water quality standards of the Environmental Protection Agency, and the other include the authorities under which estuaries are managed. Goldman requested that each FMP include strong statements regarding the role of water quality in determining the status of important fish and shellfish populations, and that enhancing water quality should be a primary objective. There was general agreement from the Subcommittee on this suggestion. D. Shively pointed out that when he took the task of writing the spotted seatrout habitat section, he was given an outline to follow, rather than having the Subcommittee discuss the issues and develop and outline. Lukens pointed out that the outline is an adaptation of the habitat section outline developed by the Atlantic States Marine Fisheries Commission for their interjurisdictional FMPs. He pointed out that it was adopted during the time when Dr. Richard Leard was coordinator of the Interjurisdictional Fisheries Management Program. He added that the purpose for the outline is to ensure consistency in terms of format and content from FMP to FMP. Lukens encouraged the Subcommittee and, in particular, the section writers to view the outline as a guideline for the format and information needed to write the section, but not to consider the outline a hinderance in developing the section. He stressed, however, that the sections should not vary so widely among FMPs that they are not comparable or consistent in structure and content.

There was a discussion regarding developing one habitat management plan or developing habitat sections for species-specific FMPs. There was general agreement that the development of a habitat management plan should be an evolutionary process. Lukens pointed out that the development and utilization of a habitat management plan presumes that there would be a generic FMP for all species in order to associate the two. Since FMPs are species based, habitats that are essential to the success of the life stages of species managed under FMPs must be speciated in order to make the appropriate association. Over time, as essential fish habitats are identified and described for the major species under management, the relationship of the various habitat components and the life stages of the species will become more clear. The Subcommittee agreed that the best course is to continue with the species based treatment of essential fish habitats until more is known about the relationship between species and their habitats. It was pointed out that addressing the habitats and associated species will lead us to the ecosystems approach to management.

Magunson-Stevens Essential Fish Habitat Issues

Framework Plan - Lukens began a discussion about the "Framework for Description, Identification, Conservation, and Enhancement of Essential Fish Habitat." He indicated that it is the document that was developed by the NMFS Office of Habitat Conservation through several constituency meetings and public comment. He informed the Subcommittee that letters from the GSMFC, the Gulf Council, the Atlantic States Marine Fisheries Commission, and the State of Texas had been sent to the NMFS in response to the call for public comment. Since there was a very short time limit on the development of the plan and the completion of the regulations, Lukens indicated that there had not been time to get the Subcommittee together to draft a joint response. He indicated that the NMFS is in the process of developing the regulations for amending FMPs to include sections on essential fish habitat. Those draft regulations should be approved from the NMFS within one or two weeks. Then they will go to NOAA and the Department of Commerce for comment, after which they will go to the President's Office of Management and Budget. Once that process is complete, there will be one more public comment period, after which the regulations will be final. Lukens then led a discussion that went through some of the details in the framework plan, which will serve as a reference document for this section of the meeting. Lukens pointed out that a key element in the essential fish habitat concept is that, while those provisions are specific to federal law related to federal fishery

management, most of the species under federal management require estuarine habitats at some time in their life cycles; consequently, much of the habitat that will likely become designated as essential fish habitat will be in state jurisdictional waters. The framework plan recognizes this, and states that a mechanism must be developed to coordinate with the states. Much discussion ensued regarding the framework plan and the comments to the NMFS, and all agreed that when the regulations are released they should be carefully reviewed and appropriate comments made to the NMFS.

As a part of the discussion regarding essential fish habitat provisions under the Magnuson-Stevens Amendments, Lukens informed the Subcommittee of two documents in their folders that provide information as examples. The first was "Synthesis of summer flounder habitat parameters" by Ken Able and Susan Kaiser, published in 1994. That document provides a great deal of tabular and graphic information regarding summer flounder habitat. The second was a document prepared by the NMFS Office of Habitat Conservation entitled "Essential fish habitat: An approach to assessment and protection." This document was designed to provide some examples of how essential fish habitat could be handled in the FMP amendment process. Lukens indicated that these documents would be valuable in terms of developing approaches to writing habitat sections for FMPs, whether state, interstate, or federal.

Workshop - Lukens recalled that the Subcommittee elected to hold a workshop during 1997 to address the issues related to habitat management and fisheries management. He indicated that because of the Congressional mandate to address essential fish habitat, and because of the short timeframe allowed to complete the initial amendments to address essential fish habitat, the workshop idea had to be abandoned. He pointed out that a workshop may be useful in time to explore in more detail our cooperative working relationship among the state and federal agencies; however, in the context of the essential fish habitat provisions, a workshop would not accomplish what is needed. The Subcommittee generally agreed that the workshop concept, as outlined at the last meeting, should be abandoned for the foreseeable future.

Council/Commission Cooperative Program Proposal

Lukens opened a discussion regarding a proposal to develop a regional habitat program that would provide assistance to both the Gulf of Mexico Fishery Management Council (Gulf Council) and the Commission to fulfill habitat requirements for FMPs and to facilitate responses to proposals that have the potential to negatively affect essential fish habitat. That proposal is attached to the minutes and will serve as the primary administrative record for this part of the meeting. Lukens indicated that the development of the proposal occurred in the week just prior to the current meeting. He also indicated that the proposal had been introduced to the Gulf Council the week before that. At that time, the Gulf Council voted unanimously to work cooperatively with the Commission to develop the details of the proposal, including all work duties and associated costs. Mr. Albert King, Gulf Council member from Alabama, was asked by the Council to attend the Commission meeting to assist in addressing the proposal, which Mr. King did. The proposal was introduced to the Subcommittee in order to formally submit it to the Commissioners in the Business Meeting.

The essence of the proposal is for the Gulf Council and the Commission to combine funding to provide enough funds for the Commission to hire a habitat coordinator. That coordinator's primary duty over the ensuing months would be to address the needs of the Gulf Council regarding amending FMPs to include essential fish habitat provisions. After that initial task, the habitat coordinator would coordinate both Gulf Council and Commission habitat program activities. Following Lukens' initial description of the proposal, the Subcommittee conducted an in-depth discussion about the proposal. **Following the discussion,**

P. Coreil made a motion to endorse the proposal as written and recommend that it be endorsed by the Technical Coordinating Committee. The motion was seconded and passed without objection.

Other Business

Habitat Poster - Chairman Ruple indicated that he had talked with Larry Simpson regarding a habitat poster. He reminded the Subcommittee that a poster had been produced about a year ago, and most, if not all, of the copies have been distributed. Simpson suggested to Ruple that the Subcommittee discuss the possibility of producing another poster. Ruple pointed out that the original poster was not as good as expected, and he would like to see a redesign if the Subcommittee decided to do another one. By general agreement, the Subcommittee decided to sponsor another habitat poster.

River Diversions - Due to time constraints, P. Coreil withdrew his agenda request, suggesting that the Subcommittee should take up the issue at a later time.

Membership Status - Chairman Ruple informed the Subcommittee that he will be leaving his current position with the Mississippi Department of Marine Resources to take a job with the Nature Conservancy. He indicated that he will be working on a joint Mississippi/Alabama project. Since his membership on the Subcommittee represents the Mississippi Department of Marine Resources, he indicated that he will no longer be able to serve on the Subcommittee. Lukens asked the Subcommittee if they would be interested in having Ruple continue to serve on the Subcommittee in some capacity, and the Subcommittee agreed. **P. Steele made a motion to recommend that the Technical Coordinating Committee explore alternatives for allowing Ruple to continue to serve on the Subcommittee in some capacity. The motion was seconded and passed without objection.**

There being no further business, the meeting adjourned at 4:45pm.

APPROVED BY:

COMMITTEE CHAIRMAN

LAW ENFORCEMENT COMMITTEE/
***Ad Hoc* INTERJURISDICTIONAL LEGAL PANEL**
MINUTES
March 19, 1997
Biloxi, Mississippi

Jerry Waller, Chairman of the GSMFC Law Enforcement Committee (LEC), called the meeting to order at 1:00 p.m. with the following in attendance:

Members
(The LEC in its entirety sits within the *Ad Hoc* Interjurisdictional Legal Panel)
Ed Conklin, FDEP, Tallahassee, FL
Vernon Minton, ADCNR/MRD, Gulf Shores, AL
Corky Perret (*proxy for Glade Woods*), MDMR, Biloxi, MS
John Roussel, LDWF, Baton Rouge, LA
Page Campbell (*proxy for Gene McCarty*), TPWD, Rockport, TX
Perry Joyner, FDEP/Florida Marine Patrol, Tallahassee, FL
Bruce Buckson (*replacing Perry Joyner*), FDEP/Florida Marine Patrol, Tallahassee, FL
Jerry Waller, ADCNR/MRD, Dauphin Island, AL
Terry Bakker, MDWFP, Biloxi, MS
Jeff Mayne, LDWF, Baton Rouge, LA
Jack King, TPWD, Austin, TX
Dennis Johnston (*replacing Jack King*), TPWD, Austin, TX
David Dean, ADCNR, Montgomery, AL
John Henry, MDMR/Mississippi Attorney General's Office, Biloxi, MS
Mike Landrum, LDWF, Baton, Rouge, LA
Boyd Kennedy, TPWD, Austin, TX
Larry Simpson, GSMFC, Ocean Springs, MS
Richard Leard, GMFMC, Tampa, FL
Jay Johnson, NOAA General Counsel, Washington, DC
Andy Kemmerer, NOAA/NMFS, St. Petersburg, FL
Mark Johnson, USCG, New Orleans, LA
John Webb, USDOJ, Washington, DC
Suzanne Horn, NOAA/NMFS, St. Petersburg, FL

Others
Russell Nelson, FMFC, Tallahassee, FL
David McKinney, NOAA/NMFS, Silver Spring, MD
Cynthia Fenyk, NOAA GCEL/SE, St. Petersburg, FL
Michael Zack, USCG, New Orleans, LA
Frank Wakefield, USCG, Mobile, AL
Terry Cody, TPWD, Austin TX
John Jenkins, ADCNR/MRD, Dauphin Island, AL
David Rose, MDWFP, Biloxi, MS
Judi Oram, MDMR/Mississippi Attorney General's Office, Biloxi, MS
Mike Ray, TPWD, Austin, TX
Maumus Claverie, GMFMC, New Orleans LA

George Sekul, GSMFC, Biloxi, MS
Kay Williams, SASI, Pascagoula, MS
Wendell Lorio, MSU, Stennis Space Center, MS
Tom Herrington, FDA Gulf of Mexico Program, Stennis Space Center, MS
Cindy Moncreiff, GCRL, Ocean Springs, MS
Tom McIlwain, NOAA/NMFS, Pascagoula, MS
Dan Furlong, NOAA/NMFS, St. Petersburg, FL
Buck Sutter, NOAA/NMFS, St. Petersburg, FL
George Brumfield, Retired, Zapata Protein, Inc., Moss Point, MS
Rolland Schmitten, NOAA/NMFS, Silver Spring, MD
Scott Nichols, NOAA/NMFS, Pascagoula, MS

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS
Ron Lukens, Assistant Director, Ocean Springs, MS
Dave Donaldson, Program Coordinator, Ocean Springs, MS
Madeleine Travis, Staff Assistant, Ocean Springs, MS

Adoption of Agenda

J. King moved and T. Bakker seconded that the agenda be adopted as written. The agenda was adopted by consensus.

Approval of LEC Meeting Minutes

J. King moved and T. Bakker seconded that the minutes of the October 16, 1996 meeting of the LEC held in New Orleans, Louisiana, and the minutes of the January 22, 1997 meeting of the LEC held in Biloxi, Mississippi, be approved as written. These two documents were approved by consensus.

Discussion of *Ad Hoc* Legal Panel Membership

L. Simpson apologized to the membership of the LEC for usurping their time slot in order to make provisions for this meeting. He reminded the members of the GSMFC LEC that support would be available for meetings outside the traditional setting, since their time had been taken for this purpose.

L. Simpson invited modifications to the proposed membership of the *Ad Hoc* Interjurisdictional Legal Panel. J. King requested that Mr. Dennis Johnston be named as an accessory enforcement representative for TPWD, as personnel transitions are occurring in Texas' fisheries law enforcement. R. Leard indicated that GMFMC representative Andy Martin had resigned, and should be dropped from the "Others" list. B. Buckson, FDEP Law Enforcement, requested that his name be added to the membership alongside Perry Joyner. J. Webb offered a correction to his e-mail address. The corrected address is: john.webb@usdoj.gov.

L. Simpson reminded the group that its membership is composed of state and federal fishery managers, law enforcement specialists, and lawyers. Simpson indicated that the GSMFC would continue to convene and fund the group as needed.

Election of *Ad Hoc* Interjurisdictional Legal Panel Chair

L. Simpson invited nominations for the chair of the group. **C. Perret nominated John Henry**, MDMR legal representative, for the chair. T. Bakker seconded the nomination. **J. Henry was elected the chair** of the panel by acclamation. C. Perret requested GSMFC staff support for Mr. Henry's duties as chair. **V. Minton moved and J. Waller seconded that L. Simpson be named vice-chair** of the panel. **Simpson was approved as vice-chair** by acclamation.

L. Simpson indicated that the GSMFC IJF Program had been modified to support the activities of the panel. Simpson stated that he felt that the initial feelings of animosity and conflict should be in the past and that the panel should now begin productive deliberations toward the common goal of improved state/federal cooperation. He thanked the legal specialists for joining the panel and indicated he looked forward to working with them.

Adoption of Minutes from January Penalty Schedule Meeting

Chairman J. Henry asked for any corrections to the minutes of the January 23, 1997 meeting of the *Ad Hoc* Interjurisdictional Legal Panel regarding the NOAA's Penalty Schedules which was held in Biloxi, Mississippi. M. Johnson offered a correction, and the minutes were adopted as amended.

***Ad Hoc* Legal Panel Mission**

A discussion ensued regarding the mission of the group. R. Nelson asked if the mission was to facilitate the acceptance of the current NOAA fisheries' penalty schedules' philosophy or to refuse to accept same. If the latter were the case, he indicated that there may be no long-term function of the group. He indicated that the states of Georgia and South Carolina would in all likelihood not renew cooperative enforcement agreements with the NOAA/NMFS. The state of Florida, while pleased with historic partnership, is also considering its options. C. Perret lamented R. Schmitten's absence from the meeting [R. Schmitten joined the group later in the meeting] and stated that with limited resources, the only way effective law enforcement could be accomplished was through cooperative agreements. Perret offered that the mission of this group must be to strive for better cooperative efforts. J. Johnson indicated that the common goal for all in attendance must be conservation of limited marine resources. States and the NMFS must agree which parts of the common mission of effective fisheries law enforcement should be handled by whom.

R. Nelson indicated that he was still troubled about the NOAA General Counsel's (GC) penalty schedule, that the information was not openly discussed by NOAA GC, but was "leaked" to the states by cooperating state enforcement officers. Had the state enforcement personnel kept quiet, fishery managers within the states would never have known about it. He pointed out that current talk within NOAA GC of cooperation and openness was inconsistent with earlier actions that had brought the group to this point. J. Johnson replied that it was unfortunate that the information had been disseminated in the way that it had, but he still reserves the right to decide what federal penalties would be and to make adjustments to penalty schedules as resources dictate. He felt, however, that there were certain categories of violations which needed further consideration. Johnson indicated that the lawyers for the states and Johnson had enjoyed a very productive meeting earlier that day and had reviewed state law pertaining to fisheries. He believes that most state penalty schedules, which were not developed in cooperation with federal officials, are "out of date and insignificant," in terms of deterrent quality. Further, Johnson declared that state law should be changed. The federal toolkit is inadequate to deal with certain categories of violations, and Congress will have to

approve any changes. He suggested a review of state laws, processes, and penalties for "typical, garden variety" fisheries violations. He offered to then compare those systems with that of the federal agency. He believes the federal system is very effective for dealing with large-scale, commercial violations.

S. Horn and D. Dean recommended separate, but related verbiage for a mission statement for the panel. After much discussion, **the panel combined the two offerings in a motion**, to read:

> **The mission of the GSMFC *Ad Hoc* Interjurisdictional Legal Panel shall be to enhance or improve cooperation and communication between state and federal entities responsible for enforcement and litigation of state and federal marine conservation laws by addressing those legal issues deemed important to the goals of the GSMFC.**

M. Claverie indicated that fishery managers want to know what has happened and what will happen to current management regimes due to recent changes in NOAA GC's penalty schedule approach. Council members are agonizing over bag and size limits for fisheries while prosecution for violations is lacking. This is upsetting to managers. He used the example of red drum. A "hand-slap" for violations of red drum laws is crippling to managers' efforts to rebuild that stock.

E. Conklin said he felt that nothing had changed at all since the last meeting of this group. The last meeting started with states being confused and upset with NOAA GC's apparent insensitivity to their concerns, and having talked with states, he felt this was still the case. Conklin said that J. Johnson was repeating the same message (that the states must change) that he brought last time. If the NOAA GC maintains this position, Conklin sees no future for this endeavor. Conklin indicated he would hate to see states pull out of cooperative enforcement agreements with the NOAA/NMFS, yet he is afraid that this, in fact, is what will happen.

J. Johnson replied that there has been progress. State lawyers have met with federal lawyers. Johnson said he can't move forward without a clear understanding of the various state legal systems. Johnson again compared the states' asking him for aggressive enforcement action in federal waters to his asking states for the same in state waters. Johnson said state managers can't tell him that a single "red drum fish" taken in the EEZ is a major violation, when people can steal red drum in state waters and get a slap on the wrist. He thinks that some state systems work well for deterring certain classes of violations, but they fall to pieces when dealing with someone who's in it for the money. He indicated that those money cases are where the states should bring federal leverage to bear. He believes this process will result in recommendations for legislative changes at both levels of government. Johnson indicated that before states criticized federal response to these types of violations, he wanted to hear the states respond.

R. Nelson said that all the states in the southeast would be happy to write a letter to NOAA administration requesting that someone else take a look at this problem. Maybe someone else could find a better solution. Nelson told J. Johnson that he (Johnson) had no idea how managers on both the Gulf and Atlantic coasts felt about the way this issue had developed.

J. Johnson replied that he "does law," and that he would need to start with the states' lawyers. C. Perret concurred with Johnson that states need to improve in some areas of enforcement but assured Johnson that no one is more frustrated than enforcement field officers who work hard to make cases only to see ineffective or nonexistent prosecution. The NOAA/NMFS system was not perfect and better in the past than

it currently is. Perret said that this group was not here to pore over state law books. All of a sudden, the NOAA system has changed, and it has been to the detriment of state law enforcement operations. More important, managers beat their brains out over "one, two, three" fish only to find that certain policy has been made without state input which jeopardizes these stocks of fish. Perret wished not to blame, but to improve the current scenario.

J. Henry dragged the group back to the agenda, and **the membership adopted the aforementioned mission statement by acclamation.**

Issues

Consistency of State Fishery Regulations with Magnuson-Stevens FMP Guidelines

C. Perret invited J. Waller to describe reactions and problems his agency had realized since the change in the NOAA penalty schedule had been made public. J. Waller declined, saying that the group had talked enough about the past and should move forward.

D. Dean said that until this issue came up, no one had looked to see if the state of Alabama could enforce its laws in federal waters. There had been a general impression that extraterritorial prosecution could not occur under any circumstances, due to statutory limitations. He has since researched the issue and has found that states could enforce state laws in federal waters, if state laws were consistent with federal laws and if the vessel in question is registered under the laws of the state. The most difficult part of this is gaining legislative authority to do so, when legislatures in these austere fiscal times are most concerned about good enforcement within state boundaries. He questioned the practicality of the notion of state enforcement into the EEZ but admitted the theoretical possibility.

J. King intimated that Texas does not enforce federal laws anyway. Texas relies on landing laws for detection of resource offenses regardless of where the offense occurred. He feels, however, that current NOAA philosophy will encourage over harvest in the EEZ. He disagreed with J. Johnson that only the lawyers needed to get together over this issue. Input from managers as to biological importance and from enforcers as to enforce ability, would be critical to the success of subsequent discussions on this matter.

C. Perret clarified with D. Dean that extraterritoriality would only apply to state-registered vessels. R. Nelson said that Florida tried to enforce state laws on Florida shrimping vessels fishing alongside Alabama and Mississippi vessels. Federal courts ruled the attempt unconstitutional on the basis of selective enforcement. He briefly outlined Florida penalty schedules which include large fines and jail time for even a few fish over certain species' bag or possession limits. Some violations trigger license revocation and large civil penalties.

J. Johnson said that ideally we could reach a point where a state could enforce its laws on its vessels, wherever they may go, and regional state laws would be consistent between states and with the federal laws so that prosecution thereof would pass Magnuson muster. He hopes that the federal system can gain some of the tools that the states currently have. He apologized that federal law simply does not work for large numbers of relatively minor cases. Under federal fisheries law, most violators can put off paying civil penalties indefinitely.

M. Claverie shared with J. Johnson the management details of the rebuilding of the red drum stocks. The Gulf Council stopped harvest in the EEZ and requested 30% escapement from state waters. The current penalty schedule is like a leaky faucet, greatly protracting recovery. In addition, allowing a "slush" factor of a few fish here and there encourages multiple, small violations. Aggressive enforcement and prosecution truly deter violations and limits the number of cases that NOAA GC must deal with.

C. Perret asked whether other regions are concerned about the current NOAA penalty schedule. J. Johnson replied that he doesn't mean to bash the south, but the south is the only place in the country where this problem exists. On the west coast, all states have laws that regulate their vessels wherever they fish. The west coast states and the NOAA GC work hard to ensure compatibility of regulations, and federal enforcement turns most of the fishery cases over to the states for rapid sanctioning. He does not see the problem of lack of coordination between the states and the federal government outside the southeast.

S. Horn added that no other region has the amount of recreational fishing pressure as the southeast. This creates a differential in enforcement loads and has exacerbated the problem.

J. King reiterated that J. Johnson had asked for states' legal system summaries. Discussion ensued regarding what should be included in such a summary. It was forwarded that a first step would be to look at state laws to see where possibilities existed for extraterritorial prosecution. Then the panel should closely examine federal law so that when timing was optimal for changes (such as the next reauthorization of Magnuson), the homework would have already been done. J. Henry pointed out that much of the information being discussed was unavailable in Mississippi. Other state counsels agreed.

C. Perret inquired as to whether a motion was on the floor for consideration. J. Henry responded that the panel was considering the recommendation that the attorneys and law enforcement for the states provide a document including:

9) a discussion of whether the states were currently authorized to enforce their laws outside of territorial jurisdiction;
10) a discussion of penalties for violations of state fisheries law;
11) a discussion of conflicts, if any, between state law and federal law;
12) a discussion of how states treat violations of federal law under state law; and
13) a list of recommendations to revise federal ticketing and sanctioning procedures under Magnuson-Stevens.

C. Perret inquired what body of the GSMFC was the oversight committee for this panel? Where would resolutions passed by the panel be forwarded for further action? L. Simpson responded that actions approved by the panel would be forwarded to the State-Federal Fisheries Management Committee for approval because it is the oversight body for the IJF Program.

C. Perret moved that the *Ad Hoc* Interjurisdictional Legal Panel strongly recommends to J. Johnson and other appropriate federal entities that they implement immediately the pre-FIN policy that was in place since the authorization of Magnuson. T. Bakker seconded the motion. Perret furthered that prior to the implementation of the current policy, there existed cooperative law enforcement which seemed to work much better that the current scenario. Perret said that the panel needed to take whatever action it could to impress upon whomever is responsible that the states want to (at least) keep what was in place until solutions can be identified. J. Johnson replied that if Perret could write it out, he would be happy

to institute the old policy. Johnson said he could not go back to something that was not written down in the first place. NOAA GC dealt with cases as best they could with the resources they had available. The only thing that has changed in the past three or four years has been the realization that in order to deal with the major violations, some of the minor ones would have to be dropped. The fact that the penalty schedule was inadvertently released did not reflect a change in NOAA GC policy. The minor cases would not have been prosecuted anyway, because NOAA GC was focusing on major violations.

R. Nelson asked R. Schmitten to comment on whether the NMFS would conduct enforcement or prosecution any differently than the NOAA. Nelson offered that every stake holder in this process (at all levels including state, commission, council, managers, enforcement, and even enforcement outside state agencies) do not agree with the current policy and do not agree with the current approach. Nelson indicated that he had never seen such total agreement among the aforementioned groups on any other issue. Nelson was astounded that the only response to the outcry was, 'this is how it has got to be done, this is the only way the problem can be solved, and what you all have to do is change *your* laws.' R. Schmitten responded that he wants to solve the problem. If he had the authority, he would solve the problem.

C. Perret reiterated J. Johnson's comments regarding limited resources and no written policy prior to the current one under scrutiny. Perret indicated that the public did not know; this was the pivotal issue. The public believed that if they caught one red drum in the EEZ, they could be caught and punished. Now the public knows differently, and that is what has created a giant problem. Further, it would create resource problems for various species that all panel members are striving to manage.

J. Henry asked for further discussion on the currently active motion. L. Simpson indicated that he saw nothing productive in the motion. C. **Perret** agreed and **withdrew the motion.**

S. Horn shared that she believed that the "old way" is what the NOAA/NMFS currently has implemented internally. The NOAA/NMFS looks at the circumstances of each case and uses discretion. The NOAA GC is not refusing to look at cases. NOAA had no written guidelines for many years, and officers used their discretion. That is what the NMFS is doing now.

J. King called the group's attention back to the development of summary documents and requested that the federal lawyers produce a similar document summarizing actions and penalties by fishery and species. He further asked that a deadline be set for this activity. J. Johnson indicated that a large discrepancy often exists between what is assessed and what is paid under the federal system. He thinks the difference reflects the GC's impression of the seriousness of the offense. The panel asked that Johnson provide both what was assessed and what was paid. It was suggested that the GSMFC develop a list of the fisheries to be addressed.

M. Claverie, himself an attorney, pointed out that if he were defending a person under state law who was caught in possession of three oversized red drum allegedly taken in the EEZ, he would show the prosecutor and elected judge the federal guidelines and call for dismissal. Claverie further stated that whatever the intent, the current federal schedule gave the appearance of acceptability of these types of violations. The panel membership voiced agreement with Claverie. S. Horn responded that the documents the public saw are not currently in force.

J. Henry called attention back to the matter of state and federal documentation of procedures and penalties. **J. King voiced the information request in the form of a motion** which was seconded by S.

Horn. L. Simpson requested J. Johnson provide a summary of the number of recreational cases made in the field and adjudicated and fines collected or not collected. J. King indicated the states should provide similar information.

C. Perret inquired what the Coast Guard is currently doing in fisheries enforcement. M. Johnson indicated that the Coast Guard has returned to the procedures of approximately three years ago. When a fishery violation is detected, the Coast Guard calls the local NMFS agent for guidance.

J. Henry called for a vote on the motion to develop the summary document. J. Roussel indicated he intended to vote against, because he believed the effort to be fruitless. The **motion to develop the summary document failed.**

J. Roussel said the issue is that a penalty schedule was released to the public which created a perception of how enforcement decisions would be made with respect to fisheries laws. J. Roussel proposed a simple solution: to take action which will change what the public now perceives. Discretion is a necessary component of enforcement. **J. Roussel moved that the panel recommends that the GSMFC request the appropriate federal entity to publicly announce that they will vigorously enforce all federal fisheries laws.** Roussel stated that what is said and what is done may be two different things, but he felt the panel must first address the perception problem. J. Mayne seconded the motion. R. Nelson reminded the panel that perception is based on reality, and swift punishment of violators is an excellent perception builder. The **motion passed eleven to three**. The three votes against were from the federal entities.

Consistency Among Gulf States in Vessel Licensing and Registration

J. Webb discussed the genesis of this agenda item. There are some state court decisions that have interpreted a vessel registered in a state to mean vessels that have state permits as subject to the jurisdiction of a state. He cited an example of the appropriate state language: "A vessel licensed to harvest shrimp in the state of Alabama shall be considered a vessel registered to the state of Alabama." The ability to do this, while supported by Magnuson, depends on underlying state law. Broad discussion ensued among federal and state attorneys. M. Claverie reminded the attorneys to look at historical rulings. Courts had said that a state could exercise jurisdiction over a vessel if the state had a connection (licensing, permits, etc.) to the vessel and the resource in question had a connection to the state. Louisiana requires red drum fishermen landing fish in Louisiana to have a Louisiana permit, but Louisiana could not exercise jurisdiction over a licensed or permitted red drum fisherman in Mexican waters unless the state could prove that it was the same stock of fish as Louisiana.

R. Nelson asked whether J. Webb and J. Johnson would recommend such state language that permits to fish constitute vessel registration. Johnson indicated in the affirmative. J. Henry asked what would happen if a vessel was registered (numbers) in Mississippi and possessed a license to fish from the state of Alabama. The fisherman is fishing in the EEZ. Would both states have jurisdiction? Johnson responded that both states would have jurisdiction.

Development of Guidelines for Effective State Prosecution of Federal Fishery Violations

J. Webb suggested that the agenda item be rephrased: "...state prosecution of fishery violations." J. Henry indicated that he felt that the group had been discussing this topic throughout the meeting. No further discussion was offered.

Future of State Jurisdictional Authority in and Out of States' Waters

J. King suggested that the states might discuss this issue at future LEC meetings with state counsels present. J. Waller agreed.

R. Nelson indicated that he thought the clearest and simplest way to solve the problem of what the states can and cannot do is for the Council to delegate the management of fisheries to the states. If states will be asked to perform enforcement, it seemed reasonable to allow them to set the regulations. Under such a delegation, states' laws would apply to anyone fishing in the EEZ adjacent to a state, regardless of registration. R. Nelson asked if the NOAA/NMFS would support such a delegation. Johnson responded in the affirmative. His philosophy includes dealing with an issue at the lowest possible level of government. R. Nelson indicated that Florida would be thrilled to enter into discussions with federal officials regarding such a delegation for waters adjacent to Florida.

S. Horn offered that, at a minimum, recreational fisheries could be more appropriately managed by states. A. Kemmerer saw little value in such an arrangement saying that management is conducted at the species level rather than splitting out fishing types.

Summary

L. Simpson offered a summary of his impressions of the meeting and indicated that the group must decide on a next step. C. Perret concurred and indicated that changing federal enforcement will be a slow process. Changing public perception must be the first priority. He was pleased that the group resolved to ask the NOAA to get the word out, and hopefully, perceptions would change.

A. Kemmerer thanked everyone in attendance for making the effort to work toward satisfactory resolution of this important issue. Kemmerer suggested that the GSMFC put together a smaller group, possibly just lawyers, to generate a proposal for further collective action. The group indicated general disapproval of this idea. J. Johnson asked if it would be satisfactory to split the Gulf and work on the eastern half (Alabama and Florida) first. J. Henry said he thought that it was well and good to talk about various ways to solve this problem, but that approach ignores the will of his department. Henry indicated that even if it were possible to get around this concern, the legal and fiscal barriers to legislative changes render that approach impractical, at best. L. Simpson indicated that the GSMFC could facilitate any structural approach that the group may decide upon.

V. Minton remained concerned that he still felt no willingness in the states to work on taking over enforcement and adjudication of fisheries violations occurring in the EEZ. Minton indicated the state managers did not like the way this effort was shaping up at all. S. Horn suggested that one of the reasons for the impasse was a misunderstanding of the number of cases involved. She indicated that only a few classifications of violations were being discussed, and an analysis of the caseload in those categories might be appropriate.

J. Webb offered training programs for state enforcement personnel so that state's could make cases in certain categories of violation which would send appropriate messages to would-be violators. He cited an example of a commercial red snapper fisherman in Louisiana who had recently been the subject of a felony indictment for sending false statements to a federal agency for obtaining a special permit to allow him

to greatly increase the amount of snapper he was able to catch. He offered his agency's help in getting the message out by highlighting certain classes of cases.

C. Perret related the story of a friend who had been arrested by state enforcement personnel for an undersized billfish which had died before it could be released. The friend, who became the subject of federal prosecution, became a tremendous source of positive public relations by sharing the horror story with all his contacts. Months later, the friend got a letter from the NOAA GC indicating the case had been dropped. Now the person is spreading the word of softening federal enforcement. J. Johnson asked for the name of the person so that he could provide Perret with the details of that investigation.

Future Meetings

R. Nelson indicated with apprehension that he would meet with federal entities to explore possible solutions. T. Bakker requested that if meetings of less than the full group were held, the remaining members be kept advised of progress. L. Simpson indicated that if GSMFC facilitated such a meeting, records [summary minutes] would be kept and distributed. A Kemmerer suggested that at least two states should be included. V. Minton indicated a willingness to participate. R. Nelson said the practical side of the issue of changing state law could be handled in Florida, but he would recommend states play a larger role in setting regulations if they were going to be expected to handle more enforcement.

A. Kemmerer moved that L. Simpson work with the states and the NOAA GC to establish an acceptable date and time for a smaller group to convene to continue work on this issue. C. Perret seconded the motion. J. Henry restated the motion to convene an "unknown group and an undisclosed place and time," with laughter from the entire attendance. The **motion passed** unanimously.

C. Perret lauded the chairman for a job well done.

There being no further business, the meeting was adjourned at approximately 4:30 p.m.

APPROVED BY:
COMMITTEE CHAIRMAN
10/17/97

TECHNICAL COORDINATING COMMITTEE
MINUTES
Wednesday, March 19, 1997
Biloxi, Mississippi

Chairman Corky Perret called the meeting to order at 8:30 a.m. The following members and others were present:

Members
Doug Frugé, (proxy for Noreen Clough), USFWS, Ocean Springs, MS
Terry Cody (proxy for H. Osburn), TPWD, Rockport, TX
Alan Huff, FDEP, St. Petersburg, FL
Skip Lazauski (proxy for V. Minton), ADCNR, Gulf Shores, AL
Tom McIlwain (proxy for B. Brown), NMFS, Pascagoula, MS
Corky Perret, MDMR, Biloxi, MS
Mike Ray (proxy for G. McCarty), TPWD, Austin, TX
John Roussel, LDWF, Baton Rouge, LA
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

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

Others
Buck Sutter, NMFS, St. Petersburg, FL
Cindy Moncreiff, USM/IMS/GCRL, Ocean Springs, MS
Scott Nichols, NMFS, Pascagoula, MS
Tom Herrington, FDA, Stennis Space Center, MS
Vince Guillory, LDWF, Baton Rouge, LA
Joseph Smith, NMFS, Beaufort, NC
Albert King, GMFMC, Gulf Shores, AL
Wendell Lorio, MSU, Starkville, MS
Norman Boyd, TPWD, Port O'Connor, TX
Jerry Mambretti, TPWD, Port Arthur, TX
Christine Johnson, MDMR, Biloxi, MS
Fred Kopfler, EPA, Stennis Space Center, MS
Kay Williams, SASI, Pascagoula, MS
Walter Tatum, Gulf Shores, AL
David Etzold, Bay St. Louis, MS
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
George Sekul, GSMFC, Biloxi, MS
L. Don Perkins, GSMFC, Houston, TX
Wilma Anderson, TSA, Aransas Pass, TX
Mike Buchanan, MDMR, Biloxi, MS
Dave Ruple, MDMR, Biloxi, MS

Mike Brainard, MDMR, Biloxi, MS
Dale Shively, TPWD, Austin. TX

Adoption of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes for the meeting held on October 16, 1996 in New Orleans, Louisiana were approved with minor editorial changes.

State/Federal Reports

Fish & Wildlife Service - D. Frugé stated that the FWS Southeast Region's Fisheries Strategic Plan is nearing final form. The document was distributed for outside review in mid-January, and editorial changes have been made. The final document should be published by May. The FWS is continuing to monitor the distribution of brown mussels in Texas coastal waters. The mussels have not moved any farther up the coast than the Brazoport area. It appears the mussels may be temperature limited, ceasing growth and expansion when water temperatures fall below 55°F. The fish hatchery transfers that the FWS Southeast Region was directed to implement have been completed. The Meridian National Fish Hatchery was transferred to the state of Mississippi and the McKinney Lake National Fish Hatchery was transferred to the State of North Carolina. All hatchery transfers were accomplished without having to terminate any employees.

National Marine Fisheries Service - T. McIlwain stated that in recently passed Magnson-Stevens Act, there is a provision which requires essential fish habitat sections in all fishery management plans. The NMFS and Gulf of Mexico Fishery Management Council staff are currently working on this issue. He discussed the shrimp virus issue and stated that an ad hoc committee has been established and this committee developed a document which analyzes the impacts of shrimp pathogens on the native shrimp stocks in the Southeast Region. This document will be presented to the Joint Subcommittee on Aquaculture and this group will probably decide to conduct a risk analysis/assessment of the shrimp pathogens on the shrimp stocks. Since the last meeting of the TCC, there has been an outbreak of white spot virus in the ponds in South Carolina. B. Sutter stated that as of March 11, the $10 million of disaster funds are available and he will be assisting the states and others in providing this money to the appropriate agencies.

Texas - T. Cody stated that Texas has developed a shrimp license buy back program. The purpose of this program was to get some of the bait and bay shrimpers to voluntarily sell their licenses back to the state. The process that was used was a reverse bid offer where shrimpers would provide the amount they would take for their license. There were 202 offers and Texas accepted 31 of the applications which amount to approximately $200,000. Texas is also currently developing a crab limited entry program similar to the shrimp program. Texas is conducting various scoping and public comment meetings to get feedback from the industry. There are several bills in the legislation which could affect marine resources in Texas. One of the bills requires biodegradable panels in crab traps. Other issues refers to making Texas fishery regulations more compatible with federal regulations. M. Ray stated that there are some aquaculture bills in the legislature. The main bill would remove the licensing responsibility from the Texas Department of Agriculture and transfer it to Animal Health Commission. Also, the Commission would be responsible for the variety of disease issues related to aquaculture.

Louisiana - J. Roussel stated that the legislature is scheduled to convene on March 31 for a 60-day session. The legislature will be addressing issues that may affect marine resources. One of the issues to be addressed will be the sunset of the Louisiana Department of Wildlife and Fisheries (LDWF). The legislature needs to take some action for the continuation of the LDWF. The artificial reef program has begun to dismantle the sulfur rig off Grand Isle. Once completed, this structure will be the largest artificial reef in the world. In addition, the program is in the process of permitting 13 new reefs which should be deployed this summer. The LDWF conducted a series of blue crab workshops to enable industry and the agency to interact and discuss problems and issues related to the blue crab fishery in Louisiana. Also, there will probably be an industry-sponsored limited entry bill introduced into the legislature. Louisiana is examining the feasibility of a point of sale licensing system, similar to the Texas system.

Mississippi - T. Van Devender stated that the legislature is in session. There are several bills which deal with marine issues. The first is that gill nets will not be able to be placed any closer than one mile from shore and the other is some minor changes in oyster tonging reefs. Each year, the casinos pay money for impacts they cause on the wetlands and for FY1998, approximately $5 million will be paid. The Department has developed a 15-year plan which allocates the money for 50% research and management and 50% tidelands construction projects. The Wallop-Breaux money is continuing to fund various projects such as cobia and spotted sea trout tagging, flounder aging, and roe mullet aging. Mississippi will receive $1 million of the disaster monies and will use it for oyster reef replenishment. The Mississippi Commission of Marine Resources passed a regulation requiring gill nets to be constructed of biodegradable material. Initially, there were three types of materials that could be used: cotton, linen and a material called DN103. However, after further examination, DN103 was not considered biodegradable and will not be able to be used for gill net construction.

Alabama - S. Lazauski stated that Alabama has successfully spawned and grown red snapper at their mariculture center. The oyster beds in Alabama were closed for 6-8 weeks due to red tide. Alabama is conducting an inshore creel survey which consists of on-the-water interviews and overflights. Due to a re-estimation of a freshwater and saltwater split, the Wallop-Breaux funding for Alabama has increased and the Division will receive the allotted 27% that was calculated. Artificial reef permits have been extended indefinitely. Currently, there are a variety of proposed regulations being discussed for crabs and shrimp. One of these regulations is a permanent closure of the upper area of Mobile Bay for crabbing and shrimping. Alabama is also exploring the possibility of developing a limited entry for the crab fishery.

Florida - A. Huff reported that there was a massive die-off of manatees last spring. Approximately 150 manatees have died in a two month period. Florida was tasked with examining the issue and is focusing on three areas: a retrospective analysis of toxin in tissue - it is suspected the red tide has been a factor in manatee deaths over the past 20 years; a post epizootic population assessment of manatees to determine how the population was affected by the die-off; the last area focused on determination of how the toxins were delivered to the manatees. Florida was directed to develop a gulf sturgeon aquaculture plan. The group will present the plan to the legislature and other involved agencies. Florida is also attempting to restore scallops in an area north of Tampa Bay. The life cycle of the scallop is only one year which makes it an unique organism to management. The plan is to gather scallops near spawning condition, spawn them and hold the larvae in a nursery until they reach a specified size. Then, these animals will be placed in ponds for grow out and once they reach the appropriate size, place them in field cages and hope that there is some synchronous spawning and establishment of new colonies.

Status of Freshwater Introduction Projects

T. Van Devender stated that the Bonne Carré is a freshwater diversion project which flows water from the Mississippi River into Lake Pontchartrain to control salinity and bring in nutrients, etc. Last summer, the Corps of Engineers determined there was no impact from the project and then the Governor of Louisiana would not support the project. Since then, there has been no action regarding this project. T. Van Devender noted that the freshwater diversion project is totally separate from the flood control structure that was opened early this week. J. Roussel stated that the Bonne Carré flood control structure began being opened on Monday. The structure consists of approximately 7,000 pins and plans are to open 4,300 of these pins. The goal is to maintain a maximum flow of 1.25 million ft^3/sec in New Orleans, LA.

Update and Schedule for Red Drum Tagging in the Gulf of Mexico

S. Nichols stated that the study was conducted in the 1980's, and it was estimated that there were 7 million fish, weighing 120 million pounds. About 75% of the fish was located between Mobile, Alabama and Galveston, Texas. There is a need to conduct the survey again for various reasons. One is to anchor the populations models. Another is to determine if the escapement of red drum is adequate as well as to determine if recruitment has improved. Also, it needs to be determined if the distribution of the fish has changed. To conduct the survey, it is necessary to use a purse seine vessel from the fishing industry. However, only one vessel provided a bid and it was well above the proposed funding. Therefore, the study has been postponed. The first aerial survey has been completed. The plan is to modify the bid to offer to use a smaller vessel and to use it in conjunction with a chartered NOAA vessel for the staff. Also, the sampling days will be cut from 90 to 60 days and will focus on working during the summer when the weather should be better. The age/growth portion of the project will be funded through MARFIN funds and it is planned to delay the second aerial survey to 1999. The total cost of the project is $1.97 million. This money will come from a variety of sources within the federal budget. The project is planned to begin in mid-June 1997.

Discussion of Red Tide Events in the Gulf of Mexico

C. Moncreiff stated that there were some unusual events of red tide blooms throughout the Gulf of Mexico. These events usually occur in Florida waters; however, the events are not common in the waters off Louisiana, Mississippi, and Alabama but there were several events in these states this year. She distributed a report which outlined the harmful algal blooms in the Gulf of Mexico during 1996. Although these events occurred in all of the Gulf States, she focused her discussion on Mississippi. She stated that the major event occurred from October 26 to December 11, 1996. The event caused water discoloration, due in part to co-occurring blooms of non-toxic species. There were moderate fish mortalities both inshore and on barrier islands, as well as mortalities of waterfowl and marine mammals. There was also some respiratory irritation reported by Department of Marine Resource's personnel and the presence of red tide was not uniformly distributed. There were shellfish harvest bans due to *Gymnodinium breve* red tide in Middle Bay and Mississippi Sound of Jackson County from November 2, 1996 to February 25, 1997; western Mississippi Sound in Hancock County were closed from November 7, 1996 to February 26, 1997 for Pass Marianne reefs; and Long Beach tonging reefs in nearshore western Mississippi Sound were closed November 7, 1996 to December 10, 1996. The species which caused the event was positively identified as *Gymnodinium breve*. Inshore waters in the immediate vicinity of routinely harvested oyster reefs had cell concentrations ranging from zero to greater than 6.3 x 105 cells per liter and samples from the vicinity of the barrier islands had cell counts ranging from negative to in excess of 13.6 x 106 cells per liter. The event occurred in the vicinity

of the barrier islands and in nearshore waters with salinity ranges of 5 - 30 ppt, and water temperature ranges of 12 - 27.1 °C.

F. Kopfler stated that the EPA Gulf of Mexico Program is currently developing a manual and video which outlines how to identify, take, and preserve samples of red tide organisms. They are also planning a workshop for interested personnel to discuss these issues, as well as establishing a network of information regarding this issue.

Subcommittee Reports

Anadromous Fish - D. Frugé stated that the Subcommittee reviewed the status of three anadromous fisheries projects being funded this year. One is a project to identify striped bass nuclear DNA genotypes from various river systems in the Gulf and it is already underway. Two projects that will begin later this year are a compilation of existing information on point and non-point contaminants sources in the Pascagoula River basin, and a summer temperature survey of the Pascagoula River. The group spent most of the day discussing administrative and technical aspects of implementing a project to focus on striped bass restoration in three Gulf of Mexico river systems. This project was funded by the Fish and Wildlife Service (FWS) under their Fisheries Stewardship Initiative. The project will focus on the Apalachicola-Chattahoochee-Flint, the Pascagoula and the Pearl River systems. Major aspects of the project will involve evaluation of stock enhancement evaluation and determining population structure, determination of critical habitat areas through radiotelemetry, and harvest surveys. The group also reviewed plans to hold a workshop on Gulf striped bass restoration this fall. The workshop will be funded by the FWS Federal Aid Program, and will take place sometime during late October to mid-December.

Artificial Reef - R. Lukens reported for Chairman Jon Dodrill that the Subcommittee is working on various projects. The group received a letter from the Navy regarding the GSMFC's resolution concerning the use of Navy ships as artificial reefs. The group is currently working on developing a regional data base for artificial reefs in the Gulf of Mexico. This data base will include a variety of information concerning the artificial reefs which are off the states in the Gulf of Mexico and will be available to interested personnel. The group has also recently completed and is in the process of publishing the artificial reef material guidelines document. This document provides guidance for the types of material that should be used for artificial reefs. The group is working in conjunction with the ASMFC to revise the National Reef Plan. R. Lukens presented a resolution which outlines the types of material that should be used for artificial reef construction. This issue arose due to an event in Florida where a county entity petitioned the Corps of Engineers to transfer the reef permit, which was held by the county, to an artificial reef organization within the county. In addition, the organization wanted to use some materials that were questionable as reef material. Therefore, the Subcommittee developed the resolution to provide some guidance for the types of material that should be used as reef material. After some discussion, **T. Van Devender moved to accept the resolution as amended. The motion was seconded and passed with Alabama abstaining.**

Crab - V. Guillory stated that the Subcommittee discussed the issue of limited entry as a management tool for crab fisheries. He stated that Texas and Louisiana are exploring the possibility of implementing limited entry programs in their states and will keep the TCC advised regarding the outcome. The group discussed the blue crab data base which consists of mainly trawl data (fishery-independent) as a source of data to conduct stock assessments for crabs. The group is currently revising the GSMFC Blue Crab Fishery Management Plan (FMP). It should be completed in late 1998. They are using data through 1996 as well as fishery-independent data for the revision. To date, several sections of the plan have been

completed. V. Guillory also provided an update concerning the trap tags issue and distributed a document which provides some more information regarding this topic.

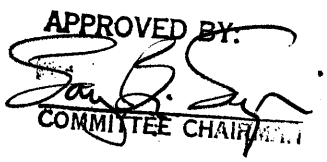
Data Management - S. Lazauski stated that the Subcommittee discussed the activities of the agencies regarding data collection and management issues. The group also discussed the events at the recent ComFIN/RecFIN(SE) meeting held in Washington, DC. The group compared the data elements developed by ComFIN/RecFIN(SE) with the elements developed by the Atlantic Coastal Cooperative Statistics Program (ACCSP) and determined that there was very little difference. The group spent some time developing a generic trip ticket program for the collection of commercial data. During that discussion, the group decided that it would be beneficial for the GMFMC and the states to endorse the concept of a trip ticket program. Therefore, **S. Lazauski moved that staff develop a letter to be sent to the GMFMC with the state directors endorsing the concept of trip ticket programs to ensure that the necessary data are collected for the improvement of fisheries management. The motion was seconded and passed unanimously.**

Habitat - D. Ruple reported that some of the members of the Subcommittee have participated in the development and revision of GSMFC FMPs. The group needs to develop guidelines for the types of habitat information that needs to be included in the plans. The group developed a poster which outlined the importance of habitat and it has been distributed to a variety of agencies and personnel. The Subcommittee will be revising the poster and redistributing it. R. Lukens distributed a handout titled *Regional Habitat Program for Fisheries*, which outlines a proposed process for implementing a cooperative habitat program between the GSMFC and the GMFMC. With the increase awareness on essential fisheries habitat, there needs to be a coordinated process. Most of the federally management species also include habitat sections which obviously occur is state waters. Therefore, states need to be involved in the process, thus the need for this cooperative process. The Committee thoroughly reviewed and discussed the proposed process and issue. After a lengthy discussion, **S. Lazauski moved to adopt the *Regional Habitat Program for Fisheries* process. The motion was seconded and passed with NMFS abstaining.**

R. Lukens noted that D. Ruple will be leaving his current position at the Mississippi Department of Marine Resources and begin working for the Nature Conservancy. The Subcommittee would like for D. Ruple to continue to serve on the group due to his vast knowledge of habitat issues. There was discussion regarding potential problems this might cause. After some discussion, the group decided to allow him to serve but as an ad hoc, non-voting participant. Therefore, **A. Huff moved to add D. Ruple to the Habitat Subcommittee as an ad hoc, non-voting member. The motion was seconded and passed unanimously.**

SEAMAP - R. Waller stated that the 1996 Marine Directory is published and will be distributed to interested personnel. The SEAMAP home page has received 750 visitors since April 1st and the real-time plots will be available on-line this year. The 1994 and 1995 Atlases are currently being processed and should be published later this year. A new data management system which is Windows 95 and OS2 based, has been developed and the group discussed the possibilities of conducting some training sessions for the system. The Subcommittee submitted for funding regarding chlorophyll sampling and unfortunately did not receive any money. Due to a shortage of personnel, the method for collection of chlorophyll is being examined. The Environmental Data Work Group was tasked with examining this issue and providing some guidance to the Subcommittee. The third phase of a 3-year comparative tow survey was completed and the results were presented to the group. The data shows that the vessels which collect SEAMAP data have similar fishing power.

There being no further business, the meeting was adjourned at 11:40 a.m.



STATE-FEDERAL FISHERIES MANAGEMENT COMMITTEE
MINUTES
Thursday, March 20, 1997
Biloxi, Mississippi

Chairman Larry Simpson called the meeting to order at 8:30 a.m. The following members and others were present:

Members
Ed Conklin, FDEP, Tallahassee, FL
Vernon Minton, ADCNR, MRD, Gulf Shores, AL
Corky Perret, MDMR, Biloxi, MS
John Roussel, LDWF, Baton Rouge, LA
Gene McCarty, TPWD, Austin, TX
Dan Furlong, NMFS, St. Petersburg, FL
Doug Fruge, USFWS, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS

Staff
Ron Lukens, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jim Duffy, GSMFC, Ocean Springs, MS
Cindy Yocom, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Others
Tom McIlwain, NMFS, Pascagoula, MS
Buck Sutter, NMFS, St. Petersburg, FL
Page Campbell, TPWD, Rockport, TX
Terry Cody, TPWD, Rockport, TX
Mike Ray, TPWD, Austin, TX
George Sekul, Biloxi, MS
Don Perkins, Houston, TX
Kay Williams, SASI, Pascagoula, MS
Dalton Berry, Zapata Protein, Mandeville, LA
Borden Wallace, Daybrook Fisheries, Empire, LA
Randy Rader, Gulf Protein, Amelia, LA
Wendell Lorio, MSU, Stennis Space Center, MS
Tom Herrington, GMP, Stennis Space Center, MS

Adoption of Agenda

The agenda was adopted as presented.

Approval of Minutes

The minutes of the meeting held on October 17, 1996 in New Orleans, Louisiana were approved as presented.

Menhaden Advisory Committee Report

1996 Fishing Season Report - Randy Rader, Chairman of the Menhaden Advisory Committee (MAC), reported that final landings of gulf menhaden in 1996 was 480,000 metric tons, which is up 3% over total landings for 1995, but down 12% from the previous 5 year average. 1996 totals however, are from five reduction plants, while there were six plants operating between 1992 and 1995. The Dulac, Louisiana factory was closed after the 1995 fishing season. Monthly landings steadily increased in April, May and June and were ahead of monthly landings for 1995. Landings in July fell, then climbed again in August and September. Landings in October fell, as four of five factories "cut-out" for the season by October 24, with Moss Point, Mississippi plant operating to the end of the season. A total of 51 vessels reported unloading gulf menhaden for reduction in 1996, although a few were tied-up in mid-season. Weather for purse-seine fishing was generally favorable. Researchers from Louisiana State University again mapped a large zone of oxygen depleted waters off the coast of Louisiana. Red tide organisms were blamed for fish kills off the coast of western Florida.

1997 Fishing Season Forecast - R. Rader reported that 5 menhaden factories will operate on the Gulf of Mexico in 1997, with and estimated 51 vessels working. It is predicted that 1997 gulf menhaden landings will be 513,000 metric tons. There are some concerns regarding the high water level of the Mississippi River, but it is difficult to determine the effects on catch at this time.

Pamphlet Update - R. Rader reported that final drafts of the menhaden pamphlet will be ready in April, with distribution to the public by mid-summer. The pamphlet is similar to the Atlantic pamphlet, with information on the life and history of gulf menhaden, products derived from menhaden, resource management, etc. (Attachment A)

R. Rader stated that the MAC has recommended that the Gulf States Marine Fisheries Commission (GSMFC) write a letter to the National Marine Fisheries Service (NMFS) supporting continued funding of the menhaden port sampling program in the amount of approximately $45,000. This program has a 33 year database. **C. Perret moved to accept the recommendation that a letter indicating support of the continuation of the menhaden port sampling program be sent to the National Marine Fisheries Service. The motion was seconded and passed unanimously. J. Roussel moved to accept the Menhaden Advisory Committee report. The motion was seconded and passed unanimously.**

Interjurisdictional Fisheries Management Program Report

Status of IJF Fishery Management Plans - J. Duffy reported that there are currently two Fishery Management Plans (FMP) under development, spotted seatrout and flounder. The Habitat Subcommittee is currently working on the habitat sections for both species. J. Duffy is in the process of drafting a description of the spotted seatrout fishery in the gulf with landings being broken down by state. C. Adams has completed economic surveys on spotted seatrout and flounder and the economic sections are now in draft form. Dr. Ditton of Texas is currently working on the sociology section of the spotted seatrout FMP. The state stock assessments on spotted seatrout are complete and the assessment will include the five gulf

states' assessments and a qualitative description summarizing the status of the stock which is currently being drafted by B. Muller of Florida. The target date for presentation to the Technical Coordinating Committee is fall 1997. Texas and Louisiana will conduct in-state stock assessments for flounder and the remainder of this fishery in the gulf will be described.

J. Duffy reported that the Blue Crab Technical Task Force (TTF) has met several times and the revision of the blue crab FMP is progressing well. There is a Blue Crab TTF meeting planned next month in Fort Walton Beach, Florida in conjunction with the National Shellfisheries Association as well as a blue crab stock assessment workshop.

There was general discussion on choosing the next species, with sheepshead, Atlantic croaker, and tripletail being suggested. L. Simpson stated that staff will likely try to complete one of the three plans currently under development before beginning any new fishery management plans. Also discussed was the issue of what data would be most beneficial to begin collecting in terms of future stock assessments. R. Lukens explained that one of the purposes of the RecFIN/ComFIN process is to make the link between the data collection programs and the stock assessment needs. D. Donaldson explained that RecFIN/ComFIN program has developed a process to identify priority species. J. Roussel suggested the possibility of using the GSMFC forum to develop a process to define the elements of a management plan. **G. McCarty motioned that in the future, the normal progression for activities with regard to the species under consideration, is to work through to the profile development stage, then decide whether to go forward with a fishery management plan. The motion was seconded and passed unanimously.**

Otolith Handbook Update - J. Duffy reported that the Otolith Handbook is intended to be a manual to assist scientists in the gulf in preparation for stock assessment. A handout was distributed to committee members outlining the areas being covered in the handbook and a list of the participants involved in writing the handbook. The target date for completion of this document is early 1999. R. Lukens stated that much of the NMFS otolith processing has been done at the Panama City Lab and because of retirements, etc. there is a manpower problem. It was recommended that a cooperative effort be discussed with Dr. Brown to use combined otolith processes in the southeast region to establish standards and protocols for otolith processing.

Stock Assessment Training Workshop Update - J. Duffy reported that there is a 3-day stock assessment workshop being held in early October 1997 in Anchorage, Alaska. After discussion, it was decided that any material available on the workshop will be furnished to state directors and then a conference call will be held to determine attendance at workshop.

RecFIN/ComFIN Report

D. Donaldson reported on the RecFIN/ComFIN meeting held March 6 through 9, 1997 in Washington, DC. The location of the meeting enabled congressional aides, U.S. Fish & Wildlife Service (USFWS), NMFS, etc. to attend, in addition to representatives of the commercial and recreational sectors. The ComFIN morning meeting was a data error correction work session, and the committee meeting covered state/federal cooperative ageing activities, data collection planning and tracking processes. The trip interview program is being revised, with a more modular program to reflect trip based information. The FIN Committee discussed issues common to both Rec/FIN and Com/FIN. At this meeting, the FIN brochure was planned with general information on the program, and the FIN annual report for 1996 was approved. During the Rec/FIN meeting the 1997 operations plan was approved, identifying 24 tasks for the year. One ongoing

task is identifying duplicative data collection and management activities. The Rec/FIN committee is also studying the use of state licenses as a sampling frame.

The Rec/FIN committee is also working on the charter boat pilot survey. This survey will compare current Marine Recreational Fisheries Statistics Survey (MRFSS) telephone methods, captains telephone survey, and logbook methods for collecting effort data. When the pilot survey is completed, an evaluation of the three methods will determine which is the most accurate. Florida and GSMFC are currently developing a list of charter and guide boat operators in the gulf. Public outreach meetings are planned and a brochure will be developed to inform industry about activities. D. Donaldson stressed the importance of industry's input to the program. There is currently no funding identified for this survey this year.

There is a meeting scheduled at the end of April between GSMFC and MRFSS staff to review cooperative agreement proposal submitted by GSMFC to conduct intercepts in the Gulf of Mexico. The MRFSS critical review of this proposal will enable GSMFC to further develop the proposal.

Establishment of *Ad Hoc* Legal Advisory Panel Input Protocols

J. Duffy reported that the *Ad Hoc* Legal Advisory Panel met on 3/19/97 in Biloxi, Mississippi. John Henry of Mississippi was named Chairman and Larry Simpson was named Vice-Chairman of the panel. The mission of the panel is: *to enhance and improve cooperation and communication between state and federal entities responsible for enforcement and litigation of state and federal conservation laws by addressing those legal issues deemed important to the goals of the Gulf States Marine Fisheries Commission.*

J. Duffy also reported that two actions were approved by the panel for action by the Commission. The first was a motion that the GSMFC staff write a letter to the appropriate federal authority requesting that they publicly announce their intent to vigorously enforce federal fisheries regulations. The second action item is that the GSMFC will work with states and federal groups to arrive at an agreeable time, place and structure for conducting the next step in this process. The *Ad Hoc* Legal Advisory Panel will meet on an as-needed basis with oversight provided by the SFFMC. By consensus, the committee agreed to do this.

After lengthy discussion on the subject of National Oceanic and Atmospheric Administration (NOAA) General Council and NOAA/NMFS law enforcement in federal waters of the Gulf of Mexico, **C. Perret moved to direct staff to write an appropriate letter to the Atlantic States Marine Fisheries Commission (ASMFC) and the Pacific States Marine Fisheries Commission (PSMFC) identifying the problems experienced in the Gulf and request their input. The motion was seconded and passed unanimously.**

Approval of Plans for Implementation of Commercial/Recreational Fishery Advisory Panels

J. Duffy outlined the proposed structure and function of the Commercial/Recreational Fishery Advisory Panel. Following discussion, changes were noted (see Attachment B) and **J. Roussel moved to present to the Commission recommendations for the implementation of the Commercial/Recreational Fishery Advisory Panel. The motion was seconded and passed unanimously.**

Establishment of Tentative Dates for Summer State Directors' Meeting in Florida

Ed Conklin briefed members on possibilities for the summer State Directors' Meeting to be held in Florida. Selected as possible dates were the weeks of June 16, June 23 and August 25. The first choice for a meeting site was Apalachicola, with the second choice being Naples. E. Conklin will keep state directors apprized of details.

Other Business

L. Simpson reported on the red drum tagging and recapture effort, stating that S. Nichols has indicated the NMFS has funding for the program and B. Sutter indicated that $500,000 in disaster money is available. Plans call for tagging to begin in June. Louisiana State University will provide volunteer students to assist with tagging. J. Roussel noted that the state of Louisiana is also considering a red drum tagging program. L. Simpson stated that this program is a replication of Nichols, et al. C. Perret suggested that the NMFS provide their project proposal to the states and
B. Sutter noted that J. Bullard's office would be able to provide this information. There will be further discussion on the red drum tagging and recapture effort at the Commission business session.

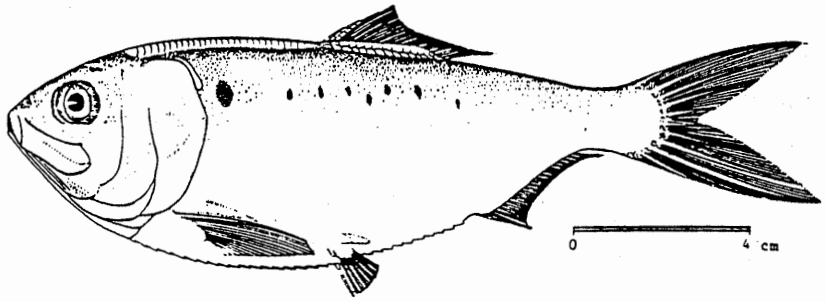
State directors were asked to provide licensing fees to GSMFC for annual report.

There being no further business, the meeting was adjourned at 11:40 a.m.

DRAFT

GULF MENHADEN FACT SHEET

The gulf menhaden fishery is the largest and most productive fishery on the U.S. Gulf Coast. Since World War II, it has provided many Gulf Coast communities with a stable source of employment, and the nation with a major source of protein on a sustainable, renewable, and environmentally sound basis.



Life History/Biology:

Gulf menhaden occur in estuarine and coastal waters from the Yucatan Peninsula, Mexico, to Tampa Bay, Florida, and serve as prey (food) for many marine fish and sea birds.

Adult and juvenile menhaden feed by straining plankton from the water.

Sexual maturity begins at late age-1 with major spawning areas across the northern Gulf of Mexico; spawning occurs primarily offshore (20-30 miles) late fall through early spring.

Buoyant eggs hatch at sea, and larvae are carried into estuarine nursery areas by ocean currents; larvae transform into juveniles in estuaries.

Adult and juvenile menhaden do not exhibit pronounced longitudinal (east-west) migrations along the Gulf Coast, although there is a tendency to find older and larger fish toward the center of their range (the Mississippi Delta).

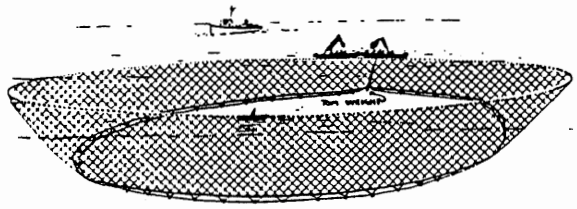
Adult and juvenile menhaden form large, near-surface schools primarily in estuaries and nearshore ~~ocean~~ waters of the Gulf of Mexico from early spring through fall.

One-year old gulf menhaden are about 6 inches long (snout to fork in the tail) and weigh 2-3 ounces, and 3-year old gulf menhaden are 8 inches long and weigh over 5-6 ounces.

Fisheries:

The purse seine (Fig. 1) fishery for gulf menhaden dates from the late 1800s; generally, landings were sporadic and insignificant prior to World War II.

Fig. 1. Menhaden Purse Seine



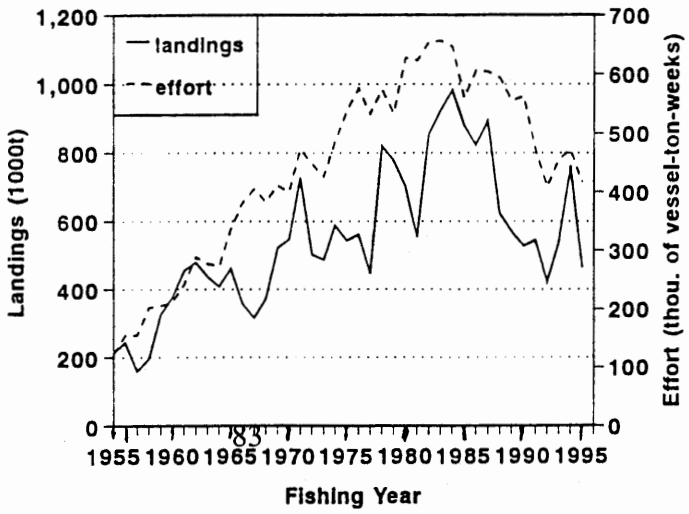
MENHADEN PURSE SEINE

Many established menhaden companies on the U.S. East Coast moved some or all of their processing operations to the Gulf Coast after World War II.

Major innovations in harvesting technology after World War II included use of spotter aircraft, radio communications, nylon nets, hydraulic power blocks, aluminum purse boats, fish pumps, and large carrier vessels (greater than 150 ft length) with refrigerated fish holds.

Landings and fishing effort generally rose from 1946 with peak landings in 1984 (982,800 metric tons) and peak fishing effort in 1983 (Fig. 2). During the 1990s landings have averaged 534 ~~543~~,000 metric tons per year; landings consist primarily of age-1 and age-2 gulf menhaden.

Figure 2. Gulf Menhaden (1955-95)



Between 1950 to 1990 the number of vessels ranged between 64 and 82, while the number of plants ranged between 7 and 14. Since 1992, about 50 vessels have operated from 5 or 6 plants.

Gulf menhaden are exploited in near-coastal waters from Alabama to eastern Texas; with active reduction plants in 1996 located in Mississippi (1) and Louisiana (4).

Since 1993, 72% of annual U.S. Gulf Coast commercial fisheries landings by weight were gulf menhaden valued at $66.5 million.

Approximately, 60% of the gulf menhaden catch is harvested from within 3 miles of the Gulf shoreline, that is, from within state waters (0-3 miles from shore).

Landings of gulf menhaden for bait have been increasing in importance; in 1993 landings of gulf menhaden for bait were estimated at about 27 million pounds, or 3% of the catch for reduction.

Major studies during the mid-1990s by Louisiana State University, reaffirmed earlier findings that the gulf menhaden purse-seine fishery is an exceptionally "clean" fishery; that is, the purse-seine fishery for gulf menhaden has a negligible incidental catch of other species.

Products:

The purse seine fishery for reduction processes menhaden into fish meal, fish oil, and fish solubles.

Fish meal is used as a high quality protein component in poultry, swine, and aquaculture feeds, and in pet foods.

Fish oil is high in omega-3 fatty acids, which have been linked to positive health effects in humans.

Partially hydrogenated menhaden oil was recently approved by the FDA for use in foods for human consumption in U.S.

In Europe and Canada fish oil is used primarily in margarine; in the U.S. it is used in the production of water-resistant paints and cosmetics.

Fish solubles are rich in vitamins and numerous cofactors; after undergoing an evaporative process, most solubles are recombined with fish meal to form an "enriched" meal, although solubles are sometimes marketed as liquid to be added to various animal feeds.

Catches from the purse seine bait fishery are used in blue crab, crayfish, and eel fishing; also used by sport fishermen as chum and cut or live bait for sportfishes such as king mackerel, red drum, sharks, and tunas.

Resource Management:

State and federal agencies cooperatively conduct research and monitor the resource.

Responsibility for regulation of the menhaden fishery resides with the individual Gulf states. The Gulf States Marine Fisheries Commission (GSMFC), an interstate organization which promotes cooperative management of migratory fish species along the Gulf Coast, provides coordination and advisory functions relative to the management of gulf menhaden.

A Gulf Menhaden Management Plan was adopted in 1977 through the GSMFC. The Management Plan was revised in 1983, 1988, and 1995.

Beginning in 1993, the traditional gulf menhaden fishing season (mid-April to mid-October, 26 weeks) was extended by two weeks into late October; thus, the current fishing season is 28 weeks long.

State regulations include purse-seine mesh size, limits on bycatch, closed areas and seasons.

Commercial/Recreational Fishery Advisory Panel

Structure

a. Single advisory body, with two subunits which reflect commercial or recreational orientation
b. Each subunit composed of equal membership not to exceed ten members per unit
c. Panel members to be proposed by S-FFMC, confirmed by Commissioners
d. Panel chair to rotate between commercial and recreational orientations, term to be determined by Commission, subunits to designate separate chairs from within

Function

a. Panel meets twice per year, in conjunction with GSMFC spring and fall meetings
b. Panel meets together first, for staff and state/federal presentations and common agenda
c. Panel then separates into subunits for deliberations and agenda items
d. Panel returns to group setting for discussion and collective action
e. Panel to provide structured input into FMP development process
f. Panel to provide input to S-FFMC for consideration and elevation to Commission

Support

a. IJF program to fund travel for all initially, to evolve as appropriate
b. IJF and Sportfish Restoration Program staff to develop agendas and monitor meetings

Structure and function of this proposed panel should change or evolve as necessary to effectuate member commitment and attendance. Practical provisions for dealing with member turnover should be made during the formation of the panels. The Commission or the S-FFMC may wish to add an environmental perspective such as that offered by The Nature Conservancy, Sierra Club, etc., among others.

APPROVED BY:
COMMITTEE CHAIRMAN

COMMISSION BUSINESS MEETING
MINUTES
March 20, 1997
Biloxi, Mississippi

Chairman Walter Penry called the meeting to order at 1:06 p.m. L. Simpson noted that a quorum was present. He reviewed pertinent rules and regulations regarding the appropriate meeting procedures. W. Penry stated that since there was some new Commissioners present that it would be appropriate for all present to briefly introduce themselves.

The following Commissioners and/or proxies were present:

Commissioners
Ed Conklin, FDEP, Tallahassee, FL
Vernon Minton, ADCNR/MRD, Gulf Shores, AL (proxy for James Martin)
Walter Penry, AL House of Representatives, Daphne, AL
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Gene McCarty, TPWD, Austin, TX (proxy for Andrew Sansom)
L. Don Perkins, GSMFC, Houston, TX
Corky Perret, MDMF, Biloxi, MS (proxy for Glade Woods)
George Sekul, Gulf Central Seafoods, Inc., Biloxi, MS
Fred Miller, GSMFC, Shreveport, LA
John Roussel, LDWF, Baton Rouge, LA (proxy for James Jenkins)
Staff
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Ginny Herring, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jim Duffy, GSMFC, Ocean Springs, MS
Nancy Marcellus, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS
Cynthia Yocom, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS
Others
Dan Furlong, NMFS, St. Petersburg, FL
Buck Sutter, NMFS, St. Petersburg, FL
Doug Fruge, USFWS, Ocean Springs, MS
Bill Fox, NOAA/NMFS Silver Springs, MD
Tom McIlwain, NMFS, Pascagoula, MS
Mike Ray, TPWD, Austin, TX
Kay Williams, SASI, Pascagoula, MS
Clyde Kimball, LDWF, Baton Rouge, LA

Adoption of Agenda

The agenda was adopted with the following changes: Move Item 9 up in the agenda to follow Item 4 a. **C. Perret motion to approve changes. C. Nelson seconded. The motion passed.**

Approval of Minutes

E. Conklin motioned to approve the minutes of the October 17-18, 1997 meeting as presented. C. Perret seconded. The motion was passed.

Law Enforcement Committee (LEC)

L. Simpson reported on behalf of Jerry Waller, Chairman for the LEC. The LEC did not meet during the GSMFC 47th Annual Spring Meeting. However, members were in attendance and participated in the newly formed Ad Hoc Interjurisdictional Legal Panel meeting. The LEC requests a meeting of the committee be held prior to the Interstate Shellfish Sanitation Conference (ISSC), which will be held in August 1997. Topics to be discussed at that meeting will include discussion to recent changes in NOAA FIN Policy, law enforcement sections to fishery management plans, and ISSC preparation. **C. Perret motion to approve the report. V. Minton seconded. The motion passed.**

NOAA Research Vessels Presentation

Dr. Bill Fox, NMFS, Senior Scientist for fisheries reviewed the status of the NOAA Research Vessels. He reported that fishery research vessels (FRVs) were essential for accurate fish stock assessment and the only means for recruitment prediction, ecosystem management and whale and dolphin stock assessment. A dedicated FRV has to meet certain mission requirements that include the ability to survey fish and their environment; NOAA must have control over deployment; it must be equipped with research grade hydroacoustics; it must be quiet, multipurpose, and calibrated. He stated that current FRVs do not meet these mission requirements and are nearing the end of their useful life. Although work is being done to upgrade the current fleet, more modern FRVs would not only save money for each day at sea but would allow for scientifically valid charters. He reported that although NOAA's current fleet are obsolete, they are serviceable while new vessels are built. NOAA needs ships with modern technologies to support resource management roles in light of FCMA legislation, and to reduce operating and maintenance costs. The current workload demands at least six FRV's working with charter ships.

In closing, Dr. Fox reviewed assistance that has been received from other government agencies as well as NOAA. The President's proposed budget reflects $2.1 million to do work on design. He briefed the Commissioners on three classes of FRV needs and efforts to identify problems that they have experienced in the past. He is optimistic that NOAA's fleet will be maintained and upgraded.

Technical Coordinating Committee (TCC) Report

C. Perret reported that the TCC met on Wednesday, March 19, 1997. A major topic discussed was the unusual events of red tide blooms throughout the Gulf of Mexico. C. Moncreiff distributed a report on these events. V. Minton briefed the Commissioners on K. Steidenger's theory regarding this offshore phenomenon. Other topics discussed included the flooding of the Mississippi river systems which will lower salinity conditions in the Northern Gulf at a time of year when recruitment is high for certain fisheries. C. Perret stated that the Bonne Carré has been opened to relieve the uncontrollable flood waters and he expects high mortality in the oyster fishery due to freshwater. It was noted that this opening had nothing to do with the freshwater diversion project. C. Nelson asked if the introduction of freshwater could help control the red tide blooms. E. Conklin stated that it had been considered as an option in Florida, but has not been tried because it may cause the situation to get worse before it got better. He did note that red tide was subsiding

in Florida. C. Perret stated that circumstances in Mississippi would not permit the introduction of freshwater as a means to control red tide.

The TCC received reports from the Anadromous Fish Subcommittee, Artificial Reef Subcommittee, Crab Subcommittee, Data Management Subcommittee, Habitat Subcommittee and SEAMAP Subcommittee. The Anadromous Fish Subcommittee is continuing work in three major areas. C. Perret asked that they notify all Commissioners regarding an upcoming workshop on Gulf Striped Bass Restoration. The SEAMAP Subcommittee distributed the 1997 Marine Directory.

R. Lukens discussed action items requested by the Habitat Subcommittee. He presented NMFS's draft "Framework for the Description, Identification, and Enhancement of Essential Fish Habitat". He stated that the Commission, GMFMC, ASMFC and the State of Texas have reviewed and commented on the framework. He pointed out that although the essential fish habitat concept applies to Federal FMPs, most of the species under Federal management require estuarine habitats that occur in State jurisdictional waters. With increased awareness on essential fisheries habitat, there needs to be a coordinated process. The Habitat Subcommittee recognizes the need to develop a cooperative process to address these issues. After discussion at a recent GMFMC Habitat meeting, R. Lukens developed "A Regional Habitat Program for Fisheries", which was approved by the Habitat Committee and the TCC Subcommittee. He distributed copies to the Commissioners and briefed them on this approach. Due to staff and funding limitations, the Commission and GMFMC would jointly fund and staff a habitat program that would be housed in the Commission offices and would address the Federal requirements mandated in NMFS "Framework for Description, Identification Conservation, and Enhancement of Essential Fish Habitat". There was a great deal of discussion regarding the amount of money to be contributed by the Council and by the Commission. C. Perret felt like the Council should contribute at least $30,000 to $35,000. L. Simpson discussed the personnel issues and what the position would be responsible for. The major responsibility would be an essential fish habitat, but other responsibilities would include habitat issues addressed by the Commission's ongoing IJF and SFP Projects. R. Lukens commented that the Council was agreeable to this concept once all details were thoroughly worked out. The discussion paper he presented is not a definitive plan but the beginning of the process development. It was agreed that the NMFS and Council will have to meet the mandate of the FCMA Amendment by October 11, 1997, with or without the Commission or States, and further agreed that State input on essential fish habitat was necessary. **C. Nelson motioned to authorize the Commission staff to negotiate with the Council on the concepts outlined in "A Regional Habitat Program for Fisheries"; to use existing Commission funds as partial support, to work with the Council in determining their fair share of funding; and, to get final approval from the Commission before finalizing an agreement. D. Perkins seconded. The motion passed.**

C. Perret discussed other actions required on behalf of the Habitat Subcommittee. **C. Perret motioned the David Ruple be added to the Habitat Subcommittee membership as an ad hoc, non-voting member. E. Conklin seconded. The motion passed.**

Other Subcommittee's requiring Commission action was the Data Management Subcommittee. **C. Perret motioned to direct Commission staff to write a letter to State Director's and the GMFMC endorsing the development of a State trip ticket systems to ensure the availability of better data for fisheries management. D. Perkins seconded.** There was discussion regarding whether or not this was duplicating existing systems or replacing them. D. Donaldson pointed out that there was no duplication, but an enhancement that would provide a component to the existing systems to get data that is not currently available. It will identify the universe of fishermen. **The motion passed.**

C. Perret presented a Resolution on behalf of the Artificial Reef Subcommittee entitled "Resolution on the Use of Selected Materials of Opportunity as Artificial Reef Material". **C. Perret motioned to approve the Resolution. J. Roussel seconded.** V. Minton stated that commercial fishermen in Alabama have had problems with materials that disassociate in the marine environment. C. Nelson and V. Minton were both concerned with this issue and requested that the vote on this resolution be delayed until the next morning, allowing them time to reword the resolution to address their concerns. The Commissioners agreed to **table the vote**, until the next morning. Subsequently, V. Minton did rewrite the resolution adding language regarding materials that disassociate in the marine environment. **V. Minton motion to accept the revised resolution. C. Perret seconded. The motion passed.** (Copy attached.)

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

L. Simpson stated that the S-FFMC met just prior to this meeting. He briefed the Commissioners on the report from the Menhaden Advisory Committee (MAC). The 1996 menhaden season was up 3% over 1995, but down 12% from the last five-year average. He reported that 440,000 vessel ton weeks of effort were expended and fifty-one vessels were used to land fish for reduction. The only plant that fished until the very end of the season was Moss Point. In the 1997 season, five plants will be operating with fifty-one vessels fishing (which includes two bait vessels). L. Simpson reported that the MAC requested that the Commission send a letter to the appropriate people supporting the continuation of the port sampling data collection program. This program has been ongoing for the last 33 years and has not been funded this year. **J. Roussel motioned to send the letter of support to the appropriate persons. C. Nelson seconded. The motion passed.**

Other topics addressed in the S-FFMC included the status of IJF FMPs. Two FMPs are currently being worked on, spotted seatrout and flounder. The Crab Subcommittee is currently working on a revision to the blue crab FMP. The next species to be addressed will be sheepshead or tripletail. L. Simpson reported that in the future, the S-FFMC agreed to address a new species for FMP by first developing a profile, than deciding whether to go forward with developing a FMP.

Also, discussed was an Otolith Handbook and a Stock Assessment Training Workshop. The committee also received a report on RecFIN/ComFIN projects. L. Simpson reported that there was extreme interest in this data collection project being generated in Congress.

L. Simpson stated that the S-FFMC received a report for the IJF Ad Hoc Legal Advisory Panel. The S-FFMC requested that Commission staff write a letter to the appropriate Federal authority requesting that they publicly announce their intent to vigorously enforce Federal fisheries regulations. **V. Minton motioned to approve the committee's request. J. Roussel seconded. The motion passed.** L. Simpson reported that the Commission will work with the States and Federal groups to arrive at an agreeable time, place and structure for conducting the next step in this process. Another request from this group was to have the Commission write a letter to the ASMFC and the PSMFC identifying the problems experienced in the Gulf and request their input. **F. Miller motioned to write the letter. C. Nelson seconded. The motion passed.**

L. Simpson presented a final request of the S-FFMC regarding approval of a protocol for development of the S-FFMC Commercial and Recreational Fishery Advisory Panel. A revised protocol was distributed for review. After discussion, the protocol that was distributed was modified to delete the last paragraph, which was descriptive and not necessary. **J. Roussel motioned to approve the protocol. V. Minton seconded. The motion passed.** (Copy attached)

NMFS/Southeast Regional Office (SERO) Report

D. Furlong reported on behalf of the NMFS/SERO. He distributed an NOAA News Bulletin regarding amendments to the Sea Turtle Conservation Measures. This amendment establishes Shrimp Fishery Sea Turtle Conservation Areas (SFSTCAs) in the Atlantic and Gulf. It also states that within the SFSTCAs, effective March 1, 1997, the use of soft TEDs is prohibited. In addition the amendment requires TEDs to be installed in try nets with a headrope length greater than 12 ft. or a footrope length greater than 15 ft. Specific instructions are provided for trawlers fishing with a hard TED. He reported that effective December 19, 1997, in the entire Atlantic and Gulf SFSTCAs TEDs must be installed in try nets; and, certain soft TEDs will not be approved. D. Furlong stated that NMFS is trying to get approval of some soft TEDs prior to December 19.

C. Perret questioned the need for TEDs in 12 ft. try nets. C. Nelson commented that regardless of what the data are on the number of sea turtles drowning in try nets, this in fact is a positive thing because it indicates the dramatic rebound of the stocks of sea turtles. Unfortunately, as the industry has complied at a very high rate with TED regulations and has contributed to the rebound of the sea turtle stocks, they can only look forward to more restrictive regulations. J. Roussel stated that regulations do not require the use of a TED for a hand pulled net, since they are not pulled long enough to drown a turtle. Try nets are not pulled long enough to drown a turtle so why require a TED. This type of inconsistency needs to be addressed.

D. Furlong reported that the Endangered Species Act (ESA) was up for reauthorization. It has been introduced in the House and Senate. It has not yet been acted on.

He briefed the Commissioner's on the GMFMC's Amendment 9 to their Shrimp FMP which mandates the use of bycatch reduction devices (BRDs). The NMFS is currently encouraging industry to experiment with existing and new BRDs and to develop as many acceptable designs as possible. They will continue to provide technology transfer and educational assistance to the industry so that the maximum benefit of these devices can be utilized. In order to prevent a disruption to the snapper fishery, the current TAC will remain at 9.2 million pounds until the effective date of Amendment 9, to the Shrimp FMP. F. Miller stated that in Louisiana, snapper fishermen are confused because they are seeing and catching more fish than ever. They are not having a problem catching their creel limit of legal size fish. They are not seeing large numbers of undersized fish. Yet they continue to hear of a potential closure in the snapper fishery and of problems in the fishery. F. Miller asked if there is a problem with the stock assessments? What is NMFS problem with the fishery? D. Furlong stated that Congress has also asked this question and has made funds available to the NMFS to have an independent panel address NMFS red snapper stock assessment. This report will be available for review within the year. C. Perret stated that fishermen in other States are also confused and asking the same question.

USFWS Region 4 Office Report

D. Frugè reported on behalf of USFWS Region 4. He reported that the Southeast Region's Fisheries and Aquatic Resources Strategic Plan (formerly Fisheries Vision document) will be completed and ready for distribution in May 1997. He noted that Conrad Fjetland, Assistant Regional Director will be retiring the end of March.

D. Frugé updated the Commissioners on the status of the edible brown mussel found in Texas coastal waters. Although the Corpus Christi office continues to monitor their distribution, their movement has not

gone any farther up the coast than Brazoport. He reported that observations show that the mussels may be limited in growth and expansion by temperature.

In regards to the FY 1998 budget, D. Frugè reported that in the President's budget there is a 5% increase over 1997. The total FY 1998 allocation is $688 million. The Fisheries Program increased by 4%. He also reported that the State's apportionment from the Federal Aid in Sport Fish Restoration Fund will be 40% higher this fiscal year. This increase was due to unappropriated funds intended for the Coast Guard being transferred to fish and wildlife programs. This was a one time increase.

D. Frugè reported that the fishery transfers that the Southeast Region was directed to implement has been completed. All hatchery transfers were accomplished without terminating any personnel.

J. Roussel asked D. Frugè if the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, covered vegetation. D. Frugè replies that is did cover aquatic vegetation. C. Nelson asked if there is any possibility of brown mussels being harvested in conjunction with oyster reefs south of Houston. D. Frugè said he did not know of any being harvested, but to be on the look out for them when using shell from that area to replant reefs in Alabama. G. McCarty stated that no brown mussels have been identified on oyster reefs in the Brazosport area.

Status of Red Drum Tag and Recapture Project

Scott Nichols, NMFS, Pascagoula Laboratory reviewed the Red Drum Tag and Recapture Project conducted in the 1980s. It was estimated that there were 7 million fish, weighing 120 million pounds involved in that study. About 75% of the fish were located between Mobile, Alabama and Galveston, Texas. He stated that in order to anchor the population models and to determine if the escapement of red drum is adequate as well as to determine if recruitment has improved, another survey needs to be conducted. It will also determine if the distribution of the fish has changed. To conduct the survey, it will require the use of a purse seine vessel. Although bids were solicited from the fishing industry, only one proposal was submitted and it was well above the proposed funding level. This will delay the study. An aerial survey has been completed. S. Nichols stated that they are modifying the study plan and will now accept bids from smaller vessels that will be used in conjunction with chartered NOAA vessels. The sampling days will be cut from 90 days to 60days and will focus on working during the summer when the weather is more suitable. The age/growth portion of the project will be funded through MARFIN. The second aerial survey will begin in 1999. The total cost of the project is $1.97 million and will be funded through various federal sources. The project is slated to begin in mid-June 1997.

J. Roussel asked when will NMFS have an exact start date. S. Nichols replied that as soon as funds are available, the start date will be set. J. Roussel also stated that unless the research protocol endorsed by the GMFMC and Council is carefully followed, the data will be worthless. S. Nichols stated that although there have been some minor changes such as the size of vessels, NMFS also recognizes the need to closely follow previous research protocol. Louisiana is prepared to begin tagging independent of NMFS if NMFS follows through on its commitment for the research as well as funding.

The meeting recessed at 5:05 pm until the following morning at 8:30 am.

GULF STATES MARINE FISHERIES COMMISSION
P.O. Box 726, Ocean Springs, MS 39566-0726
(601) 875-5912 (FAX) 875-6604

Larry B. Simpson
Executive Director

RESOLUTION

ON THE USE OF SELECTED MATERIALS OF OPPORTUNITY

AS ARTIFICIAL REEF MATERIAL

WHEREAS the National Fishing Enhancement Act of 1984 (P.L. 98-623) established the need for and mandated the development of a National Artificial Reef Plan (National Plan), and

WHEREAS the National Marine Fisheries Service was required to draft the National Plan, and

WHEREAS the National Plan was completed and adopted in 1985 as NOAA Technical Memorandum NMFS OF-6, and

WHEREAS the National Plan set forth criteria for application to the use of materials in development of artificial reefs, and

WHEREAS these criteria require that artificial reef materials be functional as long-term habitat for invertebrate and vertebrate living aquatic resources, compatible with the environment into which they are placed, durable enough to withstand the rigors of the natural environment and still retain their functional capability, stable enough to remain in place through natural storm events and man-made perturbations, and available for use by artificial reef programs, and

WHEREAS materials of opportunity, or man-made substances that are no longer useful for their primary purpose, have been used for decades in the United States as artificial reef material, and

WHEREAS materials of opportunity include, but are not limited to, concrete rubble, automobile and other vehicle bodies, vehicle tires, white goods (washing machines, clothes driers, refrigerators, etc.), aircraft, railroad cars, steel-hulled vessels and barges, oil and gas structures, military battle hardware, among a host of others, and

WHEREAS many materials of opportunity meet the criteria set forth in the National Plan for artificial reef development, while others do not, and

WHEREAS the Gulf States Marine Fisheries Commission developed and published "Guidelines for Marine Artificial Reef Materials" (1997), and

WHEREAS that document provides a recitation of experiences with the use of selected materials of opportunity as artificial reef material, along with a listing of benefits, drawbacks, and recommendations regarding such use, and

WHEREAS some of the materials exhibit more drawbacks than benefits when used as artificial reef materials; therefore, they do not meet the criteria, set forth in the National Plan, for artificial reef development,

THEREFORE BE IT RESOLVED that the Gulf States Marine Fisheries Commission recommends against the use of materials for artificial reef development that may disassociate in the marine environment, thus making the resulting disassociated pieces free to the environment, and

BE IT FURTHER RESOLVED that the Gulf States Marine Fisheries Commission recommends against the use of the following materials of opportunity for artificial reef development:

- passenger automobile bodies
- non-fighter aircraft
- fiberglass boat hulls and molds
- white goods, including washing machines, clothes driers, refrigerators, and other appliances
- wooden vessels and other wooden materials

BE IT FURTHER RESOLVED that this resolution be provided to the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service for application to consideration of permit requests for development or enhancement of artificial reefs in the Gulf of Mexico region.

Given this the 21st day of March in the year of Our Lord, One Thousand, Nine Hundred, Ninety-seven.

Walter Penry

Walter Penry, Chairman

Commercial/Recreational Fishery Advisory Panel

Structure

a. Single advisory body, with two subunits which reflect commercial or recreational orientation
b. Each subunit composed of equal membership not to exceed ten members per unit
c. Panel members to be proposed by S-FFMC, confirmed by Commissioners
d. Panel chair to rotate between commercial and recreational orientations, term to be determined by Commission, subunits to designate separate chairs from within

Function

a. Panel meets twice per year, in conjunction with GSMFC spring and fall meetings
b. Panel meets together first, for staff and state/federal presentations and common agenda
c. Panel then separates into subunits for deliberations and agenda items
d. Panel returns to group setting for discussion and collective action
e. Panel to provide structured input into FMP development process
f. Panel to provide input to S-FFMC for consideration and elevation to Commission

Support

a. IJF program to fund travel for all initially, to evolve as appropriate
b. IJF and Sportfish Restoration Program staff to develop agendas and monitor meetings

APPROVED BY:
COMMITTEE CHAIRMAN

COMMISSION BUSINESS MEETING
MINUTES
March 21, 1997
Biloxi, Mississippi

Chairman Walter Penry called the meeting to order at 8:30 a.m.

The following Commissioners and/or proxies were present:

Commissioners
Ed Conklin, FDEP, Tallahassee, FL
Vernon Minton, ADCNR/MRD, Gulf Shores, AL (proxy for James Martin)
Walter Penry, AL House of Representatives, Daphne, AL
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Gene McCarty, TPWD, Austin, TX (proxy for Andrew Sansom)
L. Don Perkins, GSMFC, Houston, TX
Corky Perret, MDMF, Biloxi, MS (proxy for Glade Woods)
George Sekul, Gulf Central Seafoods, Inc., Biloxi, MS
Fred Miller, GSMFC, Shreveport, LA
John Roussel, LDWF, Baton Rouge, LA (proxy for James Jenkins)
Warren Triche, GSMFC, Thibodaux, LA

Staff
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Ginny Herring, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jim Duffy, GSMFC, Ocean Springs, MS
Nancy Marcellus, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS
Cynthia Yocom, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Others
Doug Fruge, USFWS, Ocean Springs, MS
Tom McIlwain, NMFS, Pascagoula, MS
Mike Ray, TPWD, Austin, TX

FY 1998 NMFS Budget

L. Simpson briefed the Commissioners on the President's FY 1998 budget for NMFS and requested input from the Commissioners regarding their funding priorities for Gulf of Mexico programs. He stated that the 1998 budget which will be effective October 1, 1997, is $313,166, an increase of 6.2% over 1997. The Magnuson-Stevens Act Implementation will provide $3 million to begin Essential Fish Habitat programs. Other important increases for fisheries programs is $1.7 million for enforcement and $2.3 million for data collection. He also noted some important decreases. A $300,000 decrease for Recreational Fishery Harvest Monitoring, and $1 million decrease for the Atlantic Coastal Cooperative Management Act, which will

impacts the ASMFC. He reported that MARFIN and SEAMAP will be level funded. L. Simpson stated that the SEAMAP program will suffer if funding is not increased as the program grows.

L. Simpson pointed out several areas of increases and decreases that are of interest in the Gulf of Mexico. The President's Budget will provide the Regional Councils with a $1.5 million increase. The Endangered Species Act recovery plan is slated for a $6.7 million increase. Although Interjurisdictional fisheries grants will be level funded, a decrease of $1 million is planned for the Interstate Fish Commissions. This decrease will not affect the Gulf, but will impact the ASMFC. The Fishermen's Contingency Fund will be decreased by $47,000.

V. Minton suggested that L. Simpson direct efforts at getting larger increases for Fishery Industry Information. Although fish statistics programs are slated for a $400,000 increase this is not nearly enough, especially since recreational fishery programs are be decreased.

State Director's Reports

Texas - G. McCarty reported for Texas Parks and Wildlife Department (TPWD). He stated the Texas legislature was currently in session. There are three areas of ongoing legislative activity of interest to TPWD. The TPWD has gone forward with a proposal for Crab License Management that will manage the issuance of licenses and the total number of licenses issued with a limited entry program modeled after the shrimp limited entry program that already exist in Texas. This proposal should be in legislative committee by the end of March.

Another large piece of legislation currently being addressed is the Texas Water Bill. This is a first step at attempting to get control over water and water rights issues. There are some provisions that will provide the opportunity to insure maintenance of in stream flow as well as flow for estuaries and bay waters. There has been a great deal of discussion regarding this legislation in committee and public hearings. No less than 10 major aquaculture and mariculture issues are being addressed.

Regarding TPWD regulatory process, after completion of a two year study regarding biodegradable panels in crab traps, the Department will require appropriate materials to be used in crab trap panels. G. McCarty reported on an isolated freeze in the lower Laguana Madre which killed approximately 300,000 fish. The majority of the fish killed were spotted seatrout, black drum and silver perch.

He reported that the State of Texas experienced a significant red tide event last fall. Large numbers of red drum brood stock were lost in the initial days of the event. Sampling has shown the red drum recruitment was above average in almost all bay areas accept bay areas were the red tide event occurred. In these locations, red drum recruitment was zero.

G. McCarty introduced Mike Ray, the new Director of Field Operations, TPWD. Mr. Ray will assist with the day to day operation of the Coastal Fisheries Division..

C. Nelson asked if the Texas Water Bill is going to improve the red tide situation in regards to oysters. G. McCarty doubted if enough freshwater was involved to significantly impact the current situation. C. Nelson also asked if there was any movement in Texas toward increasing the available leased bottoms. G. McCarty stated that he did not foresee any changes in the freeze on oyster leases. He described a conflict with oyster leases versus leases to the oil industry which creates larger revenues for the state.

Louisiana - J. Roussel reported for the Louisiana Department of Wildlife and Fisheries (LDWF). He reported that the Louisiana Legislature will convene the end of March for sixty days. This will be the first time in two years when all issues dealing with the LDWF will be heard and the first session with the new Governor. The LDWF is still undergoing a Sunset Review which was extended last year for one year. The legislature is still evaluating the possibility of combining the Department of Natural Resources with the LDWF. It has been discussed in committee but no action has been taken. The legislature will have to act prior to June 1 on this issue, since the LDWF will terminate on that date if no decisions have been reached.

He reported that thirteen new artificial reef sites will be incorporated into their program in the summer. He will report on one of these reef later in the meeting.

The LDWF has held four public workshops on blue crabs. This has been an attempt to provide a forum with the industry to exchange information. They have been well attended and some legislative proposals will result from this exchange. Some proposals include the requirement of biodegradable panels in crab traps as well as escape links. The Department has also been working with the Crab Task Force regarding some form of limited entry.

The Department just recently completed stock assessments on four species: flounder, sheephead, black drum, and mullet. Copies have been made available to the other States. Other areas of major concern in Louisiana is the development of a point-of-sale program for issuing licenses. Legislation may be filed on this issue but there has been conflicts because there may be an impact on the revenue from license sales. The current system allows Sheriffs to sell the licenses and withhold 15% of the revenues. If new legislation is passed, the State will realize a $8 million windfall in revenues.

There are ongoing conflicts between oyster leasing and Coastal Restoration Projects. Seventy-five leases were not renewed this year because they were located in the path of Coastal Restoration Projects. The leases that were renewed now have extensive "hold harmless" clauses regarding conflicts with Coastal Restoration Projects.

Finally, J. Roussel reported that on Monday, March 17, the Corp of Engineers began the process of opening the Bonne Carré floodway. At that time, it was planned to open 4,300 of the 7,000 pins in order to maintain a 1.24 million cubic feet per second. This is the first time since 1983 that this floodway has been opened, and it is anticipated the flood waters will impact Louisiana and Mississippi.

E. Conklin asked what the different function were for LDWF and Department of Natural Resources (DNR). J. Roussel stated that the LDWF has jurisdiction over all renewable resources, the DNR has jurisdiction over non-renewable resources. DNA is basically an oil and gas regulatory agency. The park services falls under the Department of Culture, Recreation and Tourism, and environmental regulations falls under the Department of Environmental Quality.

E. Conklin asked if the point-of-sale system would be computerized. J. Roussel stated yes and they will be looking to purchase an off the shelf product. They are currently looking into other State's system.

L. Simpson asked if the Commissioners would like to have a fifteen minute presentation on point-of-sale systems involving State's that have systems in place, State's that are developing a system, and companies that implement the systems. The Commissioners agreed to this type of presentation at the next meeting.

Mississippi - C. Perret reported on activities of the Mississippi Department of Marine Resources (MDMR). The Mississippi legislature is also in session. C. Perret reported that a proposal to increase penalties and fees for violations has been defeated. A proposal to move the boundary line on the East Pearl to allow Mississippi shrimpers to shrimp without have to purchase a Louisiana license is being submitted to the Governor for his signature. Also awaiting the Governor's approval is increased penalties for gill net violations. Other actions by the Mississippi includes a bill memorializing Congress for coming to the aid of the State during the recent red tide event, and, a bill that has not yet been approved regarding changing the status of redfish, cobia and spotted seatrout to gamefish status.

He reported that on November 7, 1996, the Mississippi oyster reefs were closed down due to red tide. In access of 3,000 sacks were returned to the water and the MDMR reimbursed fishermen $10 per sack. A small reef was reopened in December 1996, with the remaining reopening in January and February 1997. Currently only one area is opened to shellfishing. Areas closer to shore have been closed due to high E. coli counts. C. Perret stated that state waters are already experiencing problems from freshwater in the Western part of the State due to flooding of the Pearl River. They expect to have additional problems within ten days after the opening of the Bonne Carré from high levels of freshwater. The MDMR just increased the daily limits for the oyster harvest and may increase it again prior to the freshwater arriving in Mississippi waters. Even with all the problems in the oyster fishery, C. Perret thinks that this years harvest will be near record levels.

C. Perret reported the Mississippi Commission on Marine Resources passed a Resolution requiring that all nets, effective January 1, 1997, had to be made of degradable materials or cotton or linen. Degradable was defined as material that will lose 50% of its tensile strength within one years time when submerged in water. There has been problems identifying a material and testing of some materials has been improper. Many netmakers are frustrated and angry at the States inability to identify acceptable material.

C. Perret reported that recreational fishing licenses are issued from July 1 through June 30. For the period July 1 through January 31, 1997, 51,535 residential saltwater angler licenses were sold; 17,051 non-residential licenses; and, 6,744 three-day non-residential licenses were sold. A total of 60,000 licenses were sold, which is a 6 to 7% increase over last year.

C. Nelson asked in regards to net material, had any studies been done regarding the impact of monofilament line in nets versus the impact of monofilament fishing line. He was curious as to how it was justifiable to do away with monofilament nets but not monofilament fishing line. C. Perret stated that no study has been done, the only reason the monofilament nets were banned was part of a compromise that was reached several years ago when the Commission addressed gill net issues. This argument has come up several times with little consensus. C. Nelson stated that this issue would be a good one to put before the new S-FFM Committee for Commercial and Recreational Fisheries. If this is a trend toward eliminating non biodegradable materials for fishing, it will be of interest to both sectors. If this is the case, new technology needs to be developed.

Alabama - Vernon Minton reported the Alabama Department of Conservation and Natural Resources (ADCNR). He reported that Alabama experienced its first documented red tide event in history of the State. They did not document any significant fish kills however they did close the shellfish fishery from November 10 through December. The reefs are closed at this time due to freshwater but they are currently sampling and hope to reopen by March 24.

Alabama is proposing new legislation that would develop a checkpoint system for the oyster fishery similar to the one in Mississippi. The current system allows for five ports of entry for oyster and shrimp but funds are not available to maintain five ports. The Department is working to allow the Commission to establish ports of entry as necessary.

The ADCNR continues to work with crab trap regulations. The twelfth draft of these regulations are now being reviewed. They have looked very closely at Florida's regulations for escapement panels, but continue to look at other options. Implementation of these regulations will be one year after passage to allow everyone to make the adjustments necessary. There continues to be conflicts regarding crab traps in rivers, streams and bayous. The original proposal was to not allow crab traps in any river, stream or bayou. At the industry's request, the Department is now considering banning them from problem areas only. They have not been able to work out a compromise with the industry regarding a limited entry system, but still feel that the future of the crab industry will depend on some kind of limited effort system.

The Department is proposing permanently closing certain areas in Mobile Bay and the Mississippi Sound to shrimping. These areas are nursery grounds that are showing grass bed recovery. Although at certain times of the year there are legal size brown shrimp in these areas, it is also around the same time that juvenile white shrimp are moving in the area.

The Alabama legislature passed a lifetime saltwater fishing license bill. Residents can purchase the license at any time and if you move out of the State you can continue to fish as a State resident. The cost of the license is $250.

The ADCNR is currently experiencing personnel problems. V. Minton stated that he has just gotten clearance to replace a recent vacancy and is looking at the register at this time. Steve Heath of the ADCNR has been promoted to chief biologist.

Florida - E. Conklin reported on activities in the Florida Department of Environmental Protection (FDEP). The net ban is now 1 ½ years old in the State of Florida. There appears to be improvement in coastal fish stocks based on information received from recreational and commercial fishermen. These reports indicate significant increases in mullet, pompano and speckled seatrout. There is a natural progression of lawsuits that has occurred following the implementation of the net ban. A number of innovative types of gear violations are occurring. They have experienced increased gill net violations during the roe season.

E. Conklin reported that they have not had an inshore red tide event in Florida waters this year. There were no closures in the shellfish industry, fish kills or manatee die-offs as occurred last year at this time.

The State will use Disaster Funds to begin their scallop program on the West Coast of Florida. This fishery has been closed to commercial harvest for two years and the recreational bag limit has been reduced as a result of decreased stocks. It is now thought that the decrease may be more the result of a natural process rather than related to the habitat.

The Florida Legislature is now in its annual 60 day session. No bills have been passed to date. Legislation of interest to FDEP concern net enforcement, the definition of nets, artificial reef enforcement, and increases in penalties for violations. The FDEP has introduced a bill for exotic species. The purpose

of this bill is to have better control over the aquaculture industry to insure that any discharge is protected, and to prevent exotic and disease introduction into Florida water systems.

E. Conklin reported that over the next two years the marine resources departments will attempt to reduce operating expenses by $2 million. The departments have been operating with surplus funds that are no longer available, so it will be necessary to expend only what revenue is available through fishing licenses.

L. Simpson reported that the Florida legislative representative, Allen Boyd has been elected to the U.S . Congress. He will soon be replaced by the Governor.

Status on Commission's Efforts Regarding Cooperative Data Collection - RecFIN/ComFIN

D. Donaldson provided background information on the Commission's RecFIN/ComFIN Program. He reported on a recent meeting of the RecFIN, ComFIN and FIN committees held March 6 -9, 1997. The meeting was held in Washington, D.C. to enable participation from congressional aides, U.S. FWS, NMFS, as well as recreational and commercial industry. The three groups met separately and jointly to discuss issues of mutual concern. They addressed some of the current problems with data collection for both commercial and recreational sectors, and discussed the development of a program for the future to better collect this information.

Another issue addressed was a charter boat pilot survey that will be conducted this year. This survey will compare three methods of collecting effort in the charter boat fishery. These methods are the current Marine Recreational Fisheries Statistics Survey (MRFSS) telephone method, a captains telephone survey, and a statistically valid logbook panel survey. When the pilot survey is completed the three methods will be compared and the best method will selected for use in collecting effort for the charter boat fishery. Several planning meetings have also been held in order to develop a list of charter and guide boat operators in order to identify the universe of charter boat captains in the Gulf of Mexico. Other activities include planning public outreach programs to inform the industry about these activities and to receive input from the industry. The final aspect of this program will be the actual data collection. He reported that at this time there is no funding for this project but he is optimistic that funding will be available this year. The tentative start-up date is July 1, 1997.

D. Donaldson reported that a meeting is scheduled in April between GSMFC and MRFSS staff to review a proposal for a cooperative agreement submitted by GSMFC to conduct intercepts in the Gulf of Mexico. He stated that after review by MRFSS, the GSMFC will further develop the proposal to enhance the funding of these activities.

C. Nelson asked at what point will it be decided as to how data will be collected and what data will be collected? Dave stated that efforts are currently being done to identify data elements, and on the commercial side a modular system is being developed based on a trip ticket system to identify specific species. C. Nelson asked who was involved from the commercial sector. D. Donaldson responded that now that activities are moving into a more programmatic stage, a method to develop both recreational and commercial advisors is underway. L. Simpson stated that several commercial representatives have been involved in some of these early discussions. They are Wilma Anderson, TSA, Kay Williams, SASI, and Bill Wright, NFI.

Report on Louisiana Freeport Sulfur Mine Artificial Reef Project

J. Roussel presented a video on a proposed artificial reef plan for the Freeport Sulphur Company Grand Isle Mine (GIM) Complex. The GIM complex is located in State waters, seven miles off the Louisiana coastline. It has operated continuously from April 1960 through September 1991. In 1997 the LDWF contact GIM regarding the possibility of saving the structure. It has been just recently that the LDWF began to seriously study turning this complex into a shallow water reef.

This will be the first oil platform developed into an artificial reef in Louisiana State waters. No explosives will be used, this is another first. J. Roussel stated that to his knowledge this will be the largest artificial reef in the world. At its longest dimension is will be one mile long. The LDWF worked closely with the Coast Guard regarding problems in this very heavily navigated area. The structure will have thirty feet clearance over the top of the reef. The reef will be marked with a permanently lighted buoy system. He described how the structure will be dismantled and placed.

There will five separate lighted buoy systems that will be integrated through a GPS link. The buoys will be equipped with a series of monitoring systems that will be hooked up to the Department's marine lab and the Baton Rouge office. There will a series of constant recorders providing real-time data on salinity, temperature, current, and some air perimeters. The date will actually take four hours to be transferred via satellite. This information will be provided on the LDWF home page and the U.S. Geological Survey home page. In addition to a reef site, this will provide fishermen with current fishing conditions at the site prior to their leaving port.

The Freeport GIM Complex has made a $1 million donation that will go into an artificial reef program fund. The interest from this fund should pay for maintaining this reef.

C. Nelson asked if any wood from the complex was being used. J. Roussel stated that all of that type of material would be removed and carried back to shore. F. Miller asked how deep the water was? J. Roussel stated that it was 50 - 60 feet deep, with a 30 foot clearance above the reef.

Gill Net Issues in Louisiana

W. Triche reported that in 1995 when the Louisiana legislature passed the Gill Net Ban Bill it was considered the most controversial legislation in that session, and was bitterly fought on both sides - commercial versus recreational. In 1997, a new group, the New Orleans Area Chefs, will once again bring gill net issues to the Legislature supporting the commercial fishermen in their bid to get rid of provisions in the Gill Net Bill.

W. Triche reviewed the current Gill Net Bill which requires the 1,144 previously registered netters to provide information that shows that 50% of their income is from net fishing. Many fishermen are having problems proving this point due to lack of documentation. It also requires that no multiple nets be used, that strike net provisions be followed, no nets may be anchored or unattended, no weekend fishing for gill netters or strike netters, and, no night fishing. Seasons were set for two years for utilized species. This phase-out season ended March 1. The only species that can now be caught with a strike net on a seasonal basis is pompano and mullet. Other provisions of the Bill included a loss of license for class III violations and stiff penalties for recreational fishermen who sell their catch. A $3 a year fee was attached to recreational license purchasers to compensate commercial fishermen for gear loss due to this ban. The Bill also provides for the Federal government to become involved in enforcing any part of the Bill. He covered several other provisions of the Bill.

He stated that if the Bill is brought before this session of the Louisiana Legislature, he does not feel that it will be changed. This issue has been long fought in State and Federal Courts. Two provisions of the Bill have been considered unconstitutional and these provisions may be removed by the Judges involved. W. Triche sees no problem with eliminating the enforcement of those provisions.

C. Perret asked what legal issues regarding this Bill were left to be challenged? W. Triche stated that he expects lawsuits regarding constitutional rights to earn a living. He stated that this has always been a gear battle not livelihood. The Bill provides provisions for the entire 1,144 fishermen who were licensed netters to continue to fish - not with a net, but a rod and reel. F. Miller provided details of ongoing lawsuits. C. Perret asked when all of this controversy may be resolved? F. Miller stated that in his opinion, this will be decided by the Supreme Court and it may take one year to receive a response. C. Nelson asked if there were any provisions for any commercial cast net harvesting of mullet. J. Roussel stated that cast nets were legal but not for mullet. Mullet can be harvested with a strike net following the provisions of the Gill Net Bill.

Selection of Charles H. Lyles 1997 Award Recipient

L. Simpson stated that it was time to select the 1997 "Charles H. Lyles Award". This award is given on an annual basis to an individual, agency, or organization which has contributed to the betterment of the fisheries of the Gulf of Mexico. The recipient is selected by the full Commission from open nominations and voted on by secret ballot. The award will be presented at the October meeting of the Commission. W. Penry opened the floor for nominations.

V. Minton nominated Walter Tatum. He stated that Mr. Tatum retired from the ADCNR in January of 1997 after 34 years of service. He has worked closely with the Commission over the years, most recently as Chairman of the SEAMAP Subcommittee. C. Perret seconded. Walter Tatum was selected by acclamation.

Executive Committee Report

G. McCarty reported that the committee met earlier in the week. Two issues were discussed. The first was the 50 year anniversary of the Commission. This will occur in 1999. The Executive Committee recommends that a special observance be held. They further recommended that since the signing of the Commission Compact took place in Alabama in 1949, that it was appropriate to hold the special meeting in that State. They also recommended that a committee be established to begin working on the details of this special observance; that it be chaired by staff member Ginny Herring; and, that the Alabama delegation be members. The committee would be charged with deciding on whether or not to hold the observance in the spring or fall, and, what type of observance will be held. G. McCarty moved on behalf of the Executive Committee. E. Conklin seconded. The motion passed.

G. McCarty stated that the Executive Committee reviewed information provided the Commissioners regarding the purchase of the office building that the GSMFC offices are currently located in. On behalf of the Executive Committee, **G. McCarty motioned to recommend that the GSMFC staff pursue the purchase of the building and attempt to contract with the best potential financial institution. E. Conklin seconded.** C. Perret asked that GSMFC staff contact an attorney when finalizing the details of the purchase and reviewing liabilities. L. Simpson stated that he would also develop a resolution for signature by the Chairman outlining these details for the GSMFC's records and use by a potential lending institution. **The motion and other recommendations were approved unanimously.**

Future Meetings

G. Herring reported that the Commission will be meeting October 13-17, 1997 at the Quality Inn Beachside in Gulf Shores, AL. The March 1998 meeting has not been contracted, but will be held in the Florida Panhandle.

Publication List

L. Simpson stated that the Publication List has been updated and is provided for your information. Contact the office if you need copies of any pubs.

Other Business

W. Triche asked if anyone knew the original introduction of gill netting in the Gulf of Mexico. V. Minton suggested he contact Albert King. G. McCarty stated that TPWD is doing some studies with some historic Indian relics and there are some indications that tribes in Texas were fishing for red drum with gill nets 7,000 years ago. W. Triche stated that in Louisiana, fishermen have said that Christ used the first gill net. J. Roussel stated that historical records in Louisiana indicated the first recorded landings of fish by gill netters was in the 1920s. L. Simpson stated that he would personally check records for specific information. W. Triche asked that he also research the date monofilament was first introduced as a material for gill net.

G. McCarty suggested that the Commission develop a special agenda item to discuss the introduction of new fisheries. J. Roussel suggested it be discussed in the S-FFMC and then brought to the full Commission.

J. Roussel stated that since the Commissioner's approved the development of a State trip ticket system to ensure the availability of better data for fisheries management, that it might be beneficial to have the Executive Director present testimony to the Louisiana Legislature as they begin to tackle the same issue. W. Triche agreed. L. Simpson stated that he would be happy to present testimony on the behalf of the Commission at the State's request.

The meeting adjourned at 11:05 am.

GULF STATES MARINE FISHERIES COMMISSION
P.O. Box 726, Ocean Springs, MS 39566-0726
(601) 875-5912 (FAX) 875-6604

Larry B. Simpson
Executive Director

RESOLUTION

AUTHORITY TO PURCHASE OFFICE BUILDING

WHEREAS, the U.S. Congress authorized the establishment of the Gulf States Marine Fisheries Commission in 1949; and further authorized the Commission "establish and maintain one or more offices for the transaction of its business" (P.L.81-66);

WHEREAS, the continued positive growth of the Gulf States Marine Fisheries Commission and its staff necessitates a central office approximating 2,500 square feet; and

WHEREAS, it is fiscally sound and advantageous for the Gulf States Marine Fisheries Commission to own instead of lease such office space.

THEREFORE BE IT RESOLVED, that the five member states of the Gulf States Marine Fisheries Commission unanimously consent to the purchase of an office building complex located at 2404 Government Street, Ocean Springs, Mississippi; and further authorize the Executive Director, Larry B. Simpson to negotiate and sign for this acquisition.

BE IT FURTHER RESOLVED, that Larry B. Simpson is authorized to act in the name of the Gulf States Marine Fisheries Commission, and on such terms and conditions as he may deem proper, to borrow sums of money; to sign execute and endorse loan and other documents as may be necessary or required for the purchase of the above stated office building.

Given this the 21st day of March in the year of Our Lord, One Thousand, Nine Hundred, Ninety-seven.

Walter Penry, Chairman
Gulf States Marine Fisheries Commission

GULF STATES MARINE FISHERIES COMMISSION

P.O. Box 726, Ocean Springs, MS 39566-0726
(601) 875-5912 (FAX) 875-6604

Larry B. Simpson
Executive Director

RESOLUTION

ON THE USE OF SELECTED MATERIALS OF OPPORTUNITY

AS ARTIFICIAL REEF MATERIAL

WHEREAS the National Fishing Enhancement Act of 1984 (P.L. 98-623) established the need for and mandated the development of a National Artificial Reef Plan (National Plan), and

WHEREAS the National Marine Fisheries Service was required to draft the National Plan, and

WHEREAS the National Plan was completed and adopted in 1985 as NOAA Technical Memorandum NMFS OF-6, and

WHEREAS the National Plan set forth criteria for application to the use of materials in development of artificial reefs, and

WHEREAS these criteria require that artificial reef materials be functional as long-term habitat for invertebrate and vertebrate living aquatic resources, compatible with the environment into which they are placed, durable enough to withstand the rigors of the natural environment and still retain their functional capability, stable enough to remain in place through natural storm events and man-made perturbations, and available for use by artificial reef programs, and

WHEREAS materials of opportunity, or man-made substances that are no longer useful for their primary purpose, have been used for decades in the United States as artificial reef material, and

WHEREAS materials of opportunity include, but are not limited to, concrete rubble, automobile and other vehicle bodies, vehicle tires, white goods (washing machines, clothes driers, refrigerators, etc.), aircraft, railroad cars, steel-hulled vessels and barges, oil and gas structures, military battle hardware, among a host of others, and

WHEREAS many materials of opportunity meet the criteria set forth in the National Plan for artificial reef development, while others do not, and

WHEREAS the Gulf States Marine Fisheries Commission developed and published "Guidelines for Marine Artificial Reef Materials" (1997), and

WHEREAS that document provides a recitation of experiences with the use of selected materials of opportunity as artificial reef material, along with a listing of benefits, drawbacks, and recommendations regarding such use, and

WHEREAS some of the materials exhibit more drawbacks than benefits when used as artificial reef materials; therefore, they do not meet the criteria, set forth in the National Plan, for artificial reef development,

THEREFORE BE IT RESOLVED that the Gulf States Marine Fisheries Commission recommends against the use of materials for artificial reef development that may disassociate in the marine environment, thus making the resulting disassociated pieces free to the environment, and

BE IT FURTHER RESOLVED that the Gulf States Marine Fisheries Commission recommends against the use of the following materials of opportunity for artificial reef development:

- passenger automobile bodies
- non-fighter aircraft
- fiberglass boat hulls and molds
- white goods, including washing machines, clothes driers, refrigerators, and other appliances
- wooden vessels and other wooden materials

BE IT FURTHER RESOLVED that this resolution be provided to the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service for application to consideration of permit requests for development or enhancement of artificial reefs in the Gulf of Mexico region.

Given this the 21st day of March in the year of Our Lord, One Thousand, Nine Hundred, Ninety-seven.

Walter Penry

Walter Penry, Chairman

APPROVED BY:

Vincent Guillory
COMMITTEE CHAIRMAN

CRAB TECHNICAL TASK FORCE
MINUTES
April 23, 1997
Fort Walton Beach, Florida

The work session held in conjunction with the National Shellfisheries Association's 89th Annual Meeting was called to order by Blue Crab Technical Task Force Chairman Vince Guillory at 9:18 a.m. The following task force members and others were in attendance:

Members
Vince Guillory, LDWF, Bourg, LA
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Harriet Perry, USM/GCRL, Ocean Springs, MS
Paul Prejean, LDWF, Bourg, LA
Phil Steele, FDEP/FMRI, St. Petersburg, FL
Tom Wagner, TPWD, Rockport, TX

Others
Butch Pellegrin, NMFS, Pascagoula, MS
Corky Perret, MDMR, Biloxi, MS

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Review of Overall FMP Progress

The group reviewed and discussed section progress. A synopsis of progress was provided by Vince Guillory and is attached (Attachment A). Phil Steele reported that there would be some changes in the habitat section to conform to changing federal guidelines. Two source documents being used are *Essential Fish Habitat Identification: An Approach to Assessment and Protection* and *Synthesis of Summer Flounder Habitat Parameters*. He will provide copies to the task force via GSMFC. He requested the state representatives provide him with information on marsh acreage and any information on descriptions of habitat, critical habitat, and environmental issues. Steele plans to have an updated section for review at the October meeting.

Harriet Perry is working on the description of the stock section and needs Terry Bert's genetics work. P. Steele will provide. As discussed earlier, the parasite section will be reformatted into a table. Perry plans to have a draft for review at the October meeting.

Tom Wagner reminded state representatives to keep sending updates on laws. Several federal acts will be added to the section. Phil Steele recommended that each state provide information on the violations/citations of blue crab regulations. A good starting date would be since the last FMP (1990). The Law Enforcement Committee is a good source for this type information. Further, input on regulation problems in the fishery should be requested.

Vince Guillory asked for comments on the Description of the Fishery section. He is checking the availability of 1994 and 1995 data from the NMFS. He also needs 1995 and 1996 hard and soft crab landings from each state.

V. Guillory reported that he had spoken to Walter Keithly regarding the economic sections for the FMP. Keithly is finishing up a report on Louisiana processing of the blue crab fishery. Once finished, he will be working on the management plan section. Harriet Perry requested that Keithly take a good look at the processing in Bayou La Batre.

Jim Duffy reported that a group from MSU is working on a proposal to provide the sociological section for the FMP. Using a survey instrument, the group expects to have the finished product by September 1998. They will collect the data, provide a reference document, and the FMP section. He distributed a recently completed work by the group, *Sociological Aspects of River Fisheries in the Delta Region of Western Mississippi.* The group requested a copy of the title page, the table of contents, and methodologies section. A core group of the TTF (H. Perry, V. Guillory, S. Heath) agreed to meet in early June with the principal investigator to provide input on the survey. A representative should begin meeting regularly with the task force to provide progress reports.

V. Guillory distributed a section draft and asked representatives to closely review and send in comments. In particular, he noted page 10, problems and perceived problems in the fishery. The group discussed adding excessive regulation to the list. (The Baltimore paper can be cited). A definite issue is the problem of terrapins getting stuck in traps. (Harriet will have GSMFC distribute the paper on terrapins.)

There was an in depth discussion regarding the Potential Management Measures Section which Vince Guillory is drafting. The question was raised whether or not to have a generic listing of potential management measures. Could only the management measures that apply to blue crab be included? Would the measures in this section be interpreted as endorsements by the Blue Crab TTF? It was agreed that the section would include management measures that have been considered in the overall scheme. The group agreed to change the introductory verbiage to "current or future needs" since no one could know whether or not one of the generic management measures may be needed in the long-term future. Thus far, there has not been an interpretation of endorsement in any of the other FMPs except in the actual recommendations section. The group agreed to delete 11.0-11.4. Section 11.5 should be moved to the management recommendations section which Vince Guillory is also drafting. Guillory asked that the section be reviewed and comments sent in. The group agreed to include a rationale for each recommendation, and add an implementation matrix from 1990 through the present.

Review of March 17 Meeting

Vince Guillory opened the floor to discussion of a symposium on crab mortality. The group asked if the Commission could fund a full-blown, invited speaker symposium. Jim Duffy will check. It was suggested that the meeting be held separate from the Gulf States meetings and perhaps at a crustacean group meeting. The Crustacean Society, National Shellfisheries Association, Gulf & Caribbean, American Fisheries Society Southern Division Meeting, Benthic Ecology Group,

Estuarine Research Federation, and Gulf Estuarine Research Federation were suggested. Harriet Perry will check the time and location of the next ERF-GERF Meeting. Good participation may depend on location. The target date for the symposium is September 1998. A general call for papers on blue crab could be done, and then specific speakers could be invited for other species such as stone and king.

Review of NSA Presentations

Harriet Perry and Tom Wagner reviewed their presentations for the next day's program. The group provided suggestions.

Discussion of the Blue Crab Stock Assessment

On Thursday, April 24, Louis Rugolo and Jacques van Montfrons gave presentations on two different approaches to blue crab stock assessment in the Chesapeake Bay. Van Montfrons, of the Virginia Institute of Marine Science, has utilized a more ecological approach which considers changes in habitat in the bay, while Rugolo *et al.* developed a more traditional, quantitative assessment. Task force members were encouraged by the presentations and realized that Gulf data may provide more insight than originally believed. The task force will work with van Montfrons and Rugolo to maximize inferences into stock status of Gulf blue crabs.

Next Meeting

The group requested an all-day session in October. If held Monday, Steve Heath would be able to attend in the morning session and SEAMAP in the afternoon. The group needs more time to work on FMP and other subcommittee issues.

Other Business

The group is interested in having Charles Moss participate in FMP development. Harriet Perry will contact him.

There being no further business, the meeting adjourned at 5:45 p.m.

BLUE CRAB FMP ASSIGNMENTS, STATUS, AND NEEDS

Miscellaneous Sections (Title, Acknowledgements, etc.)
Assigned To: Vince G. & Cindy Y.
Status: Draft of some subsections
Needs review from:
Phil Steele Steve Heath Harriet Perry
Tom Wagner

Section 1. Summary
Assigned To: Vince G.
Status: Incomplete.
Needs: Complete FMP document

Section 2. Introduction
Assigned To: Vince G.
Status: Draft
Needs review from:
Phil Steele Steve Heath Harriet Perry
Tom Wagner

Section 3. Description of Stock
Assigned To: Harriet Perry
Status: Not available
Needs review (after draft is finished) from:
Phil Steele Steve Heath Vince Guillory
Tom Wagner

Section 4. Description of Habitats
Assigned To: Phil Steele
Status: Not available
Needs review (after draft is finished) from:
Harriet Perry Steve Heath Vince Guillory
Tom Wagner

Section 5. Fishery Management Jurisdiction & Regulations
Assigned To: Tom Wagner
Status: Draft available
Needs review of each state's current regulations from:
Harriet Perry Steve Heath Phil Steele
Need changes for new 1997 and 1998 state regulations from:
Harriet Perry Steve Heath Phil Steele
Vince Guillory

Section 6. Description of the Fishery

Assigned To: Vince Guillory
Status: Draft available
Needs updated NMFS data on effort: Vince Guillory
Needs review of complete section from:
Harriet Perry Steve Heath Tom Wagner
Needs 1995 and 1996 hard and soft landings from:
Harriet Perry Steve Heath Phil Steele Tom Wagner
Needs updated catch/fishermen, catch/trap, etc. (in table form) of data that is used in your states' summary from:
Harriet Perry Steve Heath Phil Steele Tom Wagner

Section 7. Description of Processing and Marketing

Assigned To: Walter Keithly
Status: Not available
Needs review (after draft is finished) from:
Harriet Perry Steve Heath Vince Guillory
Tom Wagner Phil Steele

Section 8. Description of Economics

Assigned To: Walter Keithly
Status: Not available
Needs review (after draft is finished) from:
Harriet Perry Steve Heath Vince Guillory
Tom Wagner Phil Steele

Section 9. Description of Social and Cultural Framework

Assigned To: ??
Status: Not available
Needs review (after draft is finished) from:
Harriet Perry Steve Heath Vince Guillory
Tom Wagner Phil Steele

Section 10. Management Considerations

Assigned To: Vince Guillory
Status: Draft available
Needs review from:
Harriet Perry Steve Heath
Tom Wagner Phil Steele

Section 11. Potential Management Measures

Assigned To: Vince Guillory
Status: Draft available
Needs review from:
Harriet Perry Steve Heath Tom Wagner Phil Steele

Section 12. Management Recommendations
Assigned To: Vince Guillory
Status: Draft available
Needs review from:
Harriet Perry Steve Heath
Tom Wagner Phil Steele

Section 13. Research Priorities
Assigned To: Vince Guillory
Status: Draft available
Needs review from:
Harriet Perry Steve Heath
Tom Wagner Phil Steele

Section 14. Review
Assigned To: Vince Guillory
Status: Draft available
Needs: None

Section 15. References
Assigned To: Vince Guillory & Paul Prejean
Status: Not available
Needs literature used (from earlier provided bibliographies) from:
Phil Steele - Habitat Section
Harriet Perry - Description of Stock Section
Vince Guillory - Fishery Seciton & Other Sections

Appendix. Stock Assessment (?)
Assigned To: Not Vince Guillory
Status:
Needs:

<u>Other Needs from Each State Representatives</u>

listing of state enforcement citations on crab regulations
list of state commerical organizations to review document

APPROVED BY:

COMMITTEE CHAIRMAN

FLOUNDER TECHNICAL
TASK FORCE MINUTES
May 22-23, 1997
Gulf Shores, Alabama

Chairman Mike Johnson called the meeting to order at 1:10 p.m. The following were in attendance:

Members
Chuck Adams, University of Florida/Sea Grant, Gainesville, FL
Pete Cooper, Jr., *Saltwater Sportsman*, Buras, LA
Mike Johnson, FDEP, Marathon, FL
Jack King, TPWD, Austin, TX
David Ruple, Nature Conservancy, Grand Bay, AL
Mark Van Hoose, ADCNR/MRD, Dauphin Island, AL

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Jim Duffy, IJF Program Coordinator, announced to the group that he is leaving the Commission staff to pursue a fisheries opportunity in the state of Alabama.

Adoption of Agenda

Mike Johnson moved to adopt the agenda as presented. Chuck Adams seconded the motion which passed unanimously.

Approval of Minutes

Mike Johnson moved to adopt the minutes of the meeting held January 30-31, 1997, in New Orleans, Louisiana. David Ruple seconded the motion which passed unanimously.

Sociological Representative

J. Duffy reported that sociological expertise has yet to be recruited for the Flounder TTF. Many leads have been investigated both on the part of task force members and Commission staff. After lengthy discussion, C. Adams suggested that in order not to hold up the progress of FMP development, available data should be used rather than initiating a new data gathering project. Fisheries-related anthropological data should be compiled to provide a general sociological description.

Review of Section Progress

Cover - Jack King volunteered to contact his state's graphics department for cover art which will include Gulf and Southern flounders.

Sections 1 & 2 (Summary and Introduction) - will be completed by staff with input from the entire TTF.

Section 3 (Description of the Stock Comprising the Management Unit) - The latest revision was distributed to the task force for review and comment. The TTF decided to point edit this revision; changes will be incorporated by Mike Johnson. In addition to editorial comments, specific points included:

- Several general comments and decisions were made including the overlap of habitat data in this section. Rather than remove all habitat data, it was agreed to allow some overlap between these two sections.
- The group discussed the validity of Nall 1979 and its use in the document. The FMP is a compilation of available data. Use Nall, but also use those documents that refute Nall.
- Page 1 - M. Van Hoose will provide SEAMAP data to quantify bothids.
- Page 2 - M. Van Hoose will provide information from the *Atlas of North American Freshwater Fishes* to show flounder in river systems.
- Page 3 - M. Van Hoose will provide clarification of the seasons studied in the Gunter report.
- Page 3 - Clarify the mileage upriver (P. Cooper, personal communication).
- Page 16 - Reformat descriptions into tabular form for easier comparison of Gulf and Southern flounder.
- Page 20 - All states send in current state records for inclusion.
- Page 24 - Add the Alabama record, check with the International Game Fish Association.
- Page 30 - M. Van Hoose will provide an update to Swingle (1971).
- Page 30 - Add comparable information for small Gulf flounder.
- Page 33 - Move section 3.2.7 (migration and larval transport) to just above fecundity.
- Page 36 - Add a declarative statement such as, "The literature is lacking on parasites and diseases for Gulf flounder."
- Page 39 - R. Hensley, what did Rice *et al.* 1993 find?
- Page 42 - R. Hensley, Green (1986) fishery-independent data?
- Page 45 - S. Hein, check Laska 1973.
- Throughout the section, at the first occurrence use the scientific name and the common name, thereafter, use the common name. Don't use "yearling." Define abbreviations at

the first occurrence, young of the year (YOY). Check word usage for migration, emigration, immigration, recruitment, and oligohaline.

Section 4 (Description of Essential Habitat) - Dave Ruple reported that Magnuson/Stevens established criteria for essential fish habitat. Both Council and Commission plans will follow the similar formats for the habitat sections. Other Habitat Subcommittee members are working on plans including seatrout and crab, and he will be working closely with these members in order to minimize repetition. He is looking at available data and will describe substrate, vegetation, and environmental conditions such as temperature, salinity, dissolved oxygen, and turbidity. He noted that management implications may be difficult specifically to flounder, but it would be wise to include general information on habitat degradation and impacts of pollution. A rough draft should be ready for the next meeting.

Section 5 (Fishery Management Jurisdiction, Laws...) - A revised draft was distributed to the task force for review. This draft now includes all five states but will need further revision as laws change during the development process.

Section 6 (Description of the Fishery) - M. Van Hoose distributed a revised draft of this section. Task force members were asked to review and send him any comments. It was noted that there is some overlap in pounds and values in sections 6 and 7. The authors agreed that section 6 should refer mainly to pounds.

Section 7 (Description of the Processing/Economic Characters) - C. Adams distributed a revised draft for review and edit. Civil restitution assessments by state would be a valuable addition to the economic section. P. Cooper will provide the Louisiana information; J. King will send Chuck the TX proclamation which includes restitution formulas. Define PPI in text, check with R. Wallace to see if Alabama has a consumption study. The survey instrument will be appended to the FMP.

Section 8 (Social and Cultural Framework) - Fisheries-related anthropological data should be compiled to provide a general sociological description. A point-man is still needed.

Section 9 (Management Considerations/Stock Assessment) - Louisiana has a current stock assessment; Florida does not but has a document in lieu of a stock assessment; Mississippi and Alabama don't have stock assessments; Texas doesn't have a stock assessment but has data which will support one for Southern flounder.

Section 10 (Potential Management Measures) - Jim Duffy distributed a draft for review and edit by task force members. Each state director will be contacted for problems and perceived problems in the fishery.

Section 11 (Management Recommendations) - This section will be written after stock assessment and habitat sections are complete.

Section 12 (Regional Research Priorities and Data Requirements) - All groups associated with the development of the flounder FMP will have input on this section. The TTF should note research priorities and data needs throughout plan development to be included in this section. These priorities may prove to be a "spring board" for Gulf work over the next five years or so.

Section 13 (Review and Monitoring of the Plan) - boilerplate section to be completed by staff.

Section 14 (References) - In order to prevent duplication and references that aren't actually cited in sections, citations should be compiled at the end of the drafting process. Repository reprints should be sent to the GSMFC once sections are complete.

Section 15 (Appendix) - Thus far, the appendix will contain the actual stock assessment(s) and the survey instrument used for section 7.

Timetable/Next Meeting

The task force set up the following timetable:

October 31, 1997	Drafts to the GSMFC office - complete document to be mailed out to the task force prior to next review meeting
November 1997	Review meeting - work session on management recommendations, data requirements, review habitat section for first time
January 1998	Drafts to the GSMFC office for distribution prior to next review meeting
February 1998	Review meeting
May 1998	All drafts; all revisions to the GSMFC office

August 1998	Final review meeting - point edit the entire document
October 1998	Draft to TCC for action

As noted above, the next meeting is scheduled for mid-November. Task force members will check their calendars for any conflicts the week of November 17. The group tentatively planned the next meeting in Texas.

There being no further business, the meeting adjourned Friday, May 23, 1997, at 12:30 p.m.

APPROVED BY:

JKW

COMMITTEE CHAIRMAN

LAW ENFORCEMENT COMMITTEE (LEC)
MINUTES
June 19-20, 1997
Key West, Florida

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

Members
Terry Bakker, MDWFP, Biloxi, MS
Bruce Buckson, FDEP, Tallahassee, FL
Suzanne Horn, NMFS, St. Petersburg, FL
Mark Johnson, USCG, New Orleans, LA
Dennis Johnston, TPWD, Austin, TX
Jack King, TPWD, Austin, TX
Jeff Mayne, LDWF, Baton Rouge, LA
Jerry Waller, ADCNR/MRD, Dauphin Island, AL

Others
Ronald Dearmin, NMFS, Carriere, MS
Mac Fuss, NMFS, Marathon Shores, FL
Logan Gregory, NMFS, Marathon Shores, FL
Monica Medina, NOAA GC, Washington, D.C.
Robert Perkins, USCG, New Orleans, LA
Eduardo Pino, USCG, Miami, FL

Staff
Larry B. Simpson, Executive Director, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Opening Remarks

Jerry Waller stated that there are several issues to review and discuss that will be addressed at the next ISSC meeting. Terry Bakker has been appointed chairman of the Patrol Committee and will be able to relay enforcement concerns regarding these issues. This meeting will also provide the opportunity for the LEC to discuss and recommend solutions to issues that have been discussed at recent Ad Hoc Legal Panel meetings. Those meetings were quite hostile and unproductive. Waller noted that the South Atlantic Council is meeting in Key West this week. Monica Medina, General Counsel for NOAA, is in attendance and will be invited to speak to the LEC at tomorrow's session.

Adoption of Agenda

Jerry Waller moved to view the final version of the oyster harvest violations' video before discussions of ISSC shellfish tagging issues. This video should provide an insightful introduction to discussion of those issues. The agenda was adopted as changed.

Oyster Harvest Violations Video

The LEC viewed the video provided by Tom Herrington of the U.S. Food and Drug Administration. The video educates viewers on the hazards associated with illegal shellfish harvesting (see attachment 1). Terry Bakker noted that the video would be presented to the ISSC in August, and each member of the LEC will be provided copies of the video by the ISSC. The video is very thorough and covered all phases including industry, enforcement, the judicial system, and state legislatures. He encouraged his fellow committee members to utilize this tape to educate legislators, judges, and any other parties of the dangers of illegal shellfish harvesting and the damage that can result.

ISSC Issues

Jerry Waller led the discussion of issues that may concern enforcement in the Gulf States. **Issue 96-106** proposes to modify the definition of shellfish. The definition now reads "all edible species of oysters, clams, mussels, and scallops either shucked or in the shell, fresh, frozen, whole, or in parts." They propose to change the definition to include "live or fresh, canned or heat processed, imported or domestic." Currently, imported shellfish that is canned, heat processed, or frozen are exempt from the requirements of the NSSP. The broadened definition would more clearly reflect the conference's criteria to apply NSSP criteria to imported shellfish as well as domestic. The LEC agreed that the broadened definition should not create an enforcement problem.

Issue 97-101 proposes to modify the definition of harvest/harvester to exclude removing shell stock for aquaculture purposes. The current definition reads, "harvester means a person who takes shell stock by any means from a harvest area." The modified definition would state, "harvester means a person who takes shell stock of marketable size by any means from a harvest area. The aquaculture practices of removing shell stock not intended for human consumption are excluded." Shell stock targeted for aquaculture operations is removed from the water, handled, and rebated many times between the initial planting and ultimate harvest. The current definition of harvest/harvester does not differentiate between harvesting for sale for human consumption and temporarily taking shell stock for the growing area to clean and grow out to marketable size. This situation can cause an enforcement nightmare. How would enforcement know who is harvesting for aquaculture purposes? A licensing situation arises. The Florida legislature is already being sympathetic to the budding aquaculture industry because it may ultimately save the wild stock, but unfortunately, enforcement is hit the hardest by this situation. True aquaculture should mean that the seed stock should come from other aquaculture operations. Taking seed stock from the wild is basically a private lease operation. Even though state regulations apply, the FDA and the states' public health agencies often adopt ISSC standards and these issues do apply to interstate transportation. Enforcement must address how these issues will be handled if adopted in the Gulf

States. State representatives intend to discuss this issue with their health agencies to explain the potential enforcement problem this definition would create.

Issue 97-116 regards harvesting from restricted areas. The issue currently reads, "Levels of fecal pollution, human pathogens, or poisonous or deleterious substances are at such levels that shell stock could be made safe for human consumption by either relaying or depuration." The ISSC proposes to add heat processing, canning, or freezing. This may create an enforcement problem in regard to size limits. Undersize stock is allowed from polluted areas to be relayed to clean areas to grow out to marketable size. Taking directly from polluted areas to the shore will allow an easy opportunity for undersized oysters to get into the market. In general, this revision would create enforcement difficulties in closed areas. No case could be made for harvesting in closed areas because all the harvesters could claim that the oysters will be used for heat processing, canning, or freezing.

Issue 97-119 regards harvest vessels discharging into open water. The issue currently reads, "Human sewage should not be discharged overboard from the vessel used in the harvesting of shell stock or from vessels which buy shell stock while the vessels are in harvest areas." Enforcement agreed that human sewage should not be discharged from any boat (not just shell stock harvesters). Federal regulations exempt vessels without MSDs. One user group could be in violation while another would not be. This should be a violation for all users; singling out one type of vessel is discriminatory enforcement. It was noted that another part of this problem is that pump stations are not installed at all marinas. As far as enforcement is concerned, unless you catch someone in the act how do you make a case?

Issue 97-120 seems to counteract Issue 97-101 which gives aquaculture special consideration. Issue 97-120 basically takes shellfish aquaculture out of model ordinances and proposes to treat aquaculture operations the same as other oyster operations.

Issue 94-257 addresses illness and death associated with *Vibrio*. The ISSC and others interested in public health are still concerned with the number of illnesses and deaths from *Vibrio*. There are 12-14 deaths per year that result from consuming shellfish. The ISSC proposes to limit harvest of oysters from affected states during the period April to October to only those oysters that are tagged for shucking by certified dealers. Oysters so identified must be shucked and packed in containers and be clearly labeled that this product should be fully cooked and not consumed raw. To be fully effective, the recommendation would have to be coupled with 1) a requirement to similarly label product repacked into smaller containers and 2) require the label of all shucked oysters contain the name of the state in which the oysters were harvested and the date of harvest. Florida, Louisiana, and Texas would be the most affected by this control plan. Mississippi already closes during the summer months, and Alabama has a limited harvest during the summer months. In Louisiana, the control plan is working well; however, additional manpower is needed. In Florida, officers set up at agriculture and weigh stations to ensure that all oysters are properly tagged. A large problem is that the harvesters will post date the tags to ensure a longer shelf life. The group agreed that additional enforcement personnel are needed for checkpoints.

Issue 96-204 adds the definition of a shellfish broker. The definition reads, "Any person who arranges the packaging, shipping, sale, or distribution of shellfish without taking physical custody of the shellfish. Shellfish brokers may arrange for the storage of shellfish at public wholesale cold storage facilities for the transport of shellfish by common commercial carriers." The issue also proposes to change certification procedures. Certification currently reads that states shall certify dealers for interstate shipping in accordance with the sanitation administrative criteria in this manual. They propose to add that states shall also maintain a registration of active shellfish brokers that operate in or from the state and identify any location where shellfish are held in storage for more than 48 hours during transport and distribution. Louisiana has some wholesale dealers that act as brokers, but they have an adequate chain to trace through their wholesale license requirements. The terminology (common commercial carriers) used in this definition is not consistent with current Federal Highway Administration terminology which utilizes the designation "common contract carriers."

Issue 96-243 is a proposed a modification of the time/temperature control. The control plan currently reads, "Shell stock in dry storage protected from contamination is not permitted to remain outside temperature control for more than two hours." They propose to increase two hours up to four hours. Mississippi enforces this rule from the time the oysters are checked into the tagging station and currently uses a four-hour rule. In Florida, the health department enforces this rule.

Issue 96-244 originated from the Gulf Oyster Industry Council and proposed to add a harvester/dealer time/temperature log that must be filled by the harvester. One copy must remain onboard for 15 days following harvest, and all copies must be kept for one year. This proposal would have an effect on all the Gulf States. This is a log for the harvester to be kept on the boat for 15 days. The group assumes the one year rule applies to the dealer's copy. Harvesters may have problems retaining a log onboard for 15 days. The consensus of the LEC was that this rule would place an undue burden on the industry.

Issue 97-207 concerns harvest tag information. Tagging issues seem to recur even though the issue was thought to be settled several years ago. In fact, the tagging committee recommended to the ISSC that no new tagging issues be accepted for a period of five years; however, this suggestion was not accepted. Issue 97-207 proposes to separate the dealer and harvester tag. Some states use a method with harvest information on the front and dealer information on the back. Some states (as in Texas) have two separate tags.

One of the recurring tag problems is the inconsistency in the order information is given. The manual prescribes the order in which information should be given; however, industry ascertains that order does not make any difference as long as the information is there. Enforcement says that it may not make any difference to the dealer or harvester, but when officers are in the field checking tags, it would save time if the information is in the same order on every tag. Perhaps issue 97-207 could be taken a step further by adding a line prescribing the order in which the information should be given and then a sample tag should be placed in the manual. For example, as an attachment to **issue 97-208**, there is a sample tag. This issue has to do with tagging repacked oysters into smaller units. This sample tag adds "perishable, keep refrigerated" on the tag.

Issue 97-209 proposes tagging requirements for wet storage. The LEC concluded that this issue would not affect any of the Gulf States.

Issue 97-210 proposes to change the 90-day requirement to one year that the tag will be kept on file. This is to be compatible with HACCP requirements that records be maintained for one year. Tags would have to be maintained at the final point of purchase of the shell stock. This could be a dealer, the restaurant, or an individual buyer. This is a long time to maintain a tag. If the oysters are bad, a consumer will get sick immediately. This seems to be another undue burden.

Issue 97-212 concerns bulk tagging of shell stock. The public health significance mentions Maine, but it would affect the Gulf States. They propose to tag "lots" of shell stock (one tag per boat). This would create a significant problem.

Terry Bakker, Chairman on the Patrol Committee, will relay these concerns at the upcoming ISSC meeting in Sturbridge, Massachusetts.

Discussion of Ad Hoc IJF Legal Panel Issues

Suzanne Horn introduced Monica Medina to the group. Ms. Medina has been the NOAA General Counsel for three months. Ms. Medina is in Key West to speak to the South Atlantic Council and very generously accepted Larry Simpson's invitation to speak to the LEC.

Larry Simpson presented a brief background of the commission. He explained that the commission is a regional/state entity rather than a regional/federal entity such as the councils. Three commissions exist, the Gulf, Atlantic, and Pacific. The Gulf States Marine Fisheries Commission was created in 1949 with the consent of Congress in public law 81-66. The commission is guided by three commissioners from each of the Gulf States. These seats are held by the head of the marine agency, a state legislator, and a citizen who has knowledge and interest in marine interests (commercial or recreational). The commission operates under several sources of funding including core funding from the states. These monies provide for the general operation of the commission. In addition, the commissioners have deemed several federally-funded programs as appropriate activities of the commission. These programs are funded by the departments of commerce and interior. Some of the earlier activities of the commission involved guiding exploratory fishing of NOAA vessels and attempts to standardize uniform licensing and reciprocal agreements. Other commission activities include fishery management plans for near shore species (blue crab, menhaden, striped bass, oysters, etc.); the Sports Fish Restoration Program , SEAMAP, and Gulf of Mexico Fishery Management Council activities including the statutory nonvoting representation of Mr. Simpson who has held that post since 1978.

The five Gulf States are represented on the LEC along with a representative from the U.S. Coast Guard and our federal partner, the NMFS Office of Enforcement. The LEC is a standing committee of the commission and has a long history of contributing to the commission and its activities. Major Jerry Waller from Alabama is the current chairman of the LEC. This group is a very effective and efficient conscience for the states and their activities in regard to enforcement and is highly sought by other commission committees for their expertise and advice.

Chairman Waller added that the LEC uses the commission as a vehicle to voice enforcement concerns on both a state and regional level. The recent penalty schedule issues were discussed in committee and then brought forward on a regional level by the commission. He noted the very strong, personal relationship that the group has with the NMFS Office of Enforcement and credited Suzanne Horn for her tradition of a cooperative partnership with the states. For Ms. Medina's benefit, Chairman Waller invited each member and the staff to introduce themselves.

Ms. Medina thanked the group for their introduction and background. Her immediate background is that she just began as the NOAA General Counsel. Previously, she worked at the Justice Department for two years and advised the attorney general on environmental laws and policies and enforcement issues. She has also worked for the Senate Environment and Public Works Committee where she assisted in writing environmental laws. She began her career as a lawyer with the Army General Counsel's Office while on active military duty. In her new position as NOAA General Counsel, she is learning a great deal about the Magnuson Act, fisheries' management, and marine enforcement issues. As she began her new position, she realized there are critical issues that personally mattered to her. She feels she can have a positive impact on these issues, and enforcement is clearly one of those issues. With her background in enforcement, she understands the sensitivities of the arena. She expressed her commitment to the group that NOAA cares about enforcement. She reiterated that she, personally, cares tremendously about enforcement.

One of her jobs with the Justice Department was interfacing with states on enforcement matters. It was loathed the day when they had to bring an "overfile," a case over and above state enforcement action. They worked very hard to have a cooperative and productive relationship with state enforcement. Her personal philosophy is that state/federal cooperation is the only way to have an effective enforcement program. A cooperative state and federal partnership is what she intends for NOAA and the office of NOAA General Counsel.

She noted the limited resources of NOAA. She wants to find the best way to use the resources they have and work with partners to marshal limited resources in order to have the most comprehensive enforcement program possible. She stated that NOAA does cares about deterrring small violators. Enforcement is not about catching everybody; it is about deterrence and compliance. Compliance means everybody. There are sophisticated people who know the rules and who try to get around them. There are also the unsophisticated who unintentionally break the rules. These issues must be taken into account, and penalties must be balanced. It would be inappropriate to throw the book at the guy who was well intentioned but obviously just did not know the rules. On the other hand, the people who know the rules, flout the rules, and work hard to avoid the rules must be penalized. Our enforcement scheme has to take these things into consideration and must be balanced. Since she has gotten to this region, one thing she has come to understand is that enforcement is very important in the southeast and differs than other parts of the country. While attending meetings, talking with, and listening to the people of the region, she has realized a greater appreciation of the size of the recreational fishing sector in this part of the country. Unlike other places, it is a huge part of the regulated community. NOAA may have to make some adjustments in what is ordinarily thought of as the right way to go. Unlike in Washington where enforcement is generally portrayed as overzealous in showing its federal power, any desire by the community toward enforcement is a good thing.

Ms. Medina noted the recent confusion regarding NOAA penalty schedules and penalty guidance. She has just come from the South Atlantic Fishery Management Council meeting where she tried to explain that the guidance was not the schedule. As enforcement knows, there are priorities within any enforcement program. NOAA is anxious to hear from enforcement where priorities are not quite right. She pledged to listen to law enforcement; she wants to work with the attorneys in your states. Federal enforcement will reach out to state enforcement for input. Enforcement is a partnership, and NOAA General Counsel can't expect the states to help unless they are given opportunities for input. The initiative to mend the state/federal partnership has been begun. The councils have been contacted. State attorney generals' offices have been contacted in an attempt to mesh state and federal laws better. We also need to do the same thing between the law enforcement folks in NOAA and the states. On a state-by-state basis, we can have very productive discussions. All the emotion that has gone along with this issue is inhibiting progress. It is time to move ahead.

Chairman Waller agreed that in the previous two meetings, federal and state legal counsel, law enforcement, and state managers gathered to discuss this issue, and the group was just not able to get over the emotional rhetoric. In the gulf, the states are not set up to handle federal violations. State authority may need to be extended into federal waters. Some states already have authority in federal waters but others do not. Texas does not have dual authority and does not enforce federal regulations. Fish caught in the EEZ and landed in Texas must comply with Texas regulations. Mississippi holds dual authority, and Mississippi laws coincide with federal regulations. Florida holds dual authority. Louisiana holds dual authority. Alabama has dual authority. The only states to refer any federal cases lately are Florida and Louisiana. Waller reiterated that in the gulf, recreational fishing is an extremely important part of the resource. The perception of punishment deters a lot of people; that perception has been lost in the last several months. Credible deterrence is lost. Recreational and commercial fishermen lose faith in the system. Enforcement officers in the field also lose faith.

The LEC is optimistic that the discussion and following recommendations may help remedy the Southeast Region's penalty schedules:

1. Recreational and small commercial cases are an intricate part of the whole Southeast fisheries complex. Because the NOAA administrative system cannot handle the quantity of cases that are generated by the states, U.S. Coast Guard, and NMFS agents, the goal should be to "fix" the system rather than to reduce the number of cases. Our recommendation is to begin the process of amending the Magnuson-Stevens Fishery Conservation and Management Act so that violations are handled similarly to the way they are handled in the states. In most cases, state fishery violations are criminal misdemeanors and the sanctions are defined by classes that are dependent upon the seriousness of the violation. If classifying all federal fisheries' violations as criminal misdemeanors is not acceptable, a combination of some violations falling into the civil administrative system and others classified as criminal misdemeanors might be appropriate.

2. A recreational summary settlement should be reinstated. Representatives were queried at the meeting, and the fines for size and limit violations among the Gulf States ranged as follows (in addition to court costs):

   a. Alabama — $0 - $500, $50 first fish, $25 each fish thereafter
   b. Florida — $100 - $500
   c. Louisiana — $150 - $350 first fish (double over limit $400 - $450), $25 each fish thereafter
   d. Mississippi — $100 - $500
   e. Texas — $25 - $500 (each fish can constitute a separate offense)

   The Law Enforcement Committee recommended several options for summary settlement fines including: $50 for the first fish and $25 thereafter **or** reinstate the Summary Settlement "A" and "B" Schedule used previously. Payment statistics of summary settlements will be provided by Suzanne Horn.

3. The perception that "minor" violations will not be enforced needs to be changed both internally and publicly. NOAA's Office of Public Affairs is compiling a list of contacts such as fishing and conservation organizations that will be notified. Representatives of the LEC will provide state contacts that may prove useful in this process.

4. The LEC should be used as the initial contact for acquiring appropriate state legal counsel advice and assistance. In addition, the LEC would be an excellent vehicle for reviewing penalty schedules and recommending changes.

5. The LEC discussed the NMFS's ability to collect fines and ways to assist in reminding individuals about paying summary settlements. Two suggestions were made: 1) contract with the states to find individuals who avoid collection notices so state officers can serve them and 2) send a list of individuals who have not paid their summary settlements to the states so that as state officers encounter violators, they can remind them of their unpaid settlement.

6. State officers are generally confused about actions to take since the guidelines were retracted and the new penalty schedules published. Training sessions should be held by the NMFS to clarify the situation.

Suzanne Horn volunteered to draft a letter to the head of the NMFS Law Enforcement office with these recommendations. The LEC will review and comment prior to finalization.

<u>Blue Crab Citations and Enforceability Problems with Existing State Regulations</u>

Chairman Waller described a problem occurring in Alabama. The Gulf States all have a five-inch minimum for blue crabs. Undersize crabs from Louisiana were coming into Alabama. Alabama had gathered enough documentation that they could prosecute Alabama dealers for a Lacey Act violation, but the dealers are not the root of the problem. The real problem is shipment of

undersized crabs from Louisiana to Alabama. Sergeant Mayne described this as a problem with Louisiana law. Their law states that when you catch a fisherman on the water in possession of one crate or box of undersize crabs, the fine is $250-$500 per box on the water. Once those crabs are landed and the fisherman relinquishes possession of those crabs, he is no longer criminally responsible. He is required to put a tag with his name, license number, and date. He is then responsible for the undersized crabs on a civil basis up to $50 per undersized box. A box of crabs is usually worth more than $50. The dealer holds no responsibility whatsoever as long as the fisherman's tag information is on the box. Thus, a fisherman will bring the crabs to the dealers and leave quickly. The dealer puts the crabs on the truck without paying the fisherman until the crabs are out of state. The LDWF is working to put dealer responsibility back into the ball game and make this a criminal activity of the fisherman at all times. An enhanced penalty has gone through the legislation. Louisiana has a 10% tolerance on undersized crabs. Now, if a box contains 20% of undersized crabs, the penalty will increase to $400-$450 per box with a license forfeiture for the six months in the first offense, a year for the second offense, and life for the third offense. If there are between 10% and 20% undersized crabs, throughout all areas of the transaction there is a penalty which holds a Class III effect, criminal aspect $250-$500. Dealer liability is currently pending legislation. Proposed legislation reads that the first time a dealer is found to be in possession of undersized crabs, a warning will be issued for that fisherman. The second time a dealer is found in possession of undersized crabs from that same fisherman, the dealer will receive a civil Class I citation. The third time should result in a Lacey Act violation.

State managers from Louisiana and Alabama along with representatives from law enforcement have met once to discuss this problem. Another meeting is tentatively scheduled in early July at the GSMFC office.

Fishery Management Plan Activities

Flounder - Jack King reported that Section 5 of the management plan is complete. As the process continues, the section will be updated until publication.

Crab - As requested, Texas and Florida representatives provided statistical information on blue crab violations for incorporation into the blue crab FMP. Alabama, Mississippi, and Louisiana will send in their information upon return to their offices. The law section is basically complete. Tom Wagner, the Texas representative on that task force, had been working with Perry Joyner of the LEC. Bruck Buckson will be added to that group to continue LEC representation. Wagner hopes to incorporate blue crab fishery violation statistics from 1990 to present. This section will be revised as necessary throughout the plan process.

Seatrout - The last meeting of the task force was in Gulf Shores last year. Jerry Waller noted that the law section will need revision until the point of publication.

Larry Simpson announced that a new IJF Program Coordinator has been hired and will be onboard July 1. Steve VanderKooy is a young, energetic biologist that comes from the Gulf Coast Research Laboratory.

Other Business

On behalf of the LEC, Jerry Waller expressed his appreciation to the LEC members who are moving on either by retirement or transfer. The years of service given to the committee by Suzanne Horn, Mark Johnson, and Jack King will be sorely missed.

Larry Simpson also expressed his appreciation to the entire committee and especially Chairman Waller. The entire Commission calls upon the LEC for their experience and expertise, and this committee, in particular, is admired and respected by the entire Commission. Suzanne Horn applauded the history of the LEC and the rapport and relationships that have developed in committee that has allowed productive discussions and solutions. Mark Johnson noted that he has enjoyed working with the committee and appreciated their patience while he was in the learning curve during the first couple of years. His successor will be Lt. Commander Tommy Adkins. He has a lot of time and experience in the Gulf and is a good man for the job. He also noted that Bob Perkins will be relieved as the Commanding Officer of the Fishery Training Center on July 9. His replacement will be Lt. Mike Lloyd. Jack King noted that Jerry Waller always does a good job of taking the new people under his wing and getting them onboard. The LEC is always able to focus on the importance of fisheries issues along the Gulf Coast. He feels very comfortable turning Dennis under that wing. He personally appreciates everything the LEC and especially that Jerry has contributed to him not only in the LEC but also at the ISSC. Bruce Buckson noted that Perry Joyner has represented Florida for a while on this committee has been transferred to the training section. The entire LEC expressed Perry's expertise on the committee.

The next meeting will be October in Gulf Shores. The regular meeting format will be in place with the GSMFC Law Enforcement Committee meeting in the morning and the GMFMC Law Enforcement Advisory Panel will meet in the afternoon.

There being no further business, the meeting adjourned Friday, June 20 at 10:30 a.m.

Attachment 1

Statement to the Law Enforcement Committee of the Gulf States Marine Fisheries Commission meeting June 19-20, 1997, Key West, FL

Good day gentlemen. I am pleased to be able to present the video that you are about to see but I also apologize for not being able to attend personally and see each of you. As you are aware, for over 20 years I served as the Southeast Regional Shellfish Specialist for the U.S. Food and Drug Administration and in that position I was able to work with the marine patrolmen in each state in the southeast in shellfish patrol evaluation and support. Throughout those years I was able to accompany field patrols on numerous occasions under all kinds of weather conditions and all hours of the day. Through this experience I gained a great deal of respect for you and your jobs which certainly can be extremely hazardous - having been shot at once made me appreciate that even more. All this experience led me to believe that one of the most important obstacles in your completion of your mission in preventing illegal shellfish harvesting was the lack of understanding of the importance of that mission by the judges and state legislatures. Judges (and magistrates as the case may be) have routinely minimally fined illegal shellfish harvesters - if any fines were given at all. Too, legislators within the states would more than likely only pass a minimal fine schedule that in no way was commensurate with the crime nor adequate to deter illegal harvesting and neither would those legislators provide to you adequate monies and materiel for accomplishing your mission.

In 1994, I accepted a new position as the FDA Associate Director within the Gulf of Mexico Program, located at Stennis Space Center, Mississippi. This program is a multi federal and state agency program and is designed to protect the resources and health of the Gulf of Mexico. Within this program I am also the Federal Chairman of the Public Health Committee and in that position I was able to use my experience in working with all of you by describing a project that the Gulf program funded. That project was to develop a persuasive program which would include a video for educating the states' judiciary and legislature as to the hazards associated with illegal shellfish harvesting. Toward meeting this objective, the Interstate Shellfish Sanitation Conference (ISSC) was awarded the project. As a result, the video that you are about to see, I believe, is one of the best videos and educational tools that I have seen. I urge you to work closely with Ken Moore of the ISSC in the proper and effective use of this educational project. It has already had positive impact in many areas. I appreciate the opportunity to present this and thanks for all the help through the years.

Sincerely,

Thomas L. (Tom) Herrington

APPROVED BY:

COMMITTEE CHAIRMAN

8/7/98

SEAMAP - GULF, SOUTH ATLANTIC
AND CARIBBEAN SUBCOMMITTEES
JOINT MINUTES
Charleston, South Carolina
Sunday, August 3, 1997

Chairman Aida Rosario called the meeting to order at 1:30 p.m. The following members and others were present:

David Donaldson, GSMFC, Ocean Springs, MS
Joanne Shultz, NMFS, Pascagoula, MS
Lynne Hinkey, UPR Sea Grant Program, Mayaguez, PR
James Hanifen, LDWF, Baton Rouge, LA
Mark Leiby, FMRI, St. Petersburg, FL
Rick Leard, GMFMC, Tampa, FL
Terry Cody, TPWD, Rockport, TX
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Lisa Kline, ASMFC, Washington, DC
Henry Ansley, GDNR, Brunswick, GA
Scott Nichols, NMFS, Pascagoula, MS
John Merriner, NMFS/SEFSC, Beaufort, NC
Robin Peuser, ASMFC, Washington, DC
Roger Pugliese, SAFMC, Charleston SC
David Whitaker, SCDNR, Charleston, SC
Bob Van Dolah, SCDNR, Charleston, SC
Jeanne Boylan, SCDNR, Charleston, SC
Elizabeth Wenner, SCDNR/MRRI, Charleston, SC
Henry Norris, FMRI, St. Petersburg, FL
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Walter Tatum, ADCNR, Gulf Shores, AL
Alan Huff, FDEP, St. Petersburg, FL
Aida Rosario, PRDNER, Mayaguez, PR
Cheryl Noble, GSMFC, Ocean Springs, MS

Adoption of Agenda

* After Approval of Minutes, add Presentation of the Bottom Mapping Project by Henry Norris and Bob Van Dolah; under Other Business add Grants Preparation and Discussion of Traveling Display. **R. Pugliese moved to adopt the agenda as amended. J. Hanifen seconded and it passed unanimously.**

Approval of Minutes

* **A. Huff moved to accept the minutes from the joint SEAMAP meeting held on August 5, 1996 in Gulf Shores, AL.** R. Pugliese seconded and it passed unanimously.

Bottom Mapping Project

H. Norris and B. Van Dolah gave a slide presentation (ATTACHMENT I) and briefly demonstrated how to use the database of the South Atlantic Bottom Mapping Project. They also stated that the data will soon be available via Internet and on CD-ROM.

Overview of SEAMAP-Caribbean

A. Rosario reported that on April 1, 1997, the coordination of the Caribbean component moved to the University of Puerto Rico Sea Grant College Program in Mayaguez. There is also a new coordinator, Lynne Hinkey. The Virgin Islands are doing the Spiny Lobster Survey and it should be completed by March 1998. The Puerto Rico Spiny Lobster Survey is continuing and should be completed by December 31st of this year. Puerto Rico also started the reef fish survey in April 1997 and it should end in March 1998. The reef fish survey is suppose to be a three year survey but the committees are discussing possibly doing habitat bottom mapping in conjunction with the Council and other agencies in the Caribbean and if they get the funding for this, they will skip one year in the rotation of the reef fish survey.

Overview of SEAMAP - Gulf

R. Waller Reported that since the last meeting the Gulf has completed the following publications: the 1996 Joint Annual Report, the 1994 and 1995 Atlas, the 1997 Marine Directory, 7 real time data mailings of the Shrimp/Groundfish survey, and the 1996 Atlas is in preparation and should be completed by the end of the year.

The 1996 Fall Plankton Survey was conducted in September 1996 and it assesses distribution of eggs and larvae of red drum and king mackerel. NMFS, Florida, Alabama, Mississippi and Louisiana participated in the survey and approximately 175 stations from Florida to Texas and the northern gulf were sampled.

The 1996 Fall Shrimp/Groundfish Survey was conducted in October through December 1996. Approximately 350 trawl stations from the Alabama/Florida line to Brownsville, Texas were sampled and 40 plankton samples were taken also. Alabama, Mississippi, Louisiana, Texas and NMFS participated in the survey.

The 1997 Spring Ichthyoplankton Survey was conducted in April/May and 190 stations were sampled for blue fin tuna eggs and larvae. This survey takes place from Key West, Florida to Brownsville, Texas. Florida, ~~Texas~~ and NMFS participated in the survey.

The 1997 Reef Fish Survey began in July and is ongoing. This is the sixth year of the survey and the purpose of the survey is to assess relative abundance and compute population estimates of reef fish using a video/trap technique. NMFS, Alabama and Texas are participating in the survey. Because of funding cuts, the states of Mississippi and Louisiana are not participating.

The Summer Shrimp/Groundfish Survey was conducted in June/July of this year. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas participated sampling 315 stations. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. From this survey, there were 7 weekly mailings of real-time data that were distributed

to approximately 280 interested individuals and organizations. This information (plots) was also available via Internet and there were approximately 5-10 hits a week.

The Subcommittee met in October 1996 in New Orleans and the main topics of discussion were chlorophyl issues; how hypoxia is affecting stratification of fish populations around the oil rigs, particularly in western Louisiana; changing the Atlas format; the Comparative Tow results (in hand-outs); and work group reports. The Data Coordinating Work Group met via conference call in April to discuss streamlining the Atlas and the call was very productive. In May, the Environmental Work Group met via conference call to discuss chlorophyl issues.

D. Donaldson said the real time plots are on the Internet and asked that if anyone has any information on their home page referring to SEAMAP to inform him so he can create links and also asked the other components to set up links on their home page to the Gulf's. He said the Gulf's home page has information on the SIPAC, SIS, SAC, publications, committee listings, etc.

Overview of SEAMAP South Atlantic

R. Pugliese reported the South Atlantic Subcommittee met via conference call in April to discuss the potential of additional activities and they also met at this meeting to discuss their future activities and budgeting. The Bottom Mapping Work Group met in March in St. Petersburg, Florida to discuss their efforts on this project which has been continuing for a number of years.

The South Atlantic publications produced this past year include the Annual Report which has the results of the trawling efforts in the coastal habitats of the South Atlantic Bite; the Florida component produced the Distribution of Hardbottom Habitats on the Continental Shelf of Northern and Central East Coast of Florida; and an informational folder on SEAMAP which includes one page information on the collection of fish eggs and larvae, real-time monitoring for shrimp management, essential fish habitat, and determining year to year trends in abundance--this is on high gloss paper and 1,000 were produced to be distributed.

The South Atlantic Bottom Mapping Project, one of the two major projects for this component, is ongoing and as mentioned in the previous presentation, the results will be available in hard copy and on CD-ROM. The activities include compiling documentation of known information on essential fish habitat which will be used by the Council and other agencies making management decisions.

The other major component is the Shallow Water Trawl Survey which is continuing and the objectives of the survey are to collect data on size, abundance, distribution and seasonality of target finfish and decapod crustaceans; record species composition, biomass, and abundance in order to assess latitudinal and seasonal fluctuation; and collect data on size, sex, and gonadal condition of white, pink, and brown shrimp and attempt to locate spawning grounds. This project has become an extremely vital component because much of the information is used in management efforts by the states, commission and council.

All of this information is available in detailed reports if anyone would like copies.

Discussion of King Mackerel Larval Indexes

J. Shultz gave a slide presentation and reported that since 1982 the Southeast Area Monitoring and Assessment Program (SEAMAP) has taken systematic plankton collections on the continental shelf of the U.S. Gulf of Mexico from Brownsville, Texas to south Florida. Abundance of king mackerel larvae from broadscale surveys conducted in 1982 through 1994 were examined and compared to current estimates of king mackerel spawner stock size (ages 4-11+; Joe Powers, Southeast Fisheries Science Center, Miami Laboratory, pers. commun.; and 1996 Report of the Mackerel Stock Assessment Panel, Gulf of Mexico Fishery Management Council). The king mackerel survey (larval) index of abundance was highly correlated with spawning stock size over the 13 year time series. Adjustment of the larval index of abundance for age did not measurably improve the correlation between the index and spawning stock size. It was concluded that an unadjusted index of larva abundance can and should be used as a tuning variable in future population assessments for king mackerel in the Gulf of Mexico.

Status of FY1998 Funds

S. Nichols reported that the SEAMAP program will again be level funded and the amount to be considered when discussing the FY1998 Budget is $1,132,000.00. Last year's breakdown is as follows:

Caribbean	$ 113,700
Gulf	512,403
South Atlantic	285,387
NMFS	220,510
TOTAL	$1,132,000

Joint Discussion of SEAMAP Budget Needs

a. Caribbean - A. Rosario reported they are proposing to start a photo mapping project in conjunction with the Council, University of Virgin Islands, and the National Park Service and they need $150,000 to do both areas -- USVI and Puerto Rico. The major cost of the project will be the side scan sonar, $72,000.00 for six months, but they are hoping to borrow this from another agency. They are planning to skip one year in the rotation of the reef fish survey to do this so total cost will be $78,000 (if they do not have to rent the side scan sonar). To start this project, and to continue other projects they should be able to do so at level funding.

b. Gulf - R. Waller reported the Gulf would like to do new surveys and even restart surveys that have been dropped due to decreases in their budget. They are now facing some new difficulties with overhead cost increases in the states, especially in the state of Florida which may affect the running of the SEAMAP Archiving Center. With this in mind, the Gulf will continue to do the same projects at level funding but has agreed to do whatever is necessary to get more funding in the SEAMAP budget. He stated they will have to show the investment the agencies has already put into SEAMAP and hopefully more funding will become available.

c. South Atlantic - R. Pugliese reported that SEAMAP is actually operating under level funding and their two major programs, the Shallow Trawl and Bottom Mapping, are critical to management efforts. He stated they need $215,609 for the Shallow Trawl and $40,000 for the Bottom Mapping to keep them going. Also, for a 75% coordinator and work group meetings, the ASMFC needs $80,050 for a total of $335,700, but they will try to continue at level funding.

d. NMFS - the Subcommittee asked S. Nichols if NMFS will give extra funding to SEAMAP and he said at this point they also have to stay at level funding.

* After extensive discussion, each component agreed that they have to work together to get more funding for SEAMAP. The components need to provide information to their individual Directors to take to Congress explaining how important SEAMAP is, especially in management making decisions at the state, federal and Council levels and stress that if more money is not received, the long term databases will be jeopardized. **R. Pugliese moved that each component stay at "level funding."** R. Waller seconded it and it passed unanimously. If more or less funding is received, the three chairmen will meet with the Program Manager to decide how it will be distributed. The Subcommittee charged the coordinators with gathering the information needed to provide to the Directors.

Planning for 1997 Joint Annual Meeting

* The 1998 Joint Annual Meeting is scheduled to be in the Caribbean. A. Rosario asked the Committee if they thought this feasible with all of the budget constraints. The members of the South Atlantic Committee stated their travel costs were not much higher when they met in the Caribbean than when they met in the Gulf. The Gulf Committee said it costs more for them to meet in the Caribbean but would agree to if the Caribbean could pay for several of their member's travel. **R. Pugliese moved to have the next joint meeting in Mayaguez, Puerto Rico from August 1 - 3, 1998.** J. Hanifen seconded it and it passed unanimously. L. Hinkey will investigate hotel and flight information and inform the other coordinators with the details. If airline and hotel rates are substantially higher than meeting in the states, the chairmen will make the final decision on where and when the meeting will be held. L. Hinkey will inform D. Donaldson at a later date if the Caribbean can pay for any of the Gulf travel.

Other Business

D. Donaldson informed the Subcommittee that there is information in their packages submitted by E. Guidash explaining what is needed for progress reports and financial status reports.

The Subcommittee again discussed putting together a Traveling display with information, poster, slides, etc. on each component to be used at meetings. D. Donaldson has some information together and he, R. Peuser and L. Hinkey will work together to develop the final product.

R. Waller stated that Admiral Toban, the chief oceanographer for the Navy, went out on the R/V TOMMY MUNRO with them and he asked about SEAMAP and was very impressed with the cooperative program. Admiral Toban asked R. Waller to send him additional information on the program and stated he may be able to provide some additional funding. R. Leard said that he also

spoke with personnel from the Navy who basically said the same thing and D. Donaldson will follow up on sending a letter and information to him.

The Subcommittee thanked Walter Tatum for his efforts to the SEAMAP and presented him with a hand carved red snapper. T. Cody also presented W. Tatum with a hand carved spotted grouper.

There being no further business, the meeting adjourned at 5:10 p.m.

APPROVED BY:
COMMITTEE CHAIRMAN

SEAMAP Subcommittee Meeting
MINUTES
Charleston, SC
Sunday, August 3, 1997

Chairman Richard Waller called the meeting to order at 8:32 a.m. The following members and others were present:

Members:
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Mark Leiby, FDEP/FMRI, St. Petersburg, FL
Joanne Shultz, NMFS, Pascagoula, MS
Richard Leard, GMFMC, Tampa, FL
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA

Others:
Walter Tatum, Foley, AL
Scott Nichols, NMFS, Pascagoula, MS

Staff:
Dave Donaldson, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Adoption of Agenda

Agenda Item 8c does not have to be discussed and K. Savastano will not be here to give the Data Management Report (7a). With these changes, the agenda was adopted as submitted.

Approval of Minutes (3/17/97)

* Under the update of Chlorophyll sampling, spectrophotometric analyze needs to be changed to analysis, and the underscore in this sentence needs to be deleted. **J. Hanifen moved to accept the minutes as amended.** J. Shultz seconded it and it passed unanimously.

Administrative Report

The Summer Shrimp/Groundfish Survey was conducted in June/July of this year. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas participated sampling 315 stations. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. From this survey, there were 7 weekly mailings of real-time data that were distributed to approximately 280 interested individuals and organizations. This information (plots) was also available via Internet and there were approximately 5-10 hits a week.

He also stated that in reference to receiving the real-time data from the states, that NMFS, Mississippi Laboratories, has a very basic data-entry system for this real-time data information. He asked that if the software was provided, will the states consider entering their information using the new software and sending the information via E-mail to D. Hanisko at NMFS. After discussion, the Subcommittee was concerned with possible problems in doing this but they asked D. Donaldson to send them the software ASAP so they can try this to see if it works before next year's mailings begin.

The Reef Fish Survey began in July and is continuing to date. Vessels from NMFS, Alabama and Texas participate in this survey and the purpose of the survey is to assess relative abundance and compute population estimates of reef fish using a video/trap technique. J. Shultz stated that due to funding problems, NMFS was on the verge of bringing the cruise back from south Florida, but the NOAA Corps Office of Operations contributed funding to continue the survey so they will have a complete 1997 Reef Fish Survey.

The 1994 Atlas was completed and has been received from the printer and the 1995 Atlas was completed and is at the printer. To save postage, both Atlases will be distributed together. Work is currently being done on the 1996 Atlas and hopefully it will be completed by the end of the year. After the 1996 atlas is completed, the atlases will be only one year behind which has been a goal of the Subcommittee.

D. Donaldson said the GSMFC now has a new Internet provider and prior to this change, the SEAMAP home page had approximately 800 hits. The SEAMAP home page has had approximately 80 hits with the new provider and the address has changed: SEAMAP - www.gsmfc.org/seamap.html; GSMFC - www.gsmfc.org. He also reminded everyone to establish links to SEAMAP from their home pages and to contact him to establish links to their home page.

D. Donaldson said that earlier in the year, there was a request to use SEAMAP Bluefin tuna larvae for stock identification and the Subcommittee agreed that this would be an acceptable activity but decided that some of the larvae should be saved for future reference and use.

R. Waller stated that Admiral Toban, the chief oceanographer for the Navy, went out on the R/V TOMMY MUNRO with them and he asked about SEAMAP and was very impressed with the program and the equipment on the TOMMY MUNRO. He asked D. Donaldson to send Admiral Toban information on SEAMAP. The Subcommittee will discuss, under other business, drafting a letter or proposal to Admiral Toban asking for possible funding for the data management program or intercalibration of the environmental sensing equipment and justify this by stating the Navy uses this information. Even though the data management portion is long-term, a short term infusion of funds will help to catch up.

Status of FY 1998

The House and Senate mark for SEAMAP funding in 1998 is level funding which is $1.2 million.

Activities and Budget Needs for FY 1998

a. Florida - the Lab is discussing changing overhead rates again and if they do, Florida will have no money left for sea days. They are now at a minimum on sea days and with the lack of personnel, M. Leiby spends a high per cent of his time doing data entry. Also, there is another reorganization at the Lab and he has been charged with justifying their collections including the SEAMAP ichthyoplankton collection. Florida will try to continue at level funding - $93,480.

b. Alabama - will attempt to continue all surveys at level funding - $68,000.

c. Mississippi - the university is also charging more in overhead (45%) but in the past the money was directed back to the Lab. If the money stays in Hattiesburg, there is no way Mississippi can do any surveys and if this happens, they will not submit a proposal. If the university does not charge the higher rate, they should be able to continue all surveys at level funding - $94,495.

d. Louisiana - will attempt to continue all surveys at level funding. Historically, Louisiana has not charged any indirect costs to SEAMAP but the financial office is charging all new projects approximately 31% in indirect costs. Since SEAMAP is an established project, they have been able to argue against charging indirect costs. Also, ship expenses have increased. If SEAMAP is charged with indirect costs and if ship time increases too much, they will only be able to do the summer and fall surveys. Level funding is $120,700.

e. Texas - they are in the process of completing all activities from last year. Texas is interested in doing more standard trap/video drops and will try to piggyback on as many trips possible. T. Cody asked if there is any equipment available for Texas to use on some of their other boats. He said Texas' artificial reef program is going well and they may be able to tie into that for these surveys. They will try to continue operating on level funding - $54,804.

f. GSMFC - will try to continue on level funding but this will allow only one work group meeting. The work group meetings are important and is a major concern to everyone. If the next meeting is in the Caribbean, GSMFC will need an extra $2,000 because that higher cost has not been budgeted for next year. Level funding is $80,564.

Work Group Reports

1. Data Management Activities - K. Savastano was not present at the meeting but he will send the Data Management Report (Attachment I) and it will be distributed to the SEAMAP Subcommittee.

2. SEAMAP Atlas Recommendations - The Data Coordinating Work Group met (via conference call) on Wednesday, April 23, 1997. The main purpose of the call was to

discuss recommendations regarding streamlining the SEAMAP Atlas. An ad hoc work group met and developed several recommendations for the group to consider. During the discussions, it was noted that the main purpose of the SEAMAP Atlas is to provide a general summary of the SEAMAP data collected during a specific year. The group reviewed and discussed the suggestions and request the Subcommittee to consider the following recommendations and then ask for TCC approval. K. Savastano will also submit a report (Attachment II) from the Data Coordinating Work Group stating the changes/modifications were reviewed and accepted by the Work Group.

Recommendation 1 - Combine the 20-ft and 40-ft data for the species composition and the A & B Tables into one species composition and A & B Table.

Discussion by ad hoc work group: The rationale for this action is that the Atlas is a summary document and there may not be a need for this much detail as well as the information for the figures is not separated. The work Group suggested that a statement be added in the text of the Atlas and/or in the Table Heading pointing out that this is summarized data and original data (separated by trawl types) is available to users for their further investigation, if desired. This action will not incur additional cost to implement.

Discussion by the Subcommittee: the Subcommittee agreed that these changes can be made and it should cut the page numbers significantly, but in the text describing the Tables, it must be explained fully that in certain statistical zones it is a combination of 20 and 40 ft trawl data and if more specific information is needed, contact the data manager. Also, a foot note or description in the text needs to be included on how the data was standardized. The table headings must also be modified to reflect the changes.

Recommendation 2: For the A Tables, condense the depth stratum from 0-5, 6-10, 11-20, 21-30, 31-40, and over 40 to 0-20, 21-40, and over 40.

Discussion by ad hoc work group: Again, the rationale is that the document is a summary of the data and there may not be a need for this much detail. This action will incur additional costs to implement because the Atlas software will have to be reprogrammed.

Discussion by the Subcommittee: The Subcommittee does not want to change the stratums because the difference in organisms is quite significant from 0-20 fm. The Subcommittee suggests using the same strata but to rearrange the columns. Have only 3 columns for each strata with the mean number on top and the SEM on bottom in parenthesis. An example of the change is attached (ATTACHMENT III). The software will have to be modified to print in that format. D. Donaldson will ask D. Hanisko to investigate to see if these changes can be made and he will report to the Subcommittee.

Recommendation 3: Add 20 and 50 fm contours to the plots.

Discussion by ad hoc work group: the rationale for this recommendation is that the contours will provide users reference points for where the catches occurred and enable them to better utilize the document. This action will not incur additional cost to implement.

Discussion by Subcommittee: the Subcommittee agreed to make this change with no further discussion.

Recommendation 4: Change the plots to reflect contours lines/concentric circles, etc. instead of the actual numbers.

Discussion by ad hoc work group: The information will still be in number/hr and pounds/hr but presented in a more user-friendly format. It will enable users to quickly assess the catch rates throughout the sample area and thus make the Atlas more useful. Some examples have been generated and distributed. This action will incur additional costs to implement since different software will need to be used/developed to create these plots.

Discussion by Subcommittee: D. Donaldson informed the Subcommittee that after investigating this change, the software could not be modified to allow this so the Subcommittee does not need to discuss it.

Recommendation 5: Include only Texas through Alabama for the scope of the plots.

Discussion by ad hoc work group: Since there is no trawl sampling in Florida waters, it will be useful to narrow the geographic scope of the plot. This will allow for a more focused area to be presented and provide more resolution of the area sampled. This action will not incur additional costs to implement.

Discussion by Subcommittee: The Subcommittee agreed to make this change with no further discussion.

Recommendation 6: Remove the sea surface temperature plots.

Discussion by ad hoc work group: Currently, this information is either downloaded from the Internet or received via fax, and NMFS personnel spend a large amount of time modifying the information for inclusion in the Atlas. The amount of effort devoted to this activity does not appear to be a wise use of resources. Also, the information for the sea surface temperature plots is not SEAMAP data. The group is exploring different methods for getting this information; however, the current method is not a good use of personnel and the group recommends removing the plots. This action will not incur additional costs to implement.

Discussion by Subcommittee: the Subcommittee agreed to remove the plots but a statement must be added in the text indicating the information was formerly provided and then state the alternative sources to obtain the information.

The Subcommittee accepted the recommendations but would like to see a draft of the changes in the text and tables before final approval.

b. Environmental Data

1. J. Shultz read the Environmental work group report prepared by P. Thompson (Attachment IV).

2. Recommendations regarding chlorophyll sampling - J. Hanifen informed the Subcommittee that since the EWG conference call, another question has come up on the fluorometric/spectrophometric issue. It seems some of the fluorometric values that have been entered into the data set are being entered as chlorophyl but they are not corrected chlorophyl data, they are total fluorescence. The 95 Atlas has a new column in the Environmental data that is fluorescence. In order to go from flourescence to chlorophyl the instrument has to be calibrated at least once a day in order to develop a calibration curve to be able to go from flourescence to chlorophyl. Also, before going to a different body of water, the curve has to be developed again. There has been people requesting this data and we do not think they are aware of this situation. Gear codes are on the station sheets but if the individuals do not ask for that information specifically, they do not know because it's not flagged in the data set. The Subcommittee agreed that all documents need to be changed indicating the data is fluorescence, not just chlorophyll data and the data set should be corrected also. NMFS and Louisiana are still working on the comparison data and J. Hanifen will give a report at the October meeting. At that point the Subcommittee will decide how to handle this situation. It was also suggested that this could be another justification to Admiral Toban asking for funding to standardize equipment and to develop an intercalibration curve to be able to convert historical data to the extent possible.

Preparation of Cooperative Agreements

D. Donaldson distributed the 1998 Operations Plan and the NMFS Portion of the Cooperative Agreement and asked to please review and send any comments to him before August 18, 1997.

Other Business

R. Waller and D. Donaldson will develop a draft letter to Admiral Toban asking for possible funding. The letter will be distributed to the Subcommittee for review before mailing to Admiral Toban.

J. Shultz informed the Subcommittee that the PSC is short on funds.

There being no further business, the meeting adjourned at 12:05 p.m.

August 2, 1997

SEAMAP DATA MANAGEMENT

A. Data Processing Status

Status reports for the 1982 through 1996 SEAMAP data are shown in Attachments 1-10. All cruise data in the SEAMAP on-line data base have been reformatted to SEAMAP versions 3.0, 3.1, 3.2 or 3.3. Data processing of 1996-1997 data and 1982-1987 Gulf data is in progress. The South Atlantic hard bottom data base was updated with the addition of the Florida hard bottom data in May 1997.

B. Gulf Atlas Processing

Processing of the 1994 and 1995 SEAMAP Atlas has been completed. Preliminary modifications to the SEAMAP Atlas processing software have been made in preparation for the 1996 SEAMAP Atlas.

C. Data Requests

Two hundred and six SEAMAP requests have been received to date. Two hundred and five have been completed and work is being done on the remaining request. Twenty-five requests were filled since October 1996.

D. Software/System Progress

Version 3.3 of the SEAMAP Data management system was released on April 2, 1997. This version corrects all problems identified to date. A new plot/graphic software program that was designed to plot SEAMAP data was also included in the release. The new system runs under DOS, 0S/2 and Windows 95 and the main frame computer can be accessed via dial up phone lines or Internet.

Re-engineering the main frame SEAMAP software in order to take advantage of the ORACLE data base software is currently in progress. The development work is being performed on the SGI work station in Pascagoula.

E. On-line Data Base Status

Status of the SEAMAP data as of October 08, 1996 is shown in Attachment 11. The SEAMAP on-line data base had 332 cruises with a total of 2,230,802 records (approximately 87.8 megabytes of data). Since October 1996, thirty-eight cruises were processed through version 3.2 or 3.3 and added to the on-line data base as shown in Attachment 12. The SEAMAP on-line data base now contains 370 cruises with a total of 2,477,269 records (approximately 98.5 megabytes of data).

Kenneth Savastano
Data Manager

ATTACHMENT 1

15-Jul-97

SEAMAP 1982

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	821	CRUISE 821	3	13	11	86	11	*1	*1	*1	*1	*1	*1	*1	*1	121	3.0	17-Jun-94	
MS	17	821	CRUISE 821	3	21	21	415	20	1365	*1	*1	*1	*1	*1	*1	*1	1842	3.2	18-Apr-96	
TOTAL					34	32	501	31	1365								1963			

15-Jul-97

SEAMAP 1983

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	831	CRUISE 831	3	18	18	217	18	*1	*1	*1	*1	*1	*1	*1	*1	271	3.0	27-Jun-94	
MS	17	831	CRUISE 831	3	26	14	385	14	*1	14	832	*1	12	35			1320	3.2	18-Apr-96	
US	4	135	SUMMER SEAMAP	3	263	195	4343	248	*1	*1	*1	*1	57	162			5211	3.3	09-Jul-97	
TOTAL					307	227	4945	280		14	832		69	197			6802			

15-Jul-97

SEAMAP 1984

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	841	CRUISE 841	3	10	10	120	10	613	*1	*1	*1	*1	*1	*1	*1	763	3.0	27-Jun-94	
MS	17	841	SUMMER SEAMAP	3	24	24	357	24	*1	6	165	*1	*1	*1	*1	*1	600	3.2	17-Aug-95	
MS	17	842	ICHTHYOPLANKTON SURVEY	3	10	*1	*1	*1	*1	*1	*1	*1	10	30			40	3.1	25-Jul-95	
US	4	145	SUMMER SEAMAP	3	289	220	5596	259	11816	186	5093	*1	68	204			23663	3.1	04-Dec-96	
TOTAL					333	254	6073	293	12429	192	5258		78	234			25066			

15-Jul-97

SEAMAP 1985

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	851	SUMMER SEAMAP	3	20	18	286	20	*1	5	68	*1	2	4			421	3.0	22-Oct-93	66
AL	23	852	FALL SEAMAP	3	11	11	226	10	237	6	22	*1	*1	*1	*1	*1	523	3.0	22-Oct-93	52
MS	17	851	SUMMER SEAMAP	3	36	31	754	31	*1	27	474	*1	5	15			1368	3.1	23-Feb-95	
MS	17	852	FALL SEAMAP	3	60	40	893	40	1839	*1	*1	*1	20	60			2932	3.1	05-May-95	
MS	17	853	WINTER SEAMAP	3	42	40	960	42	2752	40	1327	*1	2	6			5209	3.1	13-Jun-95	
MS	17	854	FALL SEAMAP	3	16	15	290	15	785	*1	*1	*1	5	15			1136	3.1	19-May-95	
US	4	153	SUMMER SEAMAP	3	355	317	6737	191	5226	292	15972	*1	38	112			29202	3.2	28-May-96	
US	4	156	FALL SEAMAP	3	411	407	9261	322	19609	188	5261	*1	2	5			35464	3.2	15-Sep-95	
TOTAL					951	879	19407	671	30448	558	23124		74	217			76255			118

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTE[illegible]RIFIED AND DATA BASED)

ATTACHMENT 2

15-Jul-97

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	TOTAL HOURS
AL	23	861	SUMMER SEAMAP	3	13	12	210	13	*1	11	76	*1	1	3			338	3.0	13-Oct-93	47
AL	23	862	FALL SEAMAP	3	16	*1	*1	16	*1	*1	*1	*1	16	32			64	3.0	28-Oct-93	58
AL	23	863	FALL SEAMAP	3	6	6	123	6	44	*1	*1	*1	*1	*1	*1	*1	185	3.0	13-Oct-93	21
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	3	20	14	378	18	833	12	233	*1	6	18			1526	3.1	11-Jan-95	
MS	17	863	SUMMER SEAMAP	3	14	14	412	12	624	13	165	*1	*1	*1	*1	*1	1254	3.1	17-Jan-95	
MS	17	864	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	27			45	3.1	17-Jan-95	
MS	17	865	FALL SEAMAP	3	18	18	327	18	*1	*1	*1	*1	*1	*1	*1	*1	381	3.1	11-Jan-95	
SC	51	861	FALL SEAMAP	3	68	68	1641	68	16326	*1	*1	*1	*1	*1	*1	*1	18171	2.02	03-Feb-93	3
SC	51	862	WINTER SEAMAP	3	44	22	532	44	2683	*1	*1	*1	*1	*1	*1	*1	3325	2.02	03-Feb-93	28
SC	51	863	FALL SEAMAP	3	70	70	1792	70	9865	*1	*1	*1	*1	*1	*1	*1	11867	2.02	03-Feb-93	23
US	4	160	SUMMER SHRIMP/GROUNDFISH	3	214	165	4114	159	4885	128	4574	*1	43	129			14368	3.1	05-Dec-94	
US	4	161	FALL ICHTHYOPLANKTON	3	128	*1	*1	119	*1	*1	*1	*1	91	273			520	3.0	04-Mar-94	
US	4	163	FALL SHRIMP/GROUNDFISH	3	306	305	6025	300	19008	*1	*1	*1	64	192			26136	3.1	26-Oct-94	
TOTAL					977	732	16371	867	54268	164	5048		246	720			79147			180

15-Jul-97

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	TOTAL HOURS
AL	23	871	SUMMER SEAMAP	3	1	1	31	*1	*1	*1	*1	*1	*1	*1	*1	*1	33	3.0	26-Jul-93	3
AL	23	872	SUMMER SEAMAP	3	12	12	124	12	*1	3	4	*1	*1	*1	*1	*1	167	3.0	08-Oct-93	63
AL	23	873	FALL ICHTHYOPLANKTON	3	10	*1	*1	10	*1	*1	*1	*1	10	10			30	3.0	08-Oct-93	9
AL	23	874	FALL SEAMAP	3	5	5	42	*1	*1	*1	*1	*1	*1	*1	*1	*1	52	3.0	08-Sep-93	10
AL	23	875	FALL SEAMAP	3	8	8	45	8	*1	*1	*1	*1	*1	*1	*1	*1	69	3.0	08-Oct-93	13
MS	17	871	BUTTERFISH CRUISE	3	53	53	1349	*1	4310	*1	*1	*1	*1	*1	*1	*1	5765	3.0	04-Aug-93	34
MS	17	872	SUMMER SEAMAP	3	76	68	1979	70	3827	41	807	*1	8	24			6892	3.0	06-Dec-93	243
MS	17	873	FALL ICHTHYOPLANKTON	3	19	*1	*1	19	*1	*1	*1	*1	19	42			80	3.0	09-Jul-93	11
MS	17	874	FALL SEAMAP	3	22	18	488	18	593	*1	*1	*1	4	9			1148	3.0	16-Jul-93	33
SC	51	871	SPRING SEAMAP	3	52	52	2065	52	7455	*1	*1	*1	*1	*1	*1	*1	9676	2.02	15-Jan-93	27
SC	51	872	SUMMER SEAMAP	3	52	52	2018	52	6919	*1	*1	*1	*1	*1	*1	*1	9093	2.02	19-Jan-93	17
SC	51	873	FALL SEAMAP	3	52	52	1811	52	4847	*1	*1	*1	*1	*1	*1	*1	6814	2.02	15-Jan-93	17
SC	51	874	FALL SEAMAP	3	54	54	2213	54	5269	*1	*1	*1	*1	*1	*1	*1	7644	2.02	15-Jan-93	19
SC	51	875	WINTER SEAMAP	3	52	52	2075	52	5455	*1	*1	*1	*1	*1	*1	*1	7686	2.02	19-Jan-93	17
US	4	167	SEAMAP SUMMER SHRIMP/GROUNDFISH	3	509	463	9063	240	58315	308	7008	*1	44	131			76037	3.0	10-Nov-94	
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	893	132348	352	7819		200	561			175911			516

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 3

15-Jul-97

SEAMAP 1988

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	881	SUMMER SEAMAP	3	7	7	136	7	288	2	7	*1	*1	*1	*1	*1	454	2.02	17-May-93	20
AL	23	882	SUMMER SEAMAP	3	4	4	43	4	85	*1	*1	*1	*1	*1	*1	*1	140	2.02	17-May-93	20
AL	23	883	RED DRUM/KING MACKEREL	3	10	*1	*1	10	*1	*1	*1	*1	10	10			30	2.02	17-May-93	14
FL	36	881	SPRING ICHTHYOPLANKTON	3	17	*1	*1	17	*1	*1	*1	*1	17	47			81	2.0	16-Nov-92	26
FL	36	882	FALL ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1	*1	36	107			179	2.0	16-Nov-92	22
LA	25	883	SUMMER SEAMAP	3	21	21	195	21	2064	*1	*1	*1	21	21			2343	3.2	30-Jul-96	
LA	25	885	FALL SEAMAP	3	21	21	193	21	1410	*1	*1	*1	21	21			1687	3.2	30-Jul-96	
LA	35	881	SPRING SEAMAP	3	24	24	563	24	7323	*1	*1	*1	11	26			7984	3.1	12-Oct-94	77
LA	35	882	SUMMER SEAMAP	3	24	24	571	24	7888	19	328	*1	12	36			8914	3.1	17-Jan-95	
LA	35	884	FALL SEAMAP	3	20	20	489	20	5255	18	278	*1	10	27			6127	3.1	19-Jun-95	
LA	35	886	FALL SEAMAP	3	24	23	668	24	8036	*1	*1	*1	8	24			8799	3.2	12-Aug-96	
MS	17	881	SUMMER SEAMAP	3	47	41	926	47	6200	24	525	*1	6	17			7827	3.0	01-Jul-93	146
MS	17	882	FALL ICHTHYOPLANKTON	3	33	*1	*1	33	*1	*1	*1	*1	33	82			148	2.02	04-Jun-93	31
MS	17	883	FALL SEAMAP	3	26	23	644	26	4377	*1	*1	*1	3	9			5105	3.0	01-Jul-93	85
SC	51	881	SPRING SEAMAP	3	52	52	1593	32	4096	*1	*1	*1	*1	*1	*1	*1	5825	2.02	20-Nov-92	34
SC	51	882	SUMMER SEAMAP	3	52	52	1839	50	5518	*1	*1	*1	*1	*1	*1	*1	7511	2.02	01-Dec-92	34
SC	51	883	SUMMER SEAMAP	3	52	52	2063	44	9235	*1	*1	*1	*1	*1	*1	*1	11446	2.02	02-Dec-92	11
SC	51	884	SUMMER SEAMAP	3	52	52	1988	52	7234	*1	*1	*1	*1	*1	*1	*1	9378	2.02	20-Nov-92	13
SC	51	885	FALL SEAMAP	3	52	52	2347	52	8807	*1	*1	*1	*1	*1	*1	*1	11310	2.02	20-Nov-92	14
SC	51	886	FALL SEAMAP	3	52	52	2190	52	7501	*1	*1	*1	*1	*1	*1	*1	9847	2.02	01-Dec-92	23
SC	51	887	FALL SEAMAP	3	52	52	2223	52	6533	*1	*1	*1	*1	*1	*1	*1	8912	2.02	26-Nov-92	14
SC	51	888	FALL SEAMAP	3	52	52	2351	42	7552	*1	*1	*1	*1	*1	*1	*1	10049	2.02	02-Dec-92	0
TX	31	881	SUMMER SEAMAP	3	16	16	344	16	1706	13	442	*1	*1	*1	*1	*1	2553	2.02	04-Aug-93	58
TX	31	882	FALL SEAMAP	3	16	16	76	16	160	*1	*1	*1	*1	*1	*1	*1	284	2.02	05-Aug-93	52
TX	32	881	SUMMER SEAMAP	3	16	16	299	16	1312	14	290	*1	*1	*1	*1	*1	1963	2.02	04-Aug-93	43
TX	32	882	FALL SEAMAP	3	16	16	225	16	969	*1	*1	*1	*1	*1	*1	*1	1242	2.02	05-Aug-93	20
TX	33	881	SUMMER SEAMAP	3	16	16	117	16	330	5	13	*1	*1	*1	*1	*1	513	2.02	04-Aug-93	36
TX	33	882	FALL SEAMAP	3	16	16	247	16	1003	*1	*1	*1	*1	*1	*1	*1	1298	2.02	05-Aug-93	21
TX	34	881	SUMMER SEAMAP	3	16	16	144	16	644	10	43	*1	*1	*1	*1	*1	889	2.02	04-Aug-93	39
TX	34	882	FALL SEAMAP	3	16	16	210	16	920	*1	*1	*1	*1	*1	*1	*1	1178	2.02	05-Aug-93	22
TX	40	881	SUMMER SEAMAP	3	16	16	239	16	905	16	249	*1	*1	*1	*1	*1	1457	2.02	04-Aug-93	37
TX	40	882	FALL SEAMAP	3	16	16	131	16	461	*1	*1	*1	*1	*1	*1	*1	640	2.02	05-Aug-93	20
US	4	172	STRIPED BASS SURVEY	3	571	374	327	82	*1	*1	*1	*1	176	*2			1354	3.0	20-Jan-94	22
US	4	173	SPRING ICHTHYOPLANKTON SURVEY	3	165	*1	*1	165	*1	*1	*1	*1	143	290	1569	2348	4537	3.0	20-Sep-95	161
US	4	174	SEAMAP SHRIMP/GROUNDFISH	3	408	387	7465	192	40083	220	4850	5	19	57			53667	3.0	11-Dec-93	684
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	154
US	4	177	SEAMAP FALL SHRIMP/GROUNDFISH	3	598	595	12342	210	54937	*1	*1	98	39	117			68897	3.0	02-Dec-93	641
TOTAL					2800	2140	43188	1581	202832	341	7025	103	731	1050	3033	5474	269567			2594

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

15-Jul-97

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	MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
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	28
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	22
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	11
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	12
FL	36	891	SPRING 1989 ICHTHYOPLANKTON	3	25	*1	*1	25	*1	*1	*1	*1	25	75			125	2.0	22-Jul-92	29
FL	36	892	FALL 1989 ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1	*1	36	108			180	2.0	22-Jul-92	16
LA	35	891	LA 1989 SPRING SEAMAP	3	24	24	614	24	7914	21	140	*1	8	21			8782	2.0	28-Jul-92	22
LA	35	892	LA 1989 SUMMER SEAMAP	3	22	22	439	22	3984	17	292	*1	12	36			4834	2.0	28-Jul-92	22
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	19
LA	35	894	LA 1989 FALL SEAMAP	3	24	24	572	24	4390	24	499	*1	12	36			5593	2.0	28-Jul-92	21
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	27
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	18
LA	35	897	LA 1989 WINTER SEAMAP	3	16	16	493	16	3635	16	567	*1	7	21			4780	2.0	28-Jul-92	20
MS	17	891	SUMMER SHRIMP/GROUNDFISH SVY	3	41	34	989	41	7581	20	261	*1	7	21			8988	2.0	31-Oct-91	51
MS	17	892	FALL ICHTHYOPLANKTON SURVEY	3	65	*1	*1	65	*1	*1	*1	*1	65	75			205	2.0	30-Oct-91	74
MS	17	893	FALL SHRIMP/GROUNDFISH SURVEY	3	20	17	568	20	4631	*1	*1	*1	3	9			5265	2.0	01-Nov-91	48
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	88
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	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	74
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	11
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	12
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	9
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	7
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	7
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	6
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	6
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	6
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	6
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	5
US	4	179	SA-SEAMAP/BEAUFORT ECOSYSTEM	3	571	438	847	37	2176	*1	*1	*1					4069	2.0	05-Nov-92	182
US	4	180	OREGON II SUMMER SEAMAP	3	244	237	4178	172	26040	140	4815	*1	21	63			35889	2.0	21-Oct-92	505
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	219
US	4	184	SEAMAP SHRIMP/GROUNDFISH	3	512	490	11997	229	66970	*1	*1	6	39	117			80321	2.0	06-Oct-92	355
US	49	892	SEAMAP ICHTHYOPLANKTON/THERMAL	3	141	*1	*1	131	*1	*1	*1	*1	125	212			484	2.0	15-Dec-92	277
TOTAL					2636	2073	40720	1736	177591	702	14939	6	489	1020	1855	4205	247483			2307

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 5

15-Jul-97

SEAMAP 1990

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	TOTAL HOURS
AL	23	901	SUMMER SHRIMP GROUNDFISH	3	14	159	14	684	5	74	*1	*1	*1	*1	*1	964	2.0	26-Mar-92	13
AL	23	902	AL JULY SHRIMP-GROUNDFISH	3	1	15	1	36	1	3	*1	*1	*1	*1	*1	58	2.0	26-Mar-92	10
AL	23	903	FALL KING MACKEREL/REDDRUM/PLAN	3	10	*1	10	*1	*1	*1	*1	10	10			30	2.0	26-Mar-92	8
AL	23	904	FALL SHRIMP GROUNDFISH	3	13	203	9	775	*1	*1	*1	*1	*1	*1	*1	1013	2.0	26-Mar-92	13
FL	36	901	SPRING 1990 ICHTHYOPLANKTON	3	21	*1	21	*1	*1	*1	*1	21	61			103	2.0	22-Jul-92	28
FL	36	902	FALL 1990 ICHTHYOPLANKTON	3	30	*1	30	*1	*1	*1	*1	30	90			150	2.0	22-Jul-92	33
LA	35	901	LA SPRING SEAMAP	3	24	457	23	3581	15	128	*1	6	15			4261	2.0	28-Jul-92	23
LA	35	902	LA SUMMER SEAMAP	3	31	444	31	3151	15	171	*1	7	21			3888	2.0	28-Jul-92	27
LA	25	903	LA AREA SEAMAP CRUISE 903	3	21	142	21	1436	9	202	*1	21	42			1894	2.0	28-Jul-92	17
LA	35	904	LA FALL SEAMAP	3	31	381	25	2954	18	174	*1	7	20			3627	2.0	28-Jul-92	20
LA	25	905	LA FALL SEAMAP	3	21	125	21	833	7	121	*1	21	42			1191	2.0	28-Jul-92	19
LA	35	906	LA WINTER SEAMAP	3	25	554	24	5978	20	952	*1	4	12			7586	2.0	28-Jul-92	25
MS	17	901	SUMMER SHRIMP/GROUNDFISH	3	44	1086	44	8868	10	395	*1	4	12			10499	2.0	01-Nov-91	39
MS	17	902	FALL ICHTHYOPLANKTON SURVEY	3	107	*1	107	*1	*1	*1	*1	107	113	32	91	450	2.0	10-May-94	67
MS	17	903	FALL SHRIMP/GROUNDFISH SURVEY	3	24	727	20	4470	*1	*1	*1	*1	*1	*1	*1	5265	2.0	01-Nov-91	31
SC	51	901	SPRING SEAMAP SURVEY SOUTH ATL	3	210	4529	208	15747	60	702	*1	*1	*1	*1	*1	21666	2.0	08-Jul-92	47
SC	51	902	SUMMER SEAMAP S. ATLANTIC 90	3	156	4552	156	14060	91	1432	*1	*1	*1	*1	*1	20603	2.0	08-Jul-92	44
SC	51	903	FALL SEAMAP SURVEY SOUTH ATL	3	182	6041	182	12663	128	2884	*1	*1	*1	*1	*1	22262	2.0	08-Jul-92	61
TX	31	901	SUMMER SHRIMP/GROUNDFISH	3	16	128	16	456	9	69	*1	*1	*1	*1	*1	710	2.0	27-Mar-92	13
TX	32	901	SUMMER SHRIMP/GROUNDFISH	3	16	267	16	1569	11	431	*1	*1	*1	*1	*1	2326	2.0	27-Mar-92	13
TX	33	901	SUMMER SHRIMP/GROUNDFISH	3	16	289	16	1605	14	205	*1	*1	*1	*1	*1	2161	2.0	27-Mar-92	12
TX	34	901	SUMMER SHRIMP/GROUNDFISH	3	16	125	16	606	5	101	*1	*1	*1	*1	*1	885	2.0	27-Mar-92	11
TX	40	901	SUMMER SHRIMP/GROUNDFISH	3	16	120	16	786	7	218	*1	*1	*1	*1	*1	1179	2.0	27-Mar-92	11
TX	31	902	SHRIMP/GROUNDFISH SURVEY	3	16	127	16	288	*1	*1	*1	*1	*1	*1	*1	463	2.0	30-Mar-92	12
TX	32	902	SHRIMP/GROUNDFISH SURVEY	3	16	244	16	894	*1	*1	*1	*1	*1	*1	*1	1186	2.0	30-Mar-92	12
TX	33	902	SHRIMP/GROUNDFISH SURVEY	3	16	146	16	497	*1	*1	*1	*1	*1	*1	*1	691	2.0	30-Mar-92	12
TX	34	902	SHRIMP/GROUNDFISH SURVEY	3	16	99	16	496	*1	*1	*1	*1	*1	*1	*1	643	2.0	30-Mar-92	10
TX	40	902	SHRIMP/GROUNDFISH SURVEY	3	16	197	16	872	*1	*1	*1	*1	*1	*1	*1	1117	2.0	30-Mar-92	9
US	4	187	SEAMAP ICHTHYOPLANKTON	3	151	*1	139	*1	*1	*1	*1	139	408			698	2.0	07-Jan-92	101
US	4	189	SPRING SHRIMP/GROUNDFISH	3	290	5620	230	34308	219	6083	*1	19	57			47074	2.0	27-Sep-91	452
US	4	190	PLANKTON SURVEY GULF OF MEXICO	3	133	*1	131	*1	*1	*1	*1	108	320			584	2.0	20-Sep-91	162
US	4	191	SEAMAP/GROUNDFISH SURVEY GOM	3	293	6725	218	39457	*1	*1	2	39	117			47102	2.0	23-Sep-91	285
US	28	901	SEAMAP ECOSYSTEM S ATLANTIC	3	136	70	62	*1	*1	*1	*1	40	*2	*2	*2	348	2.0	10-Jun-92	100
TOTAL					2128	33572	1887	157070	644	14345	2	583	1340	32	91	212677			1740

STATUS CODES:

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3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 6

15-Jul-97

SEAMAP 1991

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	TOTAL HOURS
AL	23	911	SUMMER SHRIMP GROUNDFISH GOM	3	10	159	10	450	7	155	*1	*1	*1	*1	*1	801	2.0	26-Mar-92	6
AL	23	912	KING MACKEREL RED DRUM PLANKTON	3	10	*1	10	*1	*1	*1	*1	10	10			30	2.0	26-Mar-92	8
AL	23	913	GROUNDFISH SURVEY GOM	3	7	174	7	935	*1	*1	*1	*1	*1	*1	*1	1130	2.0	26-Mar-92	14
FL	36	911	SPRING 1991 ICHTHYOPLANKTON	3	13	*1	13	*1	*1	*1	*1	13	39			65	2.0	22-Jul-92	22
FL	36	912	FALL 1991 ICHTHYOPLANKTON	3	23	*1	23	*1	*1	*1	*1	23	68			114	2.0	22-Jul-92	21
LA	25	913	SUMMER SEAMAP	3	21	130	21	1479	6	62	*1	21	42			1782	2.02	30-Nov-92	13
LA	25	915	FALL SEAMAP	3	21	193	21	1716	12	230	*1	21	42			2256	2.02	30-Nov-92	21
LA	35	911	SPRING SEAMAP	3	29	602	29	6570	19	188	*1	7	21			7480	2.02	30-Nov-92	22
LA	35	912	SUMMER SEAMAP	3	31	360	31	3368	12	251	*1	7	21			4098	2.02	30-Nov-92	29
LA	35	914	FALL SEAMAP	3	31	461	30	3096	22	395	*1	7	21			4080	2.02	30-Nov-92	27
LA	35	916	WINTER SEAMAP	3	31	606	30	5814	24	779	*1	7	16			7324	2.02	01-Dec-92	23
MS	17	911	SHRIMP/GROUNDFISH SURVEY	3	41	856	38	6402	27	989	*1	2	6	88	248	8734	2.0	10-May-94	54
MS	17	912	FALL ICHTHYOPLANKTON SUR GOM	3	118	*1	118	*1	*1	*1	*1	101	107	35	132	510	2.0	19-May-94	38
MS	17	913	SEAMAP CRUISE MS 913	3	27	657	27	4652	*1	*1	*1	*1	*1	*1	*1	5390	2.0	26-Feb-92	27
PR	56	911	CARIBBEAN SURVEY	3	417	415	*1	*1	*1	*1	1741	*1	*1	*1	*1	2990	3.2	01-Jul-96	
PR	57	912	CARIBBEAN SURVEY	3	102	89	*1	*1	*1	*1	341	*1	*1	*1	*1	634	3.2	24-Jun-96	
SC	51	911	SPRING SOUTH ATLANTIC SURVEY	3	210	6022	210	15930	108	1931	*1	*1	*1	*1	*1	24621	2.0	15-Apr-92	89
SC	51	912	SUMMER SOUTHATLANTIC SEAMAP SUR	3	156	3979	156	12688	75	1155	*1	*1	*1	*1	*1	18365	2.0	05-May-92	76
SC	51	913	FALL SEAMAP SOUTH ATLANTIC	3	172	4732	172	12249	99	2061	*1	*1	*1	*1	*1	19657	2.0	12-May-92	66
TX	31	911	SUMMER SEAMAP	3	16	250	16	1354	10	76	*1	*1	*1	*1	*1	1738	2.0	28-Sep-92	7
TX	32	911	SUMMER SEAMAP	3	16	270	16	1406	13	156	*1	*1	*1	*1	*1	1893	2.0	28-Sep-92	6
TX	33	911	SUMMER SEAMAP	3	16	182	16	596	10	99	*1	*1	*1	*1	*1	935	2.0	28-Sep-92	4
TX	34	911	SUMMER SEAMAP	3	16	138	16	681	10	51	*1	*1	*1	*1	*1	928	2.0	28-Sep-92	3
TX	40	911	SUMMER SEAMAP	3	16	187	16	891	12	182	*1	*1	*1	*1	*1	1320	2.0	28-Sep-92	2
TX	31	912	FALL SEAMAP	3	16	154	16	639	*1	*1	*1	*1	*1	*1	*1	841	2.0	16-Oct-92	3
TX	32	912	FALL SEAMAP	3	16	236	16	1015	*1	*1	*1	*1	*1	*1	*1	1299	2.0	16-Oct-92	3
TX	33	912	FALL SEAMAP	3	16	112	16	352	*1	*1	*1	*1	*1	*1	*1	512	2.0	16-Oct-92	2
TX	34	912	FALL SEAMAP	3	16	148	16	563	*1	*1	*1	*1	*1	*1	*1	759	2.0	16-Oct-92	1
TX	40	912	FALL SEAMAP	3	16	137	16	545	*1	*1	*1	*1	*1	*1	*1	730	2.0	16-Oct-92	8
US	4	192	ATLANTIC SEAMAP	3	314	208	*1	107	*1	*1	*1	*1	*1	*1	*1	629	2.0	30-Oct-91	97
US	4	194	SEAMAP GULF PLANKTON SUR	3	159	*1	*1	139	*1	*1	*1	159	442			740	2.0	15-Apr-92	200
US	4	195	SEAMAP SPRING GROUNDFISH SURVEY	3	288	267	6546	223	40667	186	7976	*1	37	111		56264	2.0	12-Dec-91	223
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	101
US	28	914	FALL SEAMAP ICHTHYOPLANKTON SUR	3	166	*1	*1	138	*1	*1	*1	96	286	1102	2487	4179	2.0	17-May-94	88
TOTAL					2884	2204	35184	1954	166697	652	16736		551	1352	2578	6202	238525		1304

STATUS CODES:

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ATTACHMENT 7

15-Jul-97

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	TOTAL HOURS
AL	23	920	REEFFISH TRAP/VIDEO	3	7	3	*1	*1	*1	*1	20	*1	*1	*1	*1	37	3.0	28-Jan-94	
AL	23	921	SUMMER SEAMAP	3	16	332	16	2059	6	78	*1	*1	*1	*1	*1	2523	2.1	08-Jan-93	19
AL	23	922	FALL SEAMAP ICHTHYOPLANKTON	3	9	*1	*1	*1	*1	*1	*1	9	9			27	2.1	08-Jan-93	22
AL	23	923	FALL SEAMAP	3	8	193	8	1099	*1	*1	*1	*1	*1	*1	*1	1316	2.1	08-Jan-93	12
FL	26	921	SPRING ICHTHYOPLANKTON	3	21	*1	21	*1	*1	*1	*1	21	57	837	1521	2457	2.02	18-May-94	17
FL	26	922	FALL ICHTHYOPLANKTON	3	14	*1	14	*1	*1	*1	*1	13	37	426	834	1325	2.02	20-Sep-95	18
LA	35	921	SPRING SEAMAP	3	30	24	625	30	7061	24	233	*1	6	18		8045	3.0	16-Nov-93	24
LA	35	922	SUMMER SEAMAP	3	31	24	373	31	4215	12	88	*1	7	21		4795	3.0	16-Nov-93	22
LA	35	923	FALL SEAMAP	3	25	20	342	23	2551	19	315	*1	5	10		3305	3.0	16-Nov-93	23
LA	35	924	WINTER SEAMAP	3	31	24	659	31	7812	23	674	*1	7	20		9274	3.0	16-Nov-93	22
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	14
MS	17	922	SUMMER SEAMAP	3	44	42	1093	38	8408	32	916	*1	2	6			10579	2.02	08-Mar-93	27
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	9
PR	56	921	CARIBBEAN SURVEY	3	600	600	734	*1	*1	*1	*1	2674	*1	*1	*1	*1	4608	3.2	22-Jul-96	
PR	56	922	CARIBBEAN SURVEY	3	647	647	327	*1	*1	*1	*1	709	*1	*1	*1	*1	2330	3.2	22-Jul-96	
PR	57	922	CARIBBEAN SURVEY	3	90	90	160	*1	*1	*1	*1	628	*1	*1	*1	*1	968	3.2	03-Jul-96	
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	22
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	40
SC	51	923	FALL SEAMAP	3	188	188	4958	188	9692	89	1198	*1	*1	*1	*1	*1	16501	2.02	27-Jan-93	34
TX	31	921	SUMMER SEAMAP	3	16	16	168	16	827	12	159	*1	*1	*1	*1	*1	1214	2.02	25-Mar-93	12
TX	32	921	SUMMER SEAMAP	3	16	16	197	16	1043	7	34	*1	*1	*1	*1	*1	1329	2.02	25-Mar-93	10
TX	33	921	SUMMER SEAMAP	3	16	16	195	16	805	7	23	*1	*1	*1	*1	*1	1078	2.02	26-Mar-93	10
TX	34	921	SUMMER SEAMAP	3	16	16	158	16	769	12	90	*1	*1	*1	*1	*1	1077	2.02	26-Mar-93	10
TX	40	921	SUMMER SEAMAP	3	16	16	147	16	727	9	63	*1	*1	*1	*1	*1	994	2.02	26-Mar-93	10
TX	31	922	FALL SEAMAP	3	16	16	227	16	1141	*1	*1	*1	*1	*1	*1	*1	1416	3.0	01-Jul-93	8
TX	32	922	FALL SEAMAP	3	16	16	291	16	1655	*1	*1	*1	*1	*1	*1	*1	1994	3.0	01-Jul-93	8
TX	33	922	FALL SEAMAP	3	16	16	160	16	454	*1	*1	*1	*1	*1	*1	*1	662	3.0	01-Jul-93	9
TX	34	922	FALL SEAMAP	3	16	16	270	16	1442	*1	*1	*1	*1	*1	*1	*1	1760	3.0	01-Jul-93	7
TX	40	922	FALL SEAMAP	3	16	16	193	16	910	*1	*1	*1	*1	*1	*1	*1	1151	3.0	01-Jul-93	8
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	*1	41	123		51275	2.02	19-Jan-93	179
US	4	201	FALL ICHTHYOPLANKTON	3	49	*1	*1	49	*1	*1	*1	*1	27	79	1046	2236	3459	3.0	24-May-94	33
US	4	202	FALL BOTTOMFISH SURVEY	3	294	273	7061	220	43846	*1	*1	6	30	90	378	732	52900	3.0	20-Sep-95	102
US	28	923	REEFISH CRUISE	3	179	147	113	149	*1	*1	*1	607	29	147			1342	3.0	14-Jul-93	242
US	28	925	FALL ICHTHYOPLANKTON	3	118	*1	*1	116	*1	*1	*1	*1	73	219			453	3.0	02-Sep-93	52
VI	58	922	VIRGIN ISL REEFFISH 1992	3	63	63	85	*1	*1	*1	*1	128	*1	*1	*1	*1	339	3.1	19-May-95	
VI	59	922	VIRGIN ISL REEFFISH 1992	3	16	16	12	*1	*1	*1	*1	20	*1	*1	*1	*1	64	3.1	19-May-95	
TOTAL					3569	3006	35033	1929	161531	571	8924	4840	417	1272	2687	5323	228685			1025

STATUS CODES:

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ATTACHMENT 8

15-Jul-97

SEAMAP 1993

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	TOTAL HOURS
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	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	6
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 SEAMAP	3	27	25	688	27	4713	*1	*1	*1	2	6			5486	3.0	07-Jun-94	
PR	56	931	CARIBBEAN CRUISE	3	600	600	466	*1	*1	*1	*1	1297	*1	*1	*1	*1	2963	3.2	22-Jul-96	
PR	56	932	CARIBBEAN CRUISE	3	563	563	468	*1	*1	*1	*1	1106	*1	*1	*1	*1	2700	3.2	24-Jul-96	
PR	57	932	CARIBBEAN CRUISE	3	499	496	316	*1	*1	*1	*1	746	*1	*1	*1	*1	2057	3.2	05-Nov-96	
PR	57	933	CARIBBEAN CRUISE	3	561	561	435	*1	*1	*1	*1	1013	*1	*1	*1	*1	2570	3.2	05-Nov-96	
SC	51	931	SPRING SEAMAP	3	210	210	4267	210	8920	80	1080	*1	*1	*1	*1	*1	14977	3.0	03-Feb-94	30
SC	51	932	SUMMER SEAMAP	3	156	156	3680	156	8484	65	1604	*1	*1	*1	*1	*1	14301	3.0	28-Jan-94	46
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	75
US	4	204	ICHTHYOPLANKTON MAMMALS	3	274	*1	*1	160	*1	*1	*1	*1	121	367	1267	2168	4236	3.0	20-Sep-95	54
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	934	SPRING ICHTHYOPLANKTON	3	91	*1	*1	82	*1	*1	*1	*1	82	235	1096	1840	3344	3.0	20-Sep-95	
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	
VI	58	931	VIRGIN ISL REEFFISH 1993	3	15	15	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	30	3.1	23-May-95	
VI	59	932	VIRGIN ISL REEFFISH 1993	3	30	30	8	*1	*1	*1	*1	9	*1	*1	*1	*1	77	3.1	19-May-95	
VI	60	932	REEFFISH SURVEY	3	24	24	43	*1	*1	*1	*1	92	*1	*1	*1	*1	183	3.1	10-Nov-94	
TOTAL					4997	3988	36344	2277	164930	591	13403	4997	695	1975	2363	4008	239873			211

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 9

15-Jul-97

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	TOTAL HOURS
AL	23	941	SUMMER SEAMAP	3	8	8	223	8	1570	5	202	*1	*1	*1			2024	3.1	08-Nov-94	
AL	23	942	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.1	17-Jul-95	
AL	23	943	FALL SEAMAP	3	8	8	159	8	1036	*1	*1	*1	*1	*1	*1	*1	1219	3.1	26-Jun-95	
AL	23	944	TRAP/VIDEO	3	11	11	25	11	*1	*1	*1	379	*1	*1	*1	*1	437	3.1	04-Aug-95	
FL	36	941	SPRING ICHTHYOPLANKTON	3	5	*1	*1	5	*1	*1	*1	*1	5	15			25	3.1	19-Oct-94	
FL	36	942	FALL ICHTHYOPLANKTON	3	29	*1	*1	29	*1	*1	*1	*1	29	87			145	3.1	16-Feb-95	
LA	35	940	COMPARATIVE TOW	3	49	49	1433	11	398	42	268	*1	*1	*1	*1	*1	2250	3.1	21-Sep-94	
LA	35	941	SPRING SEAMAP	3	31	24	697	31	9424	23	153	*1	7	19			10402	3.1	21-Sep-94	
LA	35	942	SUMMER SEAMAP	3	31	24	539	31	6411	17	465	*1	7	21			7539	3.1	28-Apr-95	
LA	35	943	FALL SEAMAP	3	31	24	588	31	5943	23	439	*1	7	21			7100	3.1	28-Apr-95	
LA	35	944	WINTER SEAMAP	3	24	20	465	24	4253	20	571	*1	4	10			5387	3.1	28-Apr-95	
MS	17	940	COMPARATIVE TOW	3	49	49	1427	*1	496	*1	*1	*1	*1	*1	*1	*1	2021	3.0	21-Sep-94	
MS	17	941	SUMMER SEAMAP	3	39	37	993	39	8131	28	923	*1	2	6			10196	3.1	17-May-95	
MS	17	942	REEFFISH SURVEY	3	9	9	20	9	*1	*1	*1	99	*1	*1	*1	*1	146	3.1	07-Apr-95	
MS	17	943	FALL ICHTHYOPLANKTON	3	47	*1	*1	47	*1	*1	*1	*1	47	51			145	3.1	25-Jul-95	
MS	17	944	FALL ICHTHYOPLANKTON	3	2	*1	*1	2	*1	*1	*1	*1	2	6			10	3.1	25-Jul-95	
MS	17	945	FALL GROUNDFISH	3	23	23	562	12	4204	*1	*1	*1	*1	*1	*1	*1	4824	3.1	07-Apr-95	
PR	56	941	CARIBBEAN SURVEY	3	170	170	237	*1	*1	*1	*1	775	*1	*1	*1	*1	1352	3.2	03-Jul-96	
PR	57	942	CARIBBEAN SURVEY	3	499	499	336	*1	*1	*1	*1	698	*1	*1	*1	*1	2032	3.2	05-Nov-96	
PR	57	943	CARIBBEAN SURVEY	3	595	595	689	*1	*1	*1	*1	1843	*1	*1	*1	*1	3722	3.2	05-Nov-96	
SC	51	941	SPRING SEAMAP	3	210	210	4051	210	7228	52	454	*1	*1	*1	*1	*1	12415	3.1	21-Sep-94	
SC	51	942	SUMMER SEAMAP	3	156	156	3360	156	7227	56	1109	*1	*1	*1	*1	*1	12220	3.1	13-Oct-94	
SC	51	943	FALL SEAMAP	3	188	188	5319	188	11833	116	2903	*1	*1	*1	*1	*1	20735	3.1	16-Feb-95	
TX	31	941	SUMMER SEAMAP	3	16	16	200	16	1278	6	70	*1	*1	*1	*1	*1	1602	3.1	21-Jun-95	
TX	32	941	SUMMER SEAMAP	3	16	16	199	16	1124	8	34	*1	*1	*1	*1	*1	1413	3.1	21-Jun-95	
TX	33	941	SUMMER SEAMAP	3	16	16	147	16	353	5	35	*1	*1	*1	*1	*1	588	3.1	21-Jun-95	
TX	34	941	SUMMER SEAMAP	3	16	16	127	16	675	10	117	*1	*1	*1	*1	*1	977	3.1	21-Jun-95	
TX	40	941	SUMMER SEAMAP	3	16	16	129	16	668	5	28	*1	*1	*1	*1	*1	878	3.1	21-Jun-95	
TX	31	942	FALL SEAMAP	3	16	16	270	16	1519	*1	*1	*1	*1	*1	*1	*1	1837	3.1	21-Jun-95	
TX	32	942	FALL SEAMAP	3	16	16	251	16	1456	*1	*1	*1	*1	*1	*1	*1	1755	3.1	21-Jun-95	
TX	33	942	FALL SEAMAP	3	16	16	140	16	538	*1	*1	*1	*1	*1	*1	*1	726	3.1	21-Jun-95	
TX	34	942	FALL SEAMAP	3	16	16	121	16	525	*1	*1	*1	*1	*1	*1	*1	694	3.1	21-Jun-95	
TX	40	942	FALL SEAMAP	3	16	16	146	16	562	*1	*1	*1	*1	*1	*1	*1	756	3.1	21-Jun-95	
US	4	209	SPRING ICHTHYOPLANKTON	3	217	*1	*1	155	*1	*1	*1	*1	122	505			877	3.1	12-Oct-94	
US	4	210	SUMMER SEAMAP	3	273	246	6212	239	42521	193	5352	*1	42	125			55161	3.1	16-Feb-95	
US	4	214	FALL GROUNDFISH	3	288	253	7781	251	51577	*1	*1	*1	48	144			60294	3.1	18-May-95	
US	28	944	ICHTHYOPLANKTON SURVEY	3	60	*1	*1	60	*1	*1	*1	*1	60	173			293	3.1	19-Oct-94	
US	28	945	REEFFISH SURVEY	3	191	160	111	159	291	*1	*1	432	30	115			1459	3.1	23-Mar-95	
US	28	946	FALL ICHTHYOPLANKTON	3	121	*1	*1	88	*1	*1	*1	*1	88	264			473	3.1	22-Mar-95	
VI	59	941	VIRGIN ISL REEFFISH 1994	3	88	88	38	*1	*1	*1	*1	63	*1	*1	*1	*1	277	3.1	19-May-95	
VI	60	941	REEFFISH SURVEY	3	34	34	62	*1	*1	*1	*1	167	*1	*1	*1	*1	297	3.1	09-Nov-94	
TOTAL					3655	3045	37057	1973	171241	609	13123	4456	509	1571			236730			

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 10

SEAMAP 1995

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	TOTAL HOURS
AL	23	950	TRAP/VIDEO	3	12	12	21	12	*1	*1	*1	231	*1	*1	*1	*1	288	3.2	16-Oct-96	
AL	23	951	SUMMER SEAMAP	3	10	10	205	10	1440	10	316	*1	*1	*1	*1	*1	2001	3.2	01-Aug-96	
AL	23	952	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.2	01-Aug-96	
AL	23	953	WINTER SEAMAP	3	6	6	127	6	942	*1	*1	*1	*1	*1	*1	*1	1087	3.2	01-Aug-96	
FL	26	951	SPRING ICHTHYOPLANKTON	3	15	*1	*1	15	*1	*1	*1	*1	15	45			75	3.1	04-Aug-95	
FL	26	952	FALL ICHTHYOPLANKTON	3	25	*1	*1	25	*1	*1	*1	*1	25	74			124	3.2	01-Mar-96	
LA	35	951	SPRING SEAMAP	3	31	24	534	31	5361	20	166	*1	7	21			6188	3.2	30-Jul-96	
LA	35	952	SUMMER SEAMAP	3	25	18	404	25	5024	15	352	*1	7	21			5884	3.2	30-Jul-96	
LA	35	953	FALL SEAMAP	3	31	24	385	31	3316	19	271	*1	7	21			4098	3.2	30-Jul-96	
MS	17	951	SUMMER SEAMAP	3	40	38	1126	40	9015	34	1051	*1	2	6			11350	3.2	23-May-96	
MS	17	952	FALL ICHTHYOPLANKTON	3	49	*1	*1	49	*1	*1	*1	*1	49	64			162	3.2	07-Oct-96	
MS	17	953	TRAP/VIDEO	3	8	8	5	8	29	*1	*1	*1	*1	*1	*1	*1	58	3.2	23-May-96	
MS	17	954	FALL SEAMAP	3	26	25	531	26	3103	*1	*1	*1	1	3			3714	3.2	23-May-96	
PR	57	952	CARIBBEAN SURVEY	3	350	350	308	*1	*1	*1	*1	1127	*1	*1	*1	*1	2135	3.1	09-Nov-96	
SC	51	951	SPRING SEAMAP	3	210	210	4696	210	10439	92	987	*1	*1	*1	*1	*1	16844	3.1	21-Jul-95	
SC	51	952	SUMMER SEAMAP	3	156	156	4075	156	11806	95	2053	*1	*1	*1	*1	*1	18497	3.2	01-Mar-96	
SC	51	953	FALL SEAMAP	3	188	188	4229	188	9885	99	2206	*1	*1	*1	*1	*1	16983	3.2	12-Mar-96	
TX	31	951	SUMMER SEAMAP	3	16	16	233	16	1184	6	55	*1	*1	*1	*1	*1	1526	3.2	30-Jul-96	
TX	32	951	SUMMER SEAMAP	3	16	16	372	16	2621	15	365	*1	*1	*1	*1	*1	3421	3.2	30-Jul-96	
TX	33	951	SUMMER SEAMAP	3	16	16	175	16	466	7	22	*1	*1	*1	*1	*1	718	3.2	30-Jul-96	
TX	34	951	SUMMER SEAMAP	3	16	16	149	16	507	8	11	*1	*1	*1	*1	*1	723	3.2	30-Jul-96	
TX	40	951	SUMMER SEAMAP	3	16	16	161	16	796	11	352	*1	*1	*1	*1	*1	1368	3.2	30-Jul-96	
TX	31	952	FALL SEAMAP	3	16	16	237	16	780	*1	*1	*1	*1	*1	*1	*1	1065	3.2	24-Jul-96	
TX	32	952	FALL SEAMAP	3	16	16	287	16	1581	*1	*1	*1	*1	*1	*1	*1	1916	3.2	24-Jul-96	
TX	33	952	FALL SEAMAP	3	16	16	206	16	943	*1	*1	*1	*1	*1	*1	*1	1197	3.2	24-Jul-96	
TX	34	952	FALL SEAMAP	3	16	16	182	16	758	*1	*1	*1	*1	*1	*1	*1	988	3.2	24-Jul-96	
TX	40	952	FALL SEAMAP	3	16	16	120	16	363	*1	*1	*1	*1	*1	*1	*1	531	3.2	24-Jul-96	
TX	31	953	TRAP/VIDEO	3	2	2	6	*1	41	*1	*1	*1	*1	*1	*1	*1	51	3.2	31-Dec-96	
US	4	216	SPRING ICHTHYOPLANKTON	3	309	*1	*1	266	*1	*1	*1	*1	266	778			1353	3.2	16-Oct-96	
US	4	217	SUMMER SEAMAP	3	233	220	6353	203	45116	172	7538	*1	21	62			59897	3.2	20-Mar-96	
US	4	219	FALL SEAMAP	3	249	234	7114	208	46287	*1	*1	*1	23	64			54156	3.2	11-Apr-96	
US	28	954	REEF SURVEY	3	165	133	69	127	*1	*1	*1	191	31	59			744	3.2	26-Sep-96	
US	28	955	FALL ICHTHYOPLANKTON	3	110	*1	*1	107	*1	*1	*1	*1	110	285			502	3.2	31-May-96	
TOTAL					2419	1818	32310	1912	161803	603	15745	1549	573	1512			219671			

15-Jul-97

SEAMAP 1996

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	TOTAL HOURS
FL	26	961	SPRING ICHTHYOPLANKTON	3	18	*1	*1	18	*1	*1	*1	*1	18	54			90	3.2	29-Jan-97	
FL	26	962	SUMMER PLANKTON	3	19	*1	*1	19	*1	*1	*1	*1	19	57			95	3.3	13-May-97	
LA	35	960	WINTER SEAMAP	3	31	24	462	31	4915	23	426	*1	7	19			5931	3.2	19-Aug-96	
LA	35	961	SUMMER SEAMAP	3	30	24	399	30	4339	12	360	*1	6	18			5212	3.2	27-Nov-96	
LA	35	962	FALL SEAMAP	3	31	24	333	31	2972	13	70	*1	7	21			3495	3.2	27-Jan-97	
LA	35	963	WINTER SEAMAP	3	31	24	617	31	6395	24	586	*1	7	20			7728	3.3	20-May-97	
MS	17	961	SUMMER SEAMAP	3	40	38	925	40	7102	28	642	*1	2	6			8821	3.2	27-Nov-96	
MS	17	962	ICHTHYOPLANKTON	3	46	*1	*1	46	*1	*1	*1	*1	46	53			145	3.3	05-May-97	
MS	17	963	FALL SEAMAP	3	29	27	463	29	2460	*1	*1	*1	2	6			3014	3.3	05-May-97	
SC	51	961	SPRING SEAMAP	3	210	210	2615	210	7502	37	219	*1	*1	*1	*1	*1	11003	3.2	11-Jul-96	
SC	51	962	SUMMER SEAMAP	3	156	156	4053	156	10559	102	2059	*1	*1	*1			17241	3.2	15-Jan-97	
SC	51	963	FALL SEAMAP	3	188	188	6390	188	14853	149	4297	*1	*1	*1	*1	*1	26253	3.2	29-Jan-97	
TX	31	961	SUMMER SEAMAP	3	16	16	230	16	896	9	69	*1	*1	*1	*1	*1	1252	3.3	30-Jun-97	
TX	32	961	SUMMER SEAMAP	3	16	16	267	16	1423	14	74	*1	*1	*1	*1	*1	1826	3.3	30-Jun-97	
TX	33	961	SUMMER SEAMAP	3	16	16	152	16	489	6	16	*1	*1	*1	*1	*1	711	3.3	30-Jun-97	
TX	34	961	SUMMER SEAMAP	3	16	16	146	16	867	9	52	*1	*1	*1	*1	*1	1122	3.3	30-Jun-97	
TX	40	961	SUMMER SEAMAP	3	16	16	156	16	812	8	89	*1	*1	*1	*1	*1	1113	3.3	30-Jun-97	
TX	31	962	FALL SEAMAP	3	16	16	179	16	1133	*1	*1	*1	*1	*1	*1	*1	1360	3.3	30-Jun-97	
TX	32	962	FALL SEAMAP	3	16	16	285	16	1367	*1	*1	*1	*1	*1	*1	*1	1700	3.3	30-Jun-97	
TX	33	962	FALL SEAMAP	3	16	16	161	16	631	*1	*1	*1	*1	*1	*1	*1	840	3.3	30-Jun-97	
TX	34	962	FALL SEAMAP	3	16	16	162	16	562	*1	*1	*1	*1	*1	*1	*1	772	3.3	02-Jul-97	
TX	40	962	FALL SEAMAP	3	16	16	244	16	1477	*1	*1	*1	*1	*1	*1	*1	1769	3.3	30-Jun-97	
US	4	220	SPRING ICHTHYOPLANKTON	3	172	*1	*1	165	*1	*1	*1	*1	172	506			843	3.2	16-Oct-96	
US	4	221	SUMMER GROUNDFISH	3	255	236	6027	215	41026	173	4999	*1	22	66			52997	3.2	27-Nov-96	
US	4	223	GEAR COMPARISON	3	63	63	1428	*1	2457	*1	*1	*1	*1	*1			4011	3.2	06-Jan-97	
US	4	224	FALL SEAMAP	3	270	243	7454	221	50421	*1	*1	*1	43	129			58738	3.2	27-Jan-97	
US	28	967	WINTER PLANKTON	3	73	*1	*1	71	*1	*1	*1	*1	73	238			382	3.3	05-May-97	
US	28	[illegible]55	FALL ICHTHYOPLANKTON	3	90	*1	*1	90	*1	*1	*1	*1	90	270			450	3.2	15-Jan-97	
TOTAL					1912	1417	33148	1751	[illegible]658	607	13958		514	1463			218914			

STATUS CODES:

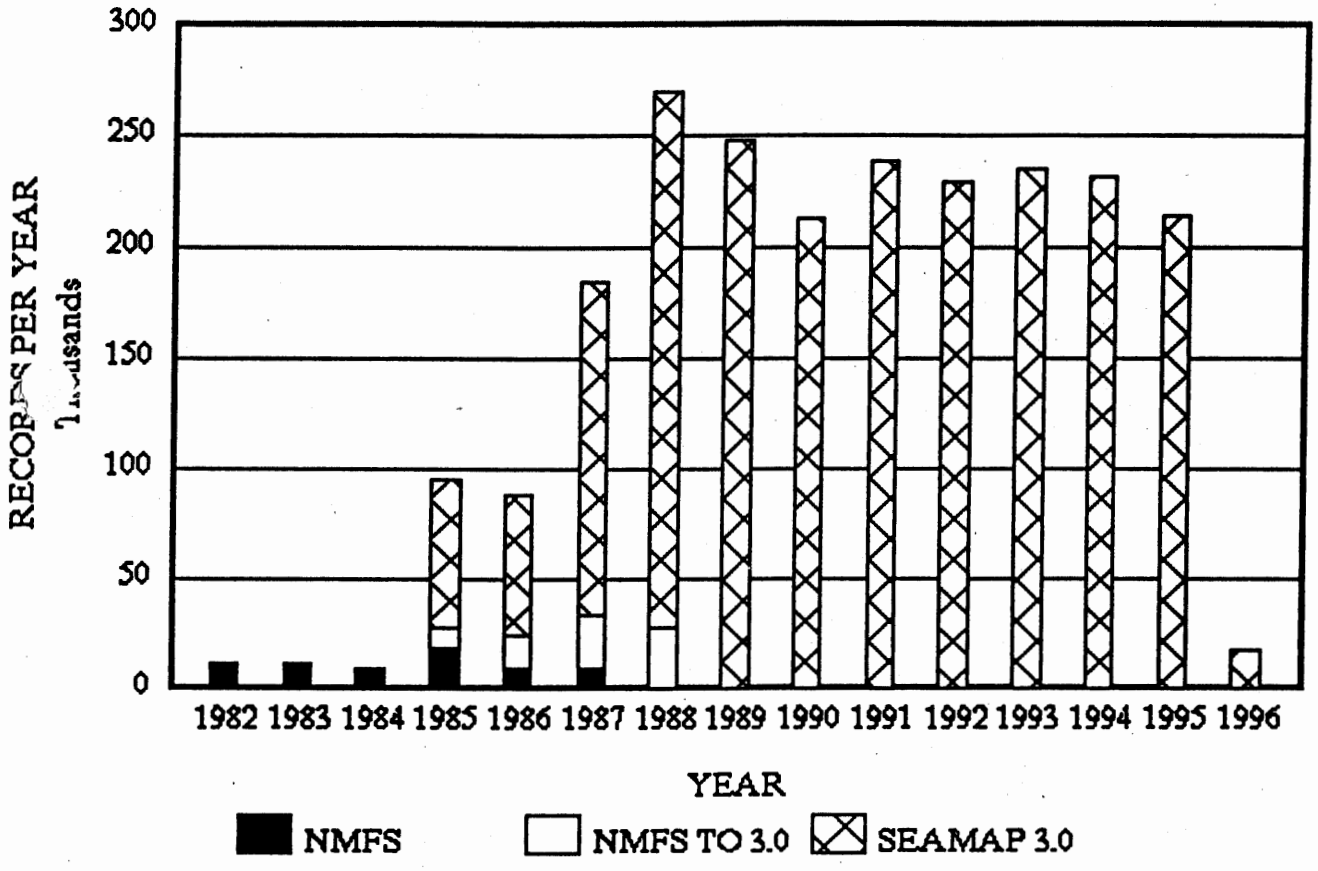
*1 NOT TAKEN

ATTACHMENT 11

08-Oct-96

SEAMAP TOTAL RECORDS

BY YEAR

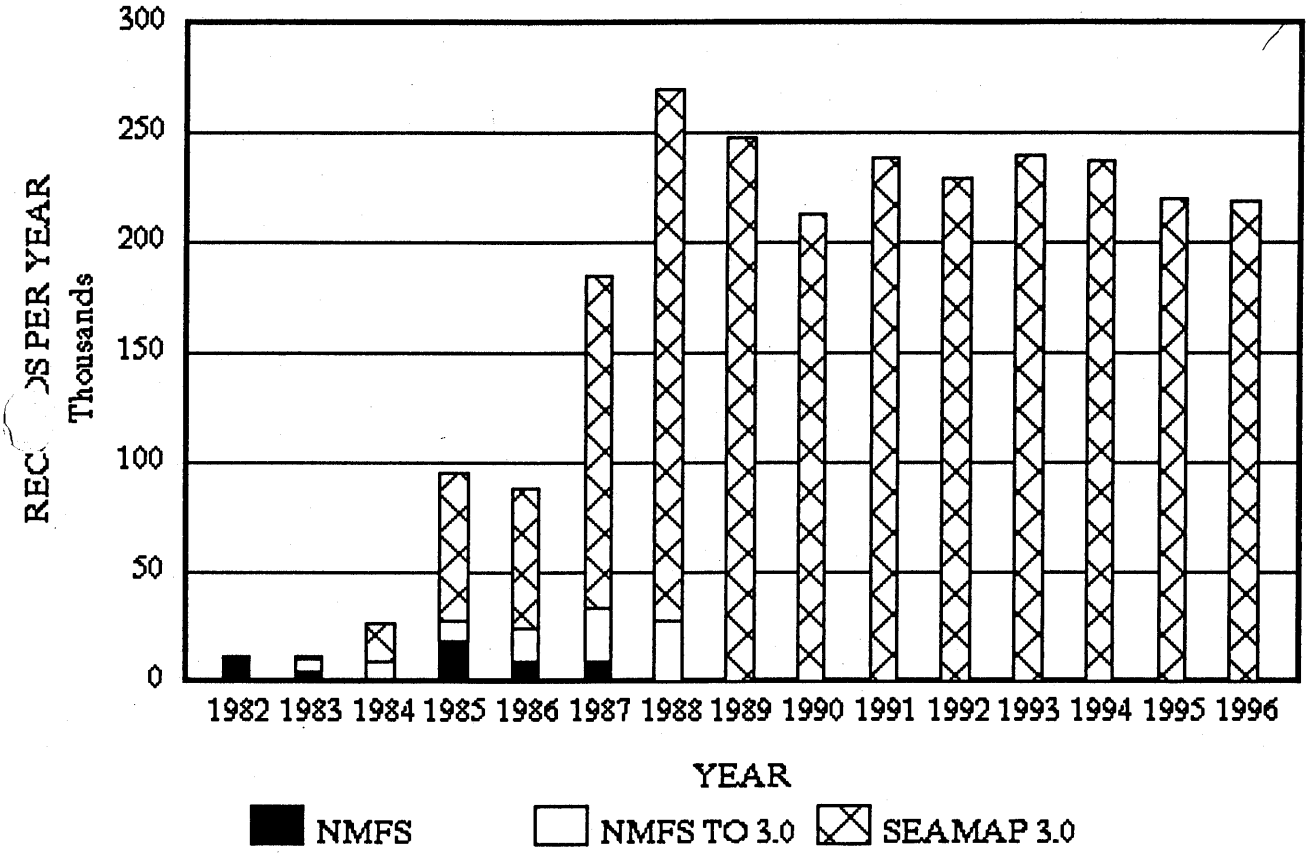


ATTACHMENT 12

16-Jul-97

SEAMAP TOTAL RECORDS

BY YEAR



SEAMAP Atlas Report

The memo transmitted to the SEAMAP Data Coordinating Work Group from the ad hoc work group is shown in Attachment 1. A conference call was initiated in April and all items listed were covered in the discussions.

The first five items were changes/modifications and the sixth item was a deletion. All were reviewed and were accepted by the Data Coordinating Work Group as changes that would be recommended to the SEAMAP subcommittee in August.

Since that meeting preliminary work on each item is listed below:

- Item 1 indicates that this can be handled without any problem.
- Attachment 2 and 3 are examples of software changes to satisfy item 2.
- Attachment 4 is an example of changes implemented to satisfy item 3.
- Item 4 was investigated and could not be implemented with the current available graphics package. It may be possible to implement this change with the next version of the graphics package.
- Attachment 4 also satisfied item 5 requirements.
- Item 6 is a deletion that the Data Coordinating Work Group recommends and requires no effort to implement.

Kenneth Savastano

Data Coordinating Work Group Leader
Kenneth Savastano

ATTACHMENT 1

facsimile
TRANSMITTAL

To: SEAMAP Data Coordinating Work Group

From: Dave Donaldson, SEAMAP Coordinator

Pages: 2, including this cover sheet.

Date: April 10, 1997

At the last SEAMAP meeting, the Subcommittee discussed streamlining the SEAMAP Atlas and charged an ad hoc work group with exploring this issue. This ad hoc work group has met and developed several recommendations for the Data Coordinating Work Group to consider. The main purpose of the SEAMAP Atlas is to provide a general summary of the SEAMAP data collected during a specific year. With that in mind, the group developed the following recommendations:

(1) • Combine the 20-ft and 40-ft data for the species composition and the A & B tables into one species composition and A & B tables. The rationale for this action is that the Atlas is a summary document and there may not be a need for this much detail as well as the information for the figures is not separated.

(2) • For the A tables, condense the depth stratum from 0-5, 6-10, 11-20, 21-30, 31-40, and over 40 to 0-20, 21-40, and over 40. Again, the rationale is that the document is a summary of the data and there may not be a need for this much detail.

(3) • Add 20 and 50 fm contours to the plots. This will provide users reference points for where the catches occurred.

(4) • Change the plots to reflect densities instead of actual weights and numbers caught. This enables the user to understand the information provided by the plots.

(5) • Include only Texas through Alabama for the scope of the density plots. This will allow for a more focused area to present and easier to read.

From the desk of...

Cheryl Noble
Staff Assistant
Gulf States Marine Fisheries Commission
P.O. Box 726
Ocean Springs, MS 39566-0726
601-875-5912
Fax: 601-875-6604

(6) Remove the sea surface temperature plots. Currently, this information is either downloaded from the Internet or received via fax and NMFS personnel spend a large amount of time modifying the information for inclusion in the Atlas. The amount of effort devoted to this activity does not appear to be a wise use of resources. Also, the information for the sea surface temperature plots is not SEAMAP data. The group is exploring different methods for getting this information; however, the current method is not a good use of personnel and the group recommends removing the plots.

In order to discuss these recommendations, a conference call of the Data Coordinating Work Group has been tentatively scheduled for **Wednesday, April 23, 1997 at 10:00 a.m. central time.** To ensure a successful call, consider what the major use of the SEAMAP Atlas is for users. The group believes that the Atlas provides general information and allows users to determine if this data would be useful for their purposes. In addition, please make sure you have your draft 1994 SEAMAP Atlas for this call. If there are any problems with the date and/or time of the call or other questions, please do not hesitate to call me.

cc: Dr. Scott Nichols (601) 769-9200

Work Group:

Dr Joanne Shultz, Mr. Perry Thompson, and Mr. Terry Henwood (601) 769-9200

Mr. Ken Savastano (601) 688-1151

Mr. Richard Waller (601) 872-4257

Mr. Mike Murphy (813) 823-0166

ATTACHMENT 2

Ngw Format GEAR:ST40 ZONE:13 SEASON:Fall

	0-20 FM					21-40 FM					>40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squ[illegible]															
sp[illegible]	94.4	29.44	.8	.26	15	134.4	.00	1.7	.00	1	24.0	.00	.3	.00	1
Penaeus															
setiferus	109.3	22.06	1.8	.34	15	24.0	.00	.8	.00	1	.0	.00	.0	.00	1
Trachypenaeus															
similis	57.0	14.88	.1	.04	15	104.4	.00	.8	.00	1	.0	.00	.0	.00	1
Callinectes															
similis	41.8	19.18	.7	.29	15	190.8	.00	3.3	.00	1	.0	.00	.0	.00	1
Penaeus															
aztecus	43.2	23.31	.6	.31	15	64.8	.00	1.2	.00	1	24.0	.00	.8	.00	1
Solenocera															
vioscai	.0	.00	.0	.00	15	145.2	.00	.8	.00	1	444.0	.00	3.0	.00	1
Micropogonias															
undulatus	318.1	114.77	19.6	7.23	15	15.6	.00	1.3	.00	1	6.0	.00	1.1	.00	1
Trichiurus															
lepturus	197.5	82.15	5.6	2.73	15	15.6	.00	.2	.00	1	.0	.00	.0	.00	1
Arius															
felis	79.7	51.37	3.3	1.64	15	.0	.00	.0	.00	1	.0	.00	.0	.00	1
Leiostomus															
xanthurus	67.8	19.75	4.8	1.26	15	190.8	.00	18.2	.00	1	.0	.00	.0	.00	1
Cynoscion															
arenarius	42.3	12.03	3.3	1.04	15	140.4	.00	22.5	.00	1	.0	.00	.0	.00	1
Lagodon															
rhomboides	14.4	5.04	1.0	.43	15	224.4	.00	17.4	.00	1	.0	.00	.0	.00	1
Cynoscion															
spp.	47.8	28.32	.1	.07	15	76.8	.00	.5	.00	1	.0	.00	.0	.00	1
Sph[illegible]des															
par[illegible]	36.4	12.79	.3	.11	15	.0	.00	.0	.00	1	.0	.00	.0	.00	1
Squid	20.0	6.70	.2	.10	15	7.2	.00	.1	.00	1	36.0	.00	.0	.00	1

Old-Format GEAR:40ST ZONE:13 SEASON:FALL

	0- 5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp	95.0	43.00	.8	.27	2	28.5	28.50	.1	.14	2	106.3	38.89	.9	.34	11
Penaeus setiferus	243.0	29.00	3.7	.05	2	100.5	25.50	1.4	.48	2	86.6	22.89	1.6	.38	11
Trachypenaeus similis	86.0	30.00	.2	.00	2	.0	.00	.0	.00	2	62.1	18.14	.2	.05	11
Callinectes similis	41.0	33.00	.4	.27	2	3.0	3.00	.1	.14	2	49.0	25.49	.9	.38	11
Penaeus aztecus	9.0	5.00	.1	.05	2	9.0	9.00	.1	.07	2	55.6	31.26	.7	.41	11
Solenocera vioscai	.0	.00	.0	.00	2	.0	.00	.0	.00	2	.0	.00	.0	.00	11
Micropogonias undulatus	259.0	175.00	14.5	9.82	2	40.5	40.50	2.3	2.25	2	379.3	150.73	23.6	9.51	11
Trichiurus lepturus	6.0	6.00	.0	.05	2	18.0	18.00	.3	.27	2	265.0	105.69	7.6	3.57	11
Arius felis	567.0	51.00	8.6	2.45	2	.0	.00	.0	.00	2	5.6	2.87	2.9	2.07	11
Leiostomus xanthurus	14.0	8.00	1.1	.68	2	39.0	27.00	2.9	1.84	2	82.8	25.29	5.9	1.59	11
Cynoscion arenarius	90.0	30.00	3.5	2.27	2	1.5	1.50	.1	.14	2	41.0	13.71	3.8	1.33	11
Lagodon rhomboides	3.0	3.00	.3	.27	2	3.0	3.00	.3	.27	2	18.5	6.46	1.3	.56	11
Cynoscion spp.	.0	.00	.0	.00	2	.0	.00	.0	.00	2	65.1	37.66	.2	.10	11
Sphoeroides par	43.0	25.00	.2	.09	2	1.5	1.50	.0	.00	2	41.5	16.59	.3	.14	11
Squid	34.0	34.00	.7	.73	2	61.5	22.50	.3	.20	2	9.9	3.21	.1	.05	11

	21-30 FM					31-40 FM					>40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Squilla spp.	134.4	.00	1.7	.00	1	.0	.00	.0	.00	0	24.0	.00	.3	.00	1
Penaeus setiferus	24.0	.00	.8	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Trachypenaeus similis	104.4	.00	.8	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Callinectes similis	190.8	.00	3.3	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Penaeus aztecus	64.8	.00	1.2	.00	1	.0	.00	.0	.00	0	24.0	.00	.8	.00	1
Solenocera vioscai	145.2	.00	.8	.00	1	.0	.00	.0	.00	0	444.0	.00	3.0	.00	1
Micropogonias undulatus	15.6	.00	1.3	.00	1	.0	.00	.0	.00	0	6.0	.00	1.1	.00	1
Trichiurus lepturus	15.6	.00	.2	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Arius felis	.0	.00	.0	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Leiostomus xanthurus	190.8	.00	18.2	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Cynoscion arenarius	140.4	.00	22.5	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Lagodon rhomboides	224.4	.00	17.4	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Cynoscion spp.	76.8	.00	.5	.00	1	.0	.00	.0	.00	0	.0	.00	.0	.00	1
Sphoeroides															

ATTACHMENT 3

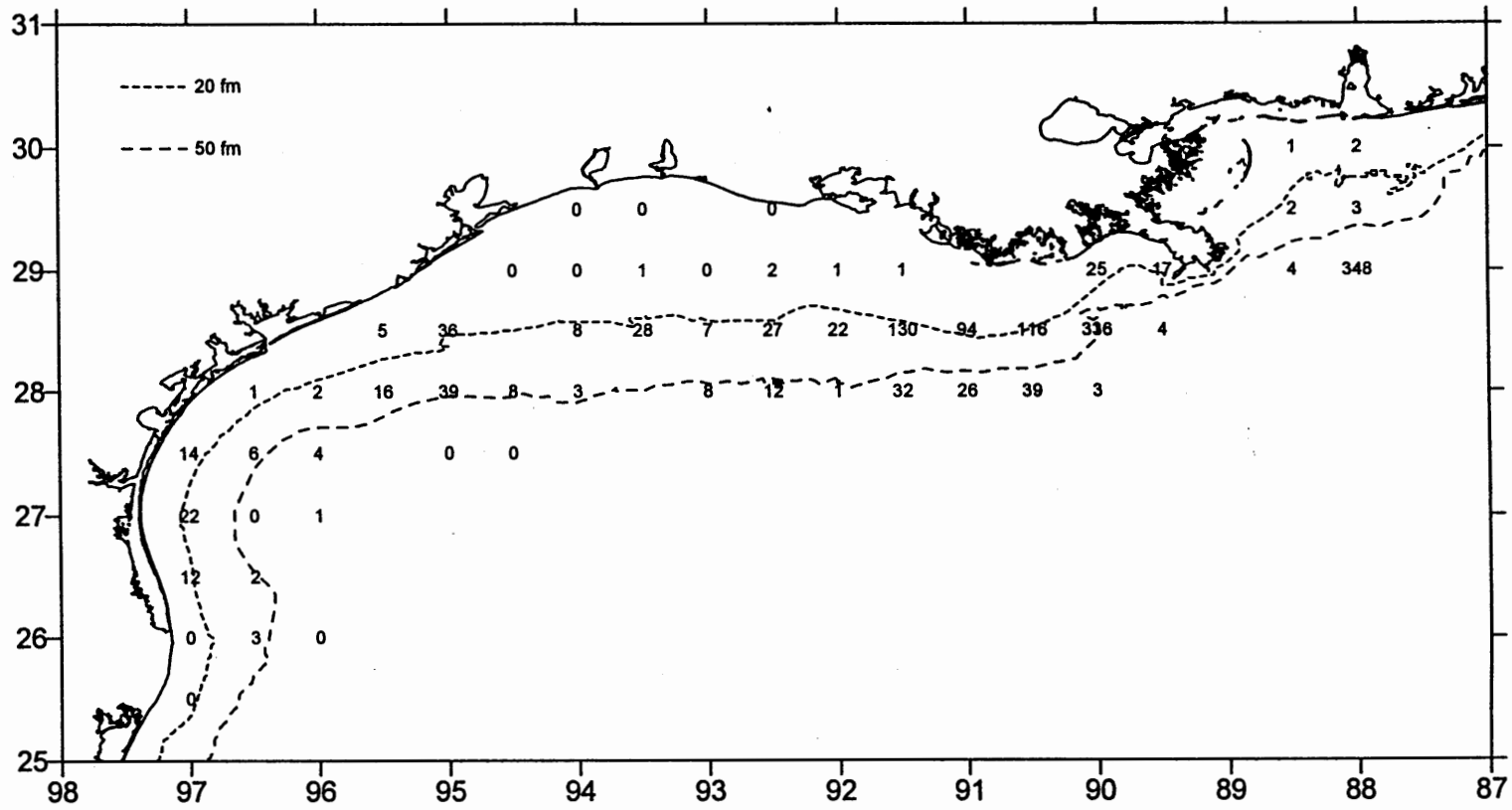
New format 1994 ST40 Zone 11

Environmental category	0-20 fm X	0-20 fm SEM	0-20 fm n	21-40 fm X	21-40 fm SEM	21-40 fm n	Over 40 fm X	Over 40 fm SEM	Over 40 fm n
Total catch kg	58.2	5.54	48	146.1	62.01	16	120.4	4.63	4
Total finfish kg	54.9	5.63	48	134.0	61.58	16	111.8	5.84	4
Total crustacean kg	2.7	1.22	48	11.8	7.08	16	7.9	4.13	4
Total others kg	.6	.19	48	.4	.17	16	.7	.24	4
Surface temperature	22.5	.20	40	23.0	.23	13	23.8	.24	5
Midwater temperature	22.7	.22	40	23.9	.19	13	23.9	.69	5
Bottom temperature	23.2	.23	40	21.5	.66	13	19.9	.96	5
Surface salinity	31.7	.39	40	33.2	.77	13	32.7	1.66	5
Midwater salinity	32.8	.23	40	35.1	.27	13	36.3	.26	5
Bottom salinity	33.5	.27	40	36.5	.22	13	36.6	.12	5
Surface chlorophyll	2.2	.45	7	3.8	1.29	2	2.4	1.94	3
Surface fluorescence	.7	.07	32	.5	.17	12	.3	.05	5
Surface oxygen	7.6	.23	37	6.8	.51	13	6.1	.42	5
Midwater oxygen	7.8	.22	38	6.9	.37	13	6.1	.05	5
Bottom oxygen	7.4	.28	38	4.7	.42	13	4.3	.54	5

ATTACHMENT 3 CONT'D

Old format Fall ST40 Zone 11

Environmental category	0-5 fm X	0-5 fm SEM	0-5 fm n	6-10 fm X	6-10 fm SEM	6-10 fm n	11-20 fm X	11-20 fm SEM	11-20 fm n	21-30 fm X	21-30 fm SEM	21-30 fm n	31-40 fm X	31-40 fm SEM	31-40 fm n	Over 40 fm X	Over 40 fm SEM	Over 40 fm n
To ca .g	62.6	16.48	7	59.3	11.93	14	56.5	6.73	27	57.6	9.50	10	293.6	153.39	6	120.4	4.63	4
Total finfish kg	59.8	16.74	7	57.6	11.93	14	52.2	6.90	27	51.2	8.43	10	272.0	155.00	6	111.8	5.84	4
Total crustacean kg	1.3	.60	7	.7	.30	14	4.0	2.14	27	6.3	2.04	10	20.8	19.03	6	7.9	4.13	4
Total others kg	.7	.73	7	.8	.46	14	.5	.17	27	.1	.09	10	.8	.37	6	.7	.24	4
Surface temperature	21.0	.25	4	22.1	.32	14	23.0	.23	22	23.1	.13	8	22.7	.60	5	23.8	.24	5
Midwater temperature	20.9	.21	4	22.2	.37	14	23.3	.23	22	23.7	.25	8	24.3	.25	5	23.9	.69	5
Bottom temperature	20.9	.21	4	22.7	.37	14	23.9	.23	22	22.7	.51	8	19.5	1.04	5	19.9	.96	5
Surface salinity	30.6	.35	4	30.4	.70	14	32.6	.47	22	33.3	.77	8	33.0	1.73	5	32.7	1.66	5
Midwater salinity	30.5	.37	4	32.0	.27	14	33.7	.21	22	34.8	.32	8	35.6	.41	5	36.3	.26	5
Bottom salinity	30.5	.38	4	32.4	.34	14	34.7	.15	22	36.3	.32	8	36.9	.18	5	36.6	.12	5
Surface chlorophyll	2.0	.21	4	1.2	.00	1	3.1	1.63	2	2.5	.00	1	5.1	.00	1	2.4	1.94	3
Surface fluorescence	.4	.00	4	.9	.10	11	.6	.10	17	.4	.05	7	.7	.41	5	.3	.05	5
Surface oxygen	7.2	.32	4	7.5	.53	12	7.7	.27	21	6.9	.74	8	6.7	.70	5	6.1	.42	5
Mi oxy	7.2	.40	4	7.7	.38	13	7.9	.32	21	7.4	.56	8	6.2	.09	5	6.1	.05	5
Bottom oxygen	7.3	.40	4	8.0	.48	13	7.0	.39	21	5.4	.34	8	3.4	.65	5	4.3	.54	5



ATTACHMENT 4

Chlorosc[illegible]us chrysurus lb/hr

A Tables in current atlas format:

	0- 5 FM					6-10 FM					11-20 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	.0	.00	.0	.00	0	44.3	44.29	.2	.19	2	543.8	259.11	1.7	.76	6

	21-30 FM					31-40 FM					>40 FM				
SPECIES	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N	NUM	SEM	WT	SEM	N
Trachypenaeus similis	531.7	309.34	2.4	1.54	6	126.2	80.58	.3	.23	6	15.6	15.60	.0	.00	2

A Tables Modified:

	0-5 fm			6-10 fm			11-20 fm			21-30 fm			31-40 fm			Over 40 fm		
	NUM (SEM)	WT (SEM)	N	NUM (SEM)	WT (SEM)	N	NUM (SEM)	WT (SEM)	N	NUM (SEM)	WT (SEM)	N	NUM (SEM)	WT (SEM)	N	NUM (SEM)	WT (SEM)	N
Trachypenaeus similis	0.0 (00.0)	0.0 (00.0)	1	0.0 (00.0)	0.0 (00.0)	1	0.0 (00.0)	0.0 (00.0)	1	0.0 (00.0)	0.0 (00.0)	1	0.0 (00.0)	0.0 (00.0)	1	0.0 (00.0)	0.0 (00.0)	1

ATTACHMENT IV

Southeast Fisheries Science Center
Mississippi Laboratories
P.O. Drawer 1207
Pascagoula, MS 39568
E-mail: pthompson@triton.pas.nmfs.gov

August 1, 1997 F/SEC5: PAT

MEMORANDUM FOR: Joanne Shultz

FROM: Perry Thompson

SUBJECT: Environmental Work Group Report

I will be unable to present the Environmental Work Group Report to the SEAMAP Subcommittee during the joint meeting held in Charleston, SC on August 4, 1997. Would you please present the following report to the Subcommittee in my absence:

During the March 17, 1997 SEAMAP Subcommittee meeting the Subcommittee requested the Environmental Work Group to meet as soon as possible to specifically address the question of (a) chlorophyll methods, (b) including priorities for the 1997 data collections, (c) analysis of NMFS historical profile data, (d) processing of the 1996 data, (e) processing of salinity samples and (f) resolving any other associated environmental data questions. Due to scheduling conflicts the Environmental Work Group was unable to meet. A conference call was held on May 30, 1997 with the Environmental Work Group members. I will address each item as presented:

a. The question of which method is best for collecting chlorophyll is still unresolved. Several states don't have the funding to purchase a CTD with a fluorometer or equipment for spectrophotometric analysis and NMFS does not have the manpower to collect and analyze chlorophyll samples. It was concluded that those states collecting chlorophyll samples for spectrophotometric analyses should continue doing so. Those collecting chlorophyll data with a CTD mounted fluorometer should also continue doing so.

b. The Mississippi Laboratories has agreed to collect and analyze 160 chlorophyll samples for 1997 and 1998 to help resolve the issue over methodology of chlorophyll collection. The Work Group concluded that during the 1997 and 1998 Summer and Fall surveys the OREGON II would collect chlorophyll samples for spectrophotometric analysis off Louisiana. The Mississippi Laboratory would do the spectrophotometric analysis of the samples within two weeks of the OREGON II returning. A surface chlorophyll sample would consist of two replicates, filtering three liters per filter at each of the selected stations. During the 1997 Summer SEAMAP survey approximately 38 stations or 76 samples were collected off Louisiana, analyzed and entered into the SEAMAP system.

APPROVED BY:
COMMITTEE CHAIRMAN

STOCK ASSESSMENT TEAM
MINUTES
August 14-15, 1996
Gulf Shores, AL

Joe Shepard, Chairman, called the meeting to order on Wednesday, August 14, 1996 at 1:20 p.m. The following were in attendance:

Members
Billy Fuls, TPWD, Rockport, TX
Skip Lazauski, ADCNR/MRD, Gulf Shores, AL
Mike Murphy, FDEP/FMRI, St. Petersburg, FL
Joe Shepard, LDWF, Baton Rouge, LA
James Warren, GCRL, Ocean Springs, MS

Others
Harry Blanchet, LDWF, Baton Rouge, LA
Mark Fisher, TPWD, Austin, TX

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Ron Lukens, Assistant Director, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions

Ron Lukens introduced Jim Duffy, the new Interjurisdictional Fisheries Program Coordinator, and Mark Fisher, TPWD, who performed the spotted seatrout stock assessment for Texas.

Adoption of Agenda

Tut Warren moved to adopt the agenda as presented. Skip Lazauski seconded the motion which was unanimously approved.

Adoption of Minutes

The minutes of the meeting held April 10, 1996, in Pensacola, Florida, were reviewed by the SAT, and Skip Lazauski moved for adoption. Tut Warren seconded, and the minutes were adopted as written.

Review of State Stock Assessments for Spotted Seatrout

Mike Murphy reported that Florida's stock assessment will be complete in October. Tut Warren reported that Mississippi's portion of the stock assessment will contain age data, five

years of length data, general trends, and estimates of larval recruitment. The Mississippi document will be complete in September.

Joe Shepard distributed a draft of the Louisiana stock assessment for spotted seatrout and noted several important features. Growth equations were utilized for catch at age. Direct aging of spotted seatrout using otoliths was performed for two years. Thousands of fish were actually cut and aged in Louisiana. Otolith collection, as well as size-at-age data came from Louisiana's fishery-independent sampling. He noted that in Louisiana the fishery is catching the same sizes as sampling indicates. The natural mortality rate is .3. Categorical analyses were performed using gonadal size in millimeter increments and included immature, resting, mature, ripe, and spent gonads. This data, in essence, is a maturity schedule. In the Louisiana stock assessment, all SPRs are indicated by biomass due to an inadequate estimate of egg production. Fishing mortality rates were down after several fishing regulations went into effect in 1987 and 1988. In 1987, the commercial length was raised from 12" to 14," and a minimum recreational length of 12" was established. In 1988, the creel limit was reduced from 50 to 25. Static SPRs demonstrate the effects of fishing regulations. Shepard noted that estimates of Z were lower from VPA than those calculated from disappearance rates. VPAs generally give a smaller recruitment rate in males, too. Weighted and unweighted transitional SPRs were given, and estimates of recruitment were given. Shepard asked that the draft document not be distributed outside the Stock Assessment Team, and a final document is expected to be complete in mid-September to October.

The final stock assessment for Texas was delivered and distributed to the SAT prior to the meeting. Mark Fisher noted that Table 7 has a correction which will be mailed to GSMFC for distribution to the SAT as soon as he returns to Austin. Fisher presented the stock assessment for Texas which used recreational data only, since there is no commercial fishery for spotted seatrout in Texas. He reported that recreational landings of spotted seatrout were variable with females comprising most of the landings. Females grow faster and larger than males, but length-at-age is variable for both sexes. An age-length key was used to assign ages by sex. The female population in Texas nearly doubled in size since 1984, while the male population almost tripled. Recruitment, spawning biomass, and number of older fish increased. Unweighted transitional SPRs for females and males have increased in Texas, and both sexes are at or within biological reference points used for assessing exploited populations. A Beverton-Holt spawner-recruit relationship indicates recruitment and spawning biomass have been increasing through time, and population growth is expected to continue.

Alabama's Spotted Seatrout Update

Skip Lazauski reported that Alabama has had a dedicated spotted seatrout creel survey since October 1, 1995. Several hundred (850-1,000) otoliths, equally distributed among sexes, have been collected. These data will be used to present a "snapshot" of the fishery, and Lazauski expects the Alabama report to be final in mid-October.

Possible Integration of Stock Assessments for Spotted Seatrout/Timetable for Completion

As previously agreed, the next step in completion of the spotted seatrout stock assessment will be to review all individual state assessments to determine the feasibility of integrating the

assessments to show an overall condition of the fishery in the Gulf of Mexico. Mike Murphy noted that the Louisiana, Texas, and Florida stock assessments should all mesh qualitatively, while combination of data for quantitative analysis was likely of no utility. State representatives have all indicated that stock assessments will be complete in October, and upon receipt, all state documents will be sent to the GSMFC office for distribution to the entire team. After sufficient review time, the SAT will convene via conference call to discuss compilation of the final document and to determine if another meeting is necessary. In the mean time, Joe Shepard agreed to contact Bob Muller to review proceedings of this meeting and discuss the next step toward finalization of the spotted seatrout stock assessment.

Review of Flounder Stock Assessment Data

Ron Lukens reported that an organizational meeting of the Flounder TTF was held April 25-26, 1996, in New Orleans, Louisiana. At that meeting, the TTF decided to address both southern and gulf flounder. The FMP will focus on the directed fishery but should note other impacted species. It was noted that the dominant catch in Florida is gulf flounder, but the dominant catches in Texas and Mississippi are southern flounder. The mission of the SAT is to determine whether there are enough available data to perform (a) stock assessment(s) for flounder. Several SAT members noted broad flounder and asked if the TTF might consider including that species also.

Since their organizational meeting, the TTF has gathered information that may be useful to the SAT. The SAT reviewed this information, and copies will be distributed as requested. The GSMFC staff has requested both cooperative statistics and TIP data for flounder and will distribute these data to the SAT upon receipt. Louisiana, Florida, and Texas have crude stock assessments for southern flounder, and Florida also has additional data on gulf flounder.

Discussion of Blue Crab Stock Assessment

Jim Duffy reported the Blue Crab TTF has reconvened to revise the 1990 Blue Crab FMP, and the TTF may request assistance from the SAT during the revision process. Joe Shepard noted that the SAT will be happy to work with the TTF to provide review and comment.

Data Needs for Stock Assessments in 1997, 1998, and 1999

Ron Lukens explained that this request for the next three years' data needs arises from several discussions at ComFIN meetings. The Commercial Fisheries Information Network (ComFIN) and Recreational Fisheries Information Network (RecFIN) are not data collection programs *per se;* they are organizational structures that provide a forum for the discussion of issues related to the collection of management fishery data. RecFIN/ComFIN identify problems in data collection and data management and work toward the solutions to those problems. Currently there is no regional data collection plan. Toward that end, a logical step is to ask the stock assessors what data are needed for different species. This request will begin the process to integrate two efforts, data collection and stock assessment or data analysis, so that data needs can be identified on an annual basis for stock assessments or data analyses expected to be performed in subsequent years. What are the priority species (for the individual states, the Gulf States, and federal agencies) for the next three years going to be? What kinds of data are going to be needed?

The SAT suggested that a letter and matrix be developed and sent to the state and federal agencies. The matrix should include species, commercial and recreational data collected, commercial and recreational data needed, elements of a stock assessment, and time frames. An inventory should be done of data collected in the past and data collection needs for the future. Data collection programs by state should be identified.

Discussion of Gulf-wide Age and Growth Methodologies and Protocols

Mike Murphy reported that he is in the process of developing a handbook on the collection and processing of otoliths. He expects to have a complete outline by September and will send a draft to Mark Van Hoose and Jim Cowan in Alabama, Tut Warren and Jim Franks in Mississippi, Glen Thomas and Chuck Wilson in Louisiana, and Bob Colura in Texas for their review and input. A draft will be sent to the entire SAT and discussed at a future SAT meeting. The GSMFC will publish the document upon completion. Publishing the handbook will include color-separation and photograph reproduction.

Discussion of Stock Assessment Training Workshops

Ron Lukens reported that the GSMFC had budgeted a workshop, but time constraints will make it impossible for this year. The entire SAT noted the value of these workshops. The workshops sharpen the skills of those who are performing stock assessments now and nurture incoming scientists who will be performing stock assessments in the future. At the last workshop, SPR was addressed; what is the logical step for the next workshop? The SAT agreed the next step should probably be developing and tuning VPAs.

Tut Warren noted the possibility of developing a four-week summer course at USM/GCRL. The course could be developed as an introduction to stock assessments. Several points of contact were noted such as Goodyear, Muller, Mahmoudi, Prager, Jones, Brown, and Ault. Tut Warren will further investigate via letter to determine if a syllabus has been developed.

Other Business

Ron Lukens referred the SAT to the letter from the National Research Council (NRC) regarding a study that they are conducting on fish stock assessment methods. The NRC has requested input regarding stock assessment needs and concerns. A matrix was developed and distributed to the SAT, and each member will fill in the matrix and develop a list of concerns regarding stock assessments. The SAT agreed to fax these items back to the GSMFC by *Friday, August 23, 1996.*

There being no further business, the meeting adjourned Thursday, August 15, 1996 at 10:45 a.m.

APPROVED BY:

COMMITTEE CHAIRMAN

SPOTTED SEATROUT TECHNICAL TASK FORCE
MINUTES
August 15-16, 1996
Gulf Shores, Alabama

Chairman Harry Blanchet called the meeting to order on Thursday, August 15 at 1:20 p.m. The following were in attendance:

Members
Chuck Adams, UF/Florida Sea Grant, Gainesville, FL
Harry Blanchet, LDWF, Baton Rouge, LA
Joe Gill, Jr., SASI, Ocean Springs, MS
Dan Hughes, ADCNR/MRD, Gulf Shores, AL (*proxy for Jerry Waller*)
Larry McEachron, TPWD, Austin, TX
Dale Shively, TPWD, Austin, TX
James "Tut" Warren, GCRL, Ocean Springs, MS

Others
Joey Shepard, LDWF, Baton Rouge, LA

Staff
Jim Duffy, Program Coordinator, Ocean Springs, MS
Ron Lukens, Assistant Director, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions

Ron Lukens noted that most of the task force already knew the new Interjurisdictional Fisheries Program Coordinator, Jim Duffy, since he had previously worked with the task force as a state representative. Other changes to the group included the resignation of Tom Hults as the commercial representative and the subsequent appointment of Joe Gill to that post.

Adoption of Agenda

Joe Gill moved to accept the agenda as written. The motion was seconded by Chuck Adams and approved by consensus.

Approval of Minutes

Chuck Adams moved to accept the minutes of the meeting held April 11, 1996, in Pensacola, Florida. The motion was seconded by Larry McEachron and approved by consensus.

Review of Draft Sections of the Spotted Seatrout FMP

The task force reviewed draft sections of the spotted seatrout FMP. Editorial markups will be sent to the GSMFC office as development progresses. Check acronyms. Specific items addressed included:

Section 1, Summary - Staff - to be written just prior to completion.

Section 2, Introduction - Staff

Update TTF composition paragraph on page 2-1 to include the Habitat Subcommittee
Update TTF and staff lists on page 2-2
Update Authorship and Support for Plan Development on page 2-2

Section 3, Description of the Stocks - Staff

Check section numbering
Page 3-2, developmental stages of spotted seatrout (Figure 3.1) - Mark Leiby
Page 3-5
Check formula (L^2)
2nd paragraph, second sentence - change to read, "These differences are due to length at age..."
3.2.2.1 - 3.2.2.5 - add
Use tables to show growth rates (one table per sex or compare females)
Page 3-6
Add maturation, utilize Louisiana's profile
Larry McEachron will add a paragraph on culture techniques under spawning
Page 3-7
Larry McEachron will check Holt's research on salinity
Page 3-9
Larry McEachron will add to incubation paragraph
Tut Warren, copy parasites and diseases section to Overstreet for review
Page 3-11
Harry Blanchet, add feeding habits of spotted seatrout 30 mm - 150 mm
Page 3-12
Add under behavior "Sound production is generally associated with courtship and spawning behavior."
Page 3-13
Correct McEachron spelling
Jim rewrite last paragraph to remove "up-estuary"
Correct *mitchilli* spelling

Section 4, Description of the Habitat of the Stock(s) Comprising the Management Unit - Habitat Representative - Dale Shively reported that he will write the section compiling a current status of habitat by gathering information from the Gulf States and federal agencies. He will utilize the expertise of members on the TCC Habitat Subcommittee. The section will be species-specific to the FMP, but he will also look

at the overall ecological picture. Chuck Adams asked that contaminants such as mercury and dioxin be addressed in the section.

Section 5, Fishery Management Jurisdictions, Laws, and Policies Affecting the Stock(s) - All

Check section to update federal agencies (names, roles, etc.) as necessary.

Page 5-7 - update Louisiana telephone number (504) 765-2800

Page 5-8 - update Texas, second to the last line to read, "Directors of Coastal Fisheries, Inland Fisheries, Wildlife, Law Enforcement, and Resource Protection are named by the Executive Director."

Page 5-20 - update Louisiana's section using Blanchet's mark-up

Section 6, Description of Fishing Activities Affecting the Stocks - Staff

Chuck Adams has landings data per state

Alabama - need state description of the fishery

Mississippi - Tut Warren will send in

Louisiana - use state plan

Texas - information sent to GSMFC, Larry McEachron will put together a paragraph on incidental catch. Texas has a 3 year study on shrimp bycatch, and a 1 year recreational study.

Call Judy Jamison at the Gulf & South Atlantic Fisheries Development Foundation for bycatch data.

Section 7, Description of Processing, Marketing, and Economic Characters of the Fishery - Chuck Adams reported he has landings data including landings by gear type and will determine landings/value trends. Brief surveys will be sent out via the GSMFC office to processors with prepaid return postage, and he needs mailing lists from Alabama and Texas. The survey will be sent to the task force for review prior to distribution. He reported there is not much in the literature and requested the state representatives send him any available studies. Joey Shepard noted a contact for information and assistance with the survey might be the Louisiana Seafood Promotion Board.

Section 8, Social and Cultural Framework of Domestic Fishermen and Their Communities - Steve Thomas/Cecilia Formichela, University of South Alabama, have agreed to develop this section but were unable to attend the meeting. Jim Duffy will contact Dr. Thomas to determine the status of this section. Joe Gill may be able to get some information from Jean Williams, Save America's Seafood Industry, for the section. Chuck Adams noted the gill net study done by Susannah Smith that investigated how the gill net ban affected the commercial fishing families in Florida.

Section 9, Management Considerations - Bob Muller will complete 9.1 through 9.3. Jim Duffy will draft the remaining with input from state representatives on management issues. Tut Warren will send in Mississippi's quota information.

Section 10, Potential Management Measures - Staff with input from all. Add stock enhancement.

Section 11, Management Recommendations - All

Section 12, Regional Research Priorities and Data Requirements - Staff - Need input from all as FMP develops. The Louisiana FMP will provide a good boilerplate.

Section 13, Review and Monitoring of the Plan - Staff

Section 14, References - All - provide complete references as necessary

Section 15.1 Stock Assessment - incomplete

Discussion of Stock Assessment

Joey Shepard, Chairman of the Stock Assessment Team, noted the importance of the FMP as a regional management tool, as well as a complete reference document for spotted seatrout. FMPs are excellent documents to use at state legislatures. Impacts of bag and size limits, as well as inconsistent state regulations can be identified and recommendations can be made in FMPs.

The next step in completion of the spotted seatrout stock assessment will be to review all individual state assessments to determine the feasibility of integrating the assessments to show an overall condition of the fishery in the Gulf of Mexico. The Louisiana and Texas stock assessments were reviewed at their meeting just prior to the task force's, and state representatives have indicated that stock assessments will be final in October. Upon receipt, all state documents will be sent to the GSMFC office for distribution to the entire team. After sufficient review time, the SAT will convene via conference call to discuss compilation of the final document. The final document is expected to be complete at the end of 1996.

Harry Blanchet suggested the SAT identify data needs to incorporate into section 12 of the FMP. Joe Shepard said the SAT is a service-oriented group and will help the TTF with portions of the plan as requested.

Timetable/Next Meeting

The next revision will contain drafts of sections 6, 9, 10, and 14. A meeting will be scheduled as the document progresses and may be feasible in February. Several task force members noted the first quarter of 1997 may be occupied with legislative matters. Tut Warren requested the next draft be sent out for review to the group one month prior to the meeting.

There being no further business, the meeting adjourned at 11:45 a.m.

DRAFT

JOINT STOCK ASSESSMENT TEAM (SAT)
SPOTTED SEATROUT TECHNICAL TASK
FORCE (SSTTF) MEETING
MINUTES
PENSACOLA, FLORIDA

Ron Lukens, GSMFC Assistant Director, called the meeting to order on Monday, September 8 at 1:02 p.m. The following members and staff were present:

Members
Harry Blanchet, *SSTTF Chairman*, LDWF, Baton Rouge, LA
Joe Shepard, *SAT Chairman*, LDWF, Baton Rouge, LA
Chuck Adams, *SSTTF*, UF Sea Grant, Gainesville, FL
Joe Gill, *SSTTF*, Save America's Seafood Industry, Ocean Springs, MS
Skip Lazauski, *SAT*, ADCNR/MRD, Gulf Shores, AL
Behzad Mahmoudi, *SAT*, FDEP/FMRI, St. Petersburg, FL
Larry McEachron, *SSTTF*, TPWD, Rockport, TX
Bob Muller, *SAT & SSTTF*, FDEP/FMRI, St. Petersburg, FL
Mike Murphy, *SAT*, FDEP/FMRI, St. Petersburg, FL
J. Dale Shively, *SSTTF*, TPWD, Austin, TX
Mark Van Hoose, *SSTTF*, ADCNR/MRD, Dauphin Island, AL
Terry Waldrop, *SSTTF*, CCA, Gulfport, MS
Jerry Waller, *SSTTF*, ADCNR/MRD, Dauphin Island, AL
James Warren, *SAT & SSTTF*, USM/IMS/GCRL, Ocean Springs, MS

Staff
Ron Lukens, Assistant Director, Ocean Springs, MS
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions and Opening Comments

R. Lukens introduced the new IJF Program Coordinator, Steve VanderKooy. Mr. VanderKooy comes to the Commission from the Gulf Coast Research Laboratory in Ocean Springs. Mr. Lukens expressed his confidence in Mr. VanderKooy's ability to coordinate the program. R. Lukens asked who would like to chair the joint session, and H. Blanchet deferred to the SAT Chairman, Joe Shepard. J. Shepard asked the group to introduce themselves since this is the first joint meeting and for voice identification for recording purposes.

J. Shepard reported that at the last S-FFMC meeting, the state directors decided that all FMPs will begin with a biological profile. Once the profile is completed, the group will determine if a stock assessment should/can be done.

J. Gill understands that Flounder FMP development has surpassed that of the Seatrout FMP. He inquired if the GSMFC was devoting increased effort and/or money to that group. R. Lukens

noted that the main different in effort is due to group dynamics. The Seatrout TTF is composed of middle management, but the Flounder TTF is mainly composed of field scientists. Field scientists generally have more time to devote to FMP development. Members of the Seatrout TTF often have more commitments (*e.g.*, work with their state legislature) which may create a shortage of work time and scheduling problems for TTF meetings.

Adoption of Agenda

J. Shepard asked if there were any changes to the agenda. J. Gill moved to adopt the agenda as presented. H. Blanchet seconded, and the agenda was adopted without change.

Approval of Minutes

Chairman Blanchet asked if there were any changes to the minutes of the SSTTF meeting held August 15-16, 1996, in Gulf Shores, Alabama. L. McEachron moved to accept the minutes as written, and the minutes were approved by consensus.

Chairman Shepard asked if there were any changes to the minutes of the SAT meeting held August 14-15, 1996, in Gulf Shores, Alabama. S. Lazauski moved to accept the minutes as written, B. Muller seconded, and the minutes were approved as written.

Review of Individual State Stock Assessments - Gulf-Wide SPR Discussion

B. Muller noted that assessment for Louisiana, Texas, and Florida are basically in hand, but all have been done by different methodologies. Should he go through the arithmetic exercise to standardize the data in order to get a gulf-wide SPR? After discussion, the group agreed that there is not much to be gained. He noted that MRFSS estimate files have been redone for 1995 and 1996, and a new Florida stock assessment will be performed in November. J. Warren has supplied some information from Mississippi, and S. Lazauski informed the group that information is now available from Alabama. State representatives agreed to send the following information for their state to B. Muller by **Wednesday, October 15**:

1) Maturity schedules
2) Size-at-age (length and weight)
3) Catch-at-length
4) Catch-at-age
5) Selectivity
6) Age-specific F rates
7) Others as appropriate or available

Revision and Missing Information for the FMP

Section 4 - Description of Essential Habitats. D. Shively began a discussion of information that he needs to prepare the habitat portion of the FMP. He has information from Mississippi and Louisiana, but requests any information on dissolved oxygen, salinity, and temperature; geographic quantification and quality of spotted seatrout habitat during each life stages; and catch by area.

M. Murphy noted that as the world gets further mapped by GIS, there should be more information available. Bob McMichael, Tim MacDonald, and Gary Nelson in Florida should provide a good gateway for habitat material in Florida. Contacts in Alabama include Rick Wallace at Auburn and Steve Settlemeyer and John Dendeaux at Dauphin Island Sea Lab. M. Van Hoose noted that there are post larvae and juvenile data by salinity for Alabama. Contacts for Louisiana are Vince Guillory and Steve Hein, both in Bourg.

Rather than split into two separate groups at this point during the meeting, the joint group agreed to continue with the SAT agenda.

Spotted Seatrout Wrap up

The state stock assessments will remain separate. The seven items noted above will be sent to B. Muller by Wednesday, October 15.

Flounder Stock Assessment

B. Muller reported that a crude stock assessment is available for Florida on southern flounder. It was agreed by the group that there is not enough data available to perform a gulf-wide stock assessment. M. Murphy asked if the SAT can make a recommendation not to perform a stock assessment. Should the group summarize available data, why it is lacking, and make recommendations to gain the data necessary to perform a stock assessment? B. Mahmoudi noted that we could describe landings and trends.

The group seemed to be reversing their last plan to have a stock assessment from Texas and Louisiana. Louisiana has a stock assessment for flounder, and Texas is willing to contract with the GSMFC for a Texas stock assessment. Texas has a small commercial gig fishery and a small trawl fishery in the fall. Information collected in Texas includes these fisheries and otolith and mitochondiral DNA information.

S. VanderKooy agreed to get as much information to the SAT from the TTF so that the other states will have summary data at least. L. McEachron will check with M. Fisher to determine a tentative timetable for the Texas stock assessment.

By consensus, the following two items were added to the SAT agenda at this time:

Otolith Handbook

M. Murphy distributed the latest outline for the otolith handbook (attachment A). He reported that he has received comments, but has not had time recently to work on the handbook. The basic intent of the handbook is to get the work in the gulf on a standardized level. The SAT reiterated that this handbook should be a very hands-on and species specific to the gulf. The handbook should be in a three-ring binder format to facilitate revision(s).

Stock Assessment Training Workshop

J. Shepard and H. Blanchet noted that they had tried for approximately three years to get state workshops done in Louisiana, but were unsuccessful. J. Warren recommended the use of GCRL for a one week, special topics course. They can add credit hour options and use the facilities available (including dormitory space, classrooms, etc.). An instructor would have to be brought in, and the course should be scheduled at either the beginning or end of the summer schedule. B. Mahmoudi suggested Victor Restrepo's assistance should be saught. The SAT should determine the curriculum. The ASMFC curriculum and V. Restrepo's curriculum will be reviewed. Training should begin with a basic curriculum. Continuing workshops should be held and include a higher curriculum. As classes advance, they will need more training time. When the SAT has a curriculum in hand, the group will seek approval from the S-FFMC for this activity.

There being no further business, M. Murphy moved to adjourn the SAT meeting. The SAT adjourned at 3:55 p.m.

The meeting continued with the SSTTF agenda.

Discussions of Revisions

A general discussion occurred on sections 4-10. The following points were made:

- Either lighten up "draft" or just put it in a header.
- Use spotted seatrout (not just seatrout) throughout the plan.
- C. Adams provided the group with a revised Section 7.
- J. Gill provided information for inclusion into Section 8 (attachment B).
- S. VanderKooy referred the group to B. Ditton's E-mail (attachment C) which outlines Section 8 so far and includes questions he has for the group.
- S. VanderKooy reported to the group that R. Overstreet at GCRL had reviewed the parasite section, but B. Muller noted Florida information on disease was not included. B. Muller will resend to GSMFC for inclusion.

- Harry Blanchet will provide a copy of the Arnoldi paper to GSMFC for distribution to the TTF.
- B. Muller noted that M. Leiby has a plate of the modern developmental stages of spotted seatrout. S. VanderKooy will call M. Leiby to request the graphic file(s) on disk.
- B. Muller provided S. VanderKooy with the Florida rulemaking authority for incorporation into Table 5.1
- L. McEachron requested S. VanderKooy update Table 3.5 using the age-at-length key provided by Bob Colura.
- The TTF agreed to include figures for all states such as Figure 3.2. Each state should provide raw data to plot, run the line, and make each figure consistent in format.
- The TTF agreed to include spawning time in both sentence and table form in Section 3.
- H. Blanchet noted that the legislative report that he will have distributed to the TTF was not intended for a technical audience. The document does, however, contain some socio-economic and law enforcement information that may be useful for FMP development.

At 5:10 p.m., Chairman Blanchet suggested that the group recess until the morning. Sections 7, 8, and 10 will be reviewed during tomorrow's session.

The Spotted Seatrout TTF reconvened on Tuesday, September 9 at 8:00 a.m. The following items were noted:

Section 4

- Add information on contaminants, mercury loading, etc. Texas, Louisiana, and Florida have published reports containing this information. J. Warren will check on a publication on toxic testing from a study at GCRL. M. VanHoose noted that Alabama did some work on king mackerel.
- Add red tide, cold kills where appropriate in the section.

Section 5

- This section will have constant revision until publication.
- The new standards from the Magnuson/Stevens Act should be incorporated
- The Sustainable Fisheries Act needs to be added.
- Each state should send regulation revisions to S. VanderKooy on a continuing basis.

Section 6

- This section needs state-by-state coastwide information, not too specific (don't break it down into bay systems, etc.) Each state should send information to S. VanderKooy for compilation.
- B. Muller noted that Florida may not have very detailed historical information for the west coast.

- Texas has some very good historical information. L. McEachron will send in a portion for inclusion.
- Information on the commercial fishery is needed in the same basic format as the recreational side. A brief characterization of the fishery should be included. Information is needed from all the states.
- C. Adams noted that a heading on release mortality should be included here. Other nonfishing induced mortality rates should also be included in this section (*e.g.* power plant mortalities in Texas). S. VanderKooy will double check the Atlantic striped bass management plan from ASMFC to see where they have included this kind of information.
- Include recreational and commercial landings and landings by gear type, by state. C. Adams will focus on value in Section 7 and refer back to the landings in Section 6.
- MRFSS data should be cited *as of 00/00/00.*
- Historical landings data is available and perhaps should be put into the table form in an appendix.
- J. Shepard is concerned about the lack of information on the number of trips. The TTF agreed that trip information should be included.

<u>Section 7</u>

- Landings tables will be taken out, but will refer back to Section 6.
- Qualifiers should be put in to explain sudden increases/drops in landings. For instance, Alabama shows a big decrease in landings in 1974 because landings had typically been brought into Alabama from the Chandeleur Islands in Louisiana. When Louisiana increased its license price making it prohibitive in cost to Alabama fishermen, Alabama landings dropped dramatically.
- C. Adams asked each state to look at landings trends and qualify with a reference, if possible.
- B. Muller asked if price variability was statistically significant. He suggested Adams may want to go into more detail on the attributes of prices in the narrative. Unfortunately, the other states do not have this type of information.
- T. Waldrop asked if a recreational value can be placed on a pound of seatrout. C. Adams noted that the data is too raw to try to value a fish that way. L. McEachron noted that the FWS does provide those types of numbers every year; however, this information is not published. Adams did note that the American Sportsfishing Association has recently published an article on the impact of sportsfishing in the Gulf of Mexico, but it would be dangerous to extrapolate how high a component the spotted seatrout fishery is to sportsfishing in general.
- C. Adams has restitution values from Louisiana and Florida. Texas and Alabama have never developed these tables.
- Research needs and recommendations - getting real values.

- L. McEachron noted that C. Adams could get import information from the Market News Office in Brownsville, Texas.
- C. Adams has some information on consumption estimates from Florida but needs consumption estimates for the other states. H. Blanchet will check with their health department for this kind of information for Louisiana.

Section 8

- The group noted that MRFSS does have target data.
- State-wide angler surveys - The Louisiana survey did try to pull people who stated spotted seatrout as the primary preference species as opposed to generic recreational fishers.
- The Bertrand coastal study covered three coastal parishes in Louisiana so if racial and ethnic information is wanted, Louisiana has it. J. Warren has a similar study for Mississippi.
- Expenditure data should go into Section 7. Demographic numbers should stay in Section 8.
- S. Smith (Florida) has some commercial information that focused on nearshore net boats.
- Mississippi should have the best commercial sociological information.
- There will be more information on the recreational side than the commercial side simply because there is more information for the recreational fishery.
- J. Gill's descriptions of the community structure can be worked in, but it is available in the form of a usable reference? J. Gill provided two publications which may be useful. GSMFC will distribute. The TTF discussed whether the information is available to address sociological issues in an unbiased manner. Is there information on the structure of the community and opportunities available to commercial fishermen? This information must be adequate information from the literature.

Section 9

- Contaminants issues
- Increased recreational harvesters
- "Information on recreational catch and effort suggests that recreational landings for spotted seatrout equal or exceed historic landings for commercial and recreational landings combined."
- Page 9-2 paragraph at the top. The take of small fish... not necessarily the case. M. Van Hoose noted that the "little fish" argument has been around forever, has not seen fruition, and needs to go.
- The TTF agreed that this section needs careful examination - statements should have reference within the FMP to back them up.
- These issues need to be addressed in a gulf context; there is too much from just one state (Alabama).

- 9.4.2 second paragraph, last sentence "excessive" wrong word - "ineffectual" is better.
- In the same paragraph, over generalization "lack of limit possession" sentence - the TTF disagrees with this sentence totally.
- 9.4.7 first paragraph - not just an enforcement issue. It is an issue with the fishermen, managers, and enforcement. J. Waller recommended slashing the first sentence entirely.
- Each state representative should generate a version of this section detailing problems in their state for compilation into the FMP.

Section 10

- The introductory paragraph should state that these are recommendations; this is a section of possibilities some of which may be more effective or more necessary (acceptable) than others. In establishing fishing years, Texas has a fishing year that begins in May, but the remaining states are different. Should everyone change to Texas or should Texas change to the other states?
- Each state representative should review and edit.

Section 11

- Management recommendations will be made at a later date.

Section 12

- Regional research priorities and data requirements
  Habitat - contaminants
  Economics - methodology for true values in the fishery

Timetable for Completion

The stock assessment should be complete this fall, the next meeting to review progress is tentatively scheduled for early 1998. Several sites were recommended including New Orleans or coming back to Pensacola.

There being no further business, the meeting adjourned at 12:10 p.m.

A practical handbook on the use of otolith for determining the ages of Gulf of Mexico fishes

Introduction
- History
  - Age determination
  - Other handbooks

Secor and Dean 1992. Manual for otolith removal and preparation for microstructure.
Stevenson and Campana. 1992.

- Significance
  - growth, mortality, stock assessment

Otolith
- 'Anatomical features' Morphological features
  - rostrum, sulcus acousticus, etc.
- Physiology Not relevant to handbook
  - initiation, serum calcium levels, etc.

General processing Techniques Expand, this is the meat

Age estimation
- cleaning
- storage
- embedding
- sectioning
- mounting I would like to discourage whole mounting as a practice.
- Grinding
- Slicing Sectioning
- Breaking?

Species-Specific examples
The unique value of the publication will be the species-specific examples. Most of the other topics have been covered quite thoroughly in previously published works. I would emphasize the species-specific section.
- Sciaenid examples (red drum, black drum, spotted seatrout, weakfish)
- Groupers examples
- Snappers
- Bluefish
- Scombrids and Carangids
- Sheepshead
- Flounders
- Other unique types?

Verification Not as relevant as it used to be - a standard rejection criteria would be nice. This is important because everyone does it differently and many papers gloss over with no real explanation.

Double reads
Swapping

Validation

Indirect method
Direct methods

Summary

Should we limit the handbook to processing for annual marks only or should we include daily age determination processing? Daily age already done. Dailies already covered pretty well. As for including daily ageing, is this used widely in your assessments?. Annual marks, at this time are the more useful. However, as research progresses daily age determination will be used more frequently in making management decisions and...a small section on daily age determination...will be appropriate.

Age estimation criteria

Terminology
Examples - opaque, translucent, false annuli

List of names and addresses of biologists who have done aging and the species that they've worked on.

List of companies, addresses, and phone numbers for those selling otolith processing supplies

Use of image analysis

Data to be collected with otoliths - consideration should be given to standardizing the type of length measure made among the states...managers may be forced to use conversion that are not appropriate.

Historically, participation in commercial harvest of trout has been by small, family-oriented operations. The typical vessel being 20 ft. or less, and manned by father and son, or perhaps sibling brothers born into a family tradition of commercial fishing.

Socially, these fishermen associate themselves, almost exclusively, with other fishermen. Fiercely competitive, and secretive about who's catching what and where, fishermen enjoy feeling other fishermen out for information. However the pervasive rivalry among fishermen seldom prompts one to refuse to assist another fisherman in need.

Attributing to the cohesiveness of the working waterfront, or "fishing community", is the onslaught of politically-induced regulatory mandates, which seek to curtail commercial fishing at every opportunity. Forced into an adversarial posture, against politically powerful development, tourism, and recreational interests, the prevailing concern among fishermen is regulatory overkill, which threatens their livelihood. Realizing that they are all in the same "boat", fishermen are currently pooling their meager resources in an attempt to affect legislative and judicial proceedings, which will have a profound affect on the future of domestic seafood production, while begging regulatory authorities to consider their needs.

The cultural framework of America's fishing communities is being incrementally, systematically dismantled by lobbying efforts in pursuit of other special interest agendas. While the traditional and cultural heritage of waterfront communities is disregarded in favor of more influential societal factions, commercial fishermen stubbornly cling to their time-honored profession. The unanimous consensus among fishermen is that science (facts) should be the prevailing influence on all fisheries regulation. Unfortunately, in most cases, political clout rules, to the detriment of the fisherman's family.

If commercial fishing is to remain an option for small business entrepaneurs, capricious and arbitrary regulation of such enterprises must be replaced by equitable, scientific resource management.

Otherwise, commercial fishermen (unless they work for some big corporate interest) will become extinct, thereby allowing additional growth of the recreational and tourism industries which seek to monopolize use of near-shore marine resources.

Hilton Floyd
SASI President
September 1997

SUBJECT: Re: Seatrout Meeting
DATE: Fri, 5 Sep 1997 15:49:21 g
FROM: rditton

8.2 Recreational anglers

There are data and information deficiencies which make it difficult to profile spotted seatrout anglers. The Marine Recreational Fisheries Statistics Survey (MRFSS) provides a longitudinal perspective on various catch types for spotted seatrout, social information is available in aggregate form and not by angler's species preference or species targeted. Perhaps in the future additional add-on studies can be implemented in an effort to learn more about this angler subgroup in support of fisheries management.

In lieu of region wide information on spotted seatrout anglers, several states have conducted statewide angler surveys; some of which have had sufficient sample size to enable understandings of anglers preferring or targeting particularly popular species such as spotted seatrout and red drum. Some have had sufficient sample sizes to represent marine anglers as a group but not enough to probe for group differences by species sought or preference. Findings from both categories of surveys are appropriate to this management plan and will be presented here.

In Texas in 1992, for example, a mail survey was sent to those anglers who reported on a previous statewide survey in 1990 that spotted seatrout was a preferred species in saltwater. The survey was sent to 1,597 anglers by the Texas Parks and Wildlife Department and Texas A&M University ; there were 788 usable returns for an effective response rate of 66% when non-deliverables were deleted from consideration. The purpose of this survey was to collect information from spotted seatrout anglers on their characteristics, fishing habits, motivations and attitudes, and expenditures in Texas. Survey results presented have limited generalizability to the State of Texas but provide some insight to relevant questions and the basis for expectations in other Gulf of Mexico states.

Spotted seatrout is preferred by a majority or nearly a majority of anglers in several Gulf states. Kelso et al.(1991) reported that 50% of saltwater anglers in Louisiana indicated a first choice preference for spotted seatrout; 42% indicated a first choice preference for red drum. Spotted seatrout was second(18%) to red drum (32.6%) as a first preference species in Texas. Bertrand(1984) reported that relatively few anglers primarily sought speckled seatrout only (7.7%) or red drum only (6.7%) statewide but that the two species taken together as a species preference accounted for 54.8 of the 491 anglers interviewed statewide. Accordingly, there are few differences reported between spotted seatrout anglers and marine anglers in general where comparisons have been made.

8.2.1Racial and Ethnic Characteristics

Spotted seatrout anglers were much like the general population of Texas anglers where most(89%) were white/ anglo, 5% were black/ African American, and 6% were Asian/ Pacific Islander, American Indian, or other. When asked about their ethnic origin, 10% indicated they were of Spanish/ Hispanic origin (Ditton and Hunt 1995).(WE CAN RE-RUN THE DATA FOR SST ANGLERS TO GET PRECISE FIGURES FOR THIS ANGLER GROUP BUT THE MAIN POINT HERE IS THAT THERE WAS NO DIFFERENCES WITH POPULATION FIGURES. THAT IS WHY WE DIDN'T REPORT THESE DIFFERENCES IN OUR PROJECT EXECUTIVE SUMMARY).

8.2.2. Age and Education Profiles

As is the case with the angler population, the spotted seatrout angler subgroup is dominated by 30- 49 year old white males in Texas(Ditton and Hunt 1995).

8.2.3. Resource Expectations

On a five-point scale that ranged from not at all satisfied to extremely satisfied, most (71%) reported they were moderately to extremely satisfied with spotted seatrout fishing in Texas. Overall, 85% of all saltwater anglers reported they were moderately to extremely satisfied with saltwater fishing in Texas(Ditton and Hunt 1995).

Spotted seatrout anglers were queried on various management options in 1995 TPWD/ TAMU mail survey. As background, most (60%) spotted seatrout anglers in Texas disagreed with the statement that "recreational anglers were putting too much pressure on spotted seatrout populations". This group of anglers was split on whether they felt saltwater tournaments were putting too much pressure on spotted seatrout populations (32% agreed, 31% disagreed, and 37% were neutral). About 16 % of spotted seatrout anglers participated in a saltwater tournament in the previous 12 months.

In terms of size limits, most (62%) of spotted seatrout anglers supported a regulation whereby they would be allowed to keep one fish under the current 15" limit in Texas with a bag limit of ten fish with fewer (47%) supporting the idea of being allowed to keep two undersized fish. One-half (50%) supported (with 15% neutral) lowering the 15" minimum size to 14".

References

Bertrand, A.L. 1984. Marine recreational finfishermen in Louisiana. LSU-CEFI-84-26. Center for Wetland Resources, Louisiana State University, Baton Rouge, 36p.

Ditton, R.B. and K.M. Hunt. 1995. Demographics, participation, attitudes, management preferences, and trip expenditures of Texas anglers. Technical Document #HD- 605. Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, 58p.

Kelso, W.E., B.D. Rodgers, D.A. Rutherford, and D.R. Rogers. 1991. Survey of Louisiana sport fishermen--1990. School of Forestry, Wildlife, and Fisheries, Louisiana State University, Baton Rouge, 65p.

Additional questions for you and the group.

1. I am interested in any other reoports that give coverage for spotted seatrout anglers in Miss, Ala, and Florida. The Florida work I have seen didn't break out anglers by the GOM and South Atlantic. Is this a problem??

2. We have expenditure data from our SST angler survey that probably should go into the econ. Section(Section 7). Do you want it?? Section 7 right now looks almost exclusively commercial in orientation. From a best available technical information perspective, it looks like we will have to use angler expenditure data in lieu of consumer's surplus info on a SST angling experience. Does anybody know of any such data that have been gathered from SST anglers??

3. When it comes to recreational fishery organizations associated with the SST fishery, several come to mind. First, the CCA organizations in each state which are very concerned with SST. Also, We should include the various guide associations along the GOM coastline. In Texas, we have the Coastal Bend Guides association which operates out of Rockport, TX. Perhaps the group can put its collective heads together to make a complete list of relevant organizations. Additionally, there has been an explosion in tournaments (amateur, pro, and pro-am!which are featuring near shore species like red drum and SST. Some office staff need to do some phone calling to pull this together. SST and its management is viewed as an important tourism element by every Chamber of Commerce from Browsville to Key West. A complete list of chambers should be included in this document because of the economic development aspects of fisheries and related tourism economies.

4. I am not aware of any economic impact studies of SST recreational fisheries ; can anyone at the meeting help me in this regard??

That's all of the questions I have at the moment. Feedback from the group will be appreciated; I am at a loss to get beyond the limited generalizability of our work in Texas. Nevertheless, it is the best available technical information and should be helpful at least in terms of expectations in other state jurisdictions. Best regards, Bob

Robert B. Ditton
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(E-mail) rditton@orca.tamu.edu
http://lutra.tamu.edu/rbd.htm
(Human Dimensions Lab) http://lutra.tamu.edu/rbd/hdnr.htm

Check out the Homepage for the AFS Committee on the Human Dimensions of Recreational Fisheries:
http://lutra.tamu.edu/hdrfish.htm

APPROVED BY:
COMMITTEE CHAIRMAN
R. H. Blanchet

JOINT STOCK ASSESSMENT TEAM (SAT)
SPOTTED SEATROUT TECHNICAL TASK
FORCE (SSTTF) MEETING
MINUTES
PENSACOLA, FLORIDA

Ron Lukens, GSMFC Assistant Director, called the meeting to order on Monday, September 8 at 1:02 p.m. The following members and staff were present:

Members
Harry Blanchet, *SSTTF Chairman*, LDWF, Baton Rouge, LA
Joe Shepard, *SAT Chairman*, LDWF, Baton Rouge, LA
Chuck Adams, *SSTTF*, UF Sea Grant, Gainesville, FL
Joe Gill, *SSTTF*, Save America's Seafood Industry, Ocean Springs, MS
Skip Lazauski, *SAT*, ADCNR/MRD, Gulf Shores, AL
Behzad Mahmoudi, *SAT*, FDEP/FMRI, St. Petersburg, FL
Larry McEachron, *SSTTF*, TPWD, Rockport, TX
Bob Muller, *SAT & SSTTF*, FDEP/FMRI, St. Petersburg, FL
Mike Murphy, *SAT*, FDEP/FMRI, St. Petersburg, FL
J. Dale Shively, *SSTTF*, TPWD, Austin, TX
Mark Van Hoose, *SSTTF*, ADCNR/MRD, Dauphin Island, AL
Terry Waldrop, *SSTTF*, CCA, Gulfport, MS
Jerry Waller, *SSTTF*, ADCNR/MRD, Dauphin Island, AL
James Warren, *SAT & SSTTF*, USM/IMS/GCRL, Ocean Springs, MS

Staff
Ron Lukens, Assistant Director, Ocean Springs, MS
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Introductions and Opening Comments

R. Lukens introduced the new IJF Program Coordinator, Steve VanderKooy. Mr. VanderKooy comes to the Commission from the Gulf Coast Research Laboratory in Ocean Springs. Mr. Lukens expressed his confidence in Mr. VanderKooy's ability to coordinate the program. R. Lukens asked who would like to chair the joint session, and H. Blanchet deferred to the SAT Chairman, Joe Shepard. J. Shepard asked the group to introduce themselves since this is the first joint meeting and for voice identification for recording purposes.

J. Shepard reported that at the last S-FFMC meeting, the state directors decided that all FMPs will begin with a biological profile. Once the profile is completed, the group will determine if a stock assessment should/can be done.

J. Gill understands that Flounder FMP development has surpassed that of the Seatrout FMP. He inquired if the GSMFC was devoting increased effort and/or money to that group. R. Lukens

noted that the main difference in effort is due to group dynamics. The Seatrout TTF is composed of middle management, but the Flounder TTF is mainly composed of field scientists. Field scientists generally have more time to devote to FMP development. Members of the Seatrout TTF often have more commitments (*e.g.*, work with their state legislature) which may create a shortage of work time and scheduling problems for TTF meetings.

Adoption of Agenda

J. Shepard asked if there were any changes to the agenda. J. Gill moved to adopt the agenda as presented. H. Blanchet seconded, and the agenda was adopted without change.

Approval of Minutes

Chairman Blanchet asked if there were any changes to the minutes of the SSTTF meeting held August 15-16, 1996, in Gulf Shores, Alabama. L. McEachron moved to accept the minutes as written, and the minutes were approved by consensus.

Chairman Shepard asked if there were any changes to the minutes of the SAT meeting held August 14-15, 1996, in Gulf Shores, Alabama. S. Lazauski moved to accept the minutes as written, B. Muller seconded, and the minutes were approved as written.

Review of Individual State Stock Assessments - Gulf-Wide SPR Discussion

B. Muller noted that assessment for Louisiana, Texas, and Florida are basically in hand, but all have been done by different methodologies. Should he go through the arithmetic exercise to standardize the data in order to get a gulf-wide SPR? After discussion, the group agreed that there is not much to be gained. He noted that MRFSS estimate files have been redone for 1995 and 1996, and a new Florida stock assessment will be performed in November. J. Warren has supplied some information from Mississippi, and S. Lazauski informed the group that information is now available from Alabama. State representatives agreed to send the following information for their state to B. Muller by **Wednesday, October 15**:

1) Maturity schedules
2) Size-at-age (length and weight)
3) Catch-at-length
4) Catch-at-age
5) Selectivity
6) Age-specific F rates
7) Others as appropriate or available

Revision and Missing Information for the FMP

Section 4 - Description of Essential Habitats. D. Shively began a discussion of information that he needs to prepare the habitat portion of the FMP. He has information from Mississippi and Louisiana, but requests any information on dissolved oxygen, salinity, and temperature; geographic quantification and quality of spotted seatrout habitat during each life stages; and catch by area.

M. Murphy noted that as the world gets further mapped by GIS, there should be more information available. Bob McMichael, Tim MacDonald, and Gary Nelson in Florida should provide a good gateway for habitat material in Florida. Contacts in Alabama include Rick Wallace at Auburn and Steve Settlemeyer and John Dendeaux at Dauphin Island Sea Lab. M. Van Hoose noted that there are post larvae and juvenile data by salinity for Alabama. Contacts for Louisiana are Vince Guillory and Steve Hein, both in Bourg.

Rather than split into two separate groups at this point during the meeting, the joint group agreed to continue with the SAT agenda.

Spotted Seatrout Wrap up

The state stock assessments will remain separate. The seven items noted above will be sent to B. Muller by Wednesday, October 15.

Flounder Stock Assessment

B. Muller reported that a crude stock assessment is available for Florida on southern flounder. It was agreed by the group that there is not enough data available to perform a gulf-wide stock assessment. M. Murphy asked if the SAT can make a recommendation not to perform a stock assessment. Should the group summarize available data, why it is lacking, and make recommendations to gain the data necessary to perform a stock assessment? B. Mahmoudi noted that we could describe landings and trends.

The group seemed to be reversing their last plan to have a stock assessment from Texas and Louisiana. Louisiana has a stock assessment for flounder, and Texas is willing to contract with the GSMFC for a Texas stock assessment. Texas has a small commercial gig fishery and a small trawl fishery in the fall. Information collected in Texas includes these fisheries and otolith and mitochondiral DNA information.

S. VanderKooy agreed to get as much information to the SAT from the TTF so that the other states will have summary data at least. L. McEachron will check with M. Fisher to determine a tentative timetable for the Texas stock assessment.

By consensus, the following two items were added to the SAT agenda at this time:

Otolith Handbook

M. Murphy distributed the latest outline for the otolith handbook (attachment A). He reported that he has received comments, but has not had time recently to work on the handbook. The basic intent of the handbook is to get the work in the gulf on a standardized level. The SAT reiterated that this handbook should be a very hands-on and species specific to the gulf. The handbook should be in a three-ring binder format to facilitate revision(s).

Stock Assessment Training Workshop

J. Shepard and H. Blanchet noted that they had tried for approximately three years to get state workshops done in Louisiana, but were unsuccessful. J. Warren recommended the use of GCRL for a one week, special topics course. They can add credit hour options and use the facilities available (including dormitory space, classrooms, etc.). An instructor would have to be brought in, and the course should be scheduled at either the beginning or end of the summer schedule. B. Mahmoudi suggested Victor Restrepo's assistance should be saught. The SAT should determine the curriculum. The ASMFC curriculum and V. Restrepo's curriculum will be reviewed. Training should begin with a basic curriculum. Continuing workshops should be held and include a higher curriculum. As classes advance, they will need more training time. When the SAT has a curriculum in hand, the group will seek approval from the S-FFMC for this activity.

There being no further business, M. Murphy moved to adjourn the SAT meeting. The SAT adjourned at 3:55 p.m.

The meeting continued with the SSTTF agenda.

Discussions of Revisions

A general discussion occurred on sections 4-10. The following points were made:

- Either lighten up "draft" or just put it in a header.
- Use spotted seatrout (not just seatrout) throughout the plan.
- C. Adams provided the group with a revised Section 7.
- J. Gill provided information for inclusion into Section 8 (attachment B).
- S. VanderKooy referred the group to B. Ditton's E-mail (attachment C) which outlines Section 8 so far and includes questions he has for the group.
- S. VanderKooy reported to the group that R. Overstreet at GCRL had reviewed the parasite section, but B. Muller noted Florida information on disease was not included. B. Muller will resend to GSMFC for inclusion.

- Harry Blanchet will provide a copy of the Arnoldi paper to GSMFC for distribution to the TTF.
- B. Muller noted that M. Leiby has a plate of the modern developmental stages of spotted seatrout. S. VanderKooy will call M. Leiby to request the graphic file(s) on disk.
- B. Muller provided S. VanderKooy with the Florida rulemaking authority for incorporation into Table 5.1
- L. McEachron requested S. VanderKooy update Table 3.5 using the age-at-length key provided by Bob Colura.
- The TTF agreed to include figures for all states such as Figure 3.2. Each state should provide raw data to plot, run the line, and make each figure consistent in format.
- The TTF agreed to include spawning time in both sentence and table form in Section 3.
- H. Blanchet noted that the legislative report that he will have distributed to the TTF was not intended for a technical audience. The document does, however, contain some socio-economic and law enforcement information that may be useful for FMP development.

At 5:10 p.m., Chairman Blanchet suggested that the group recess until the morning. Sections 7, 8, and 10 will be reviewed during tomorrow's session.

The Spotted Seatrout TTF reconvened on Tuesday, September 9 at 8:00 a.m. The following items were noted:

Section 4

- Add information on contaminants, mercury loading, etc. Texas, Louisiana, and Florida have published reports containing this information. J. Warren will check on a publication on toxic testing from a study at GCRL. M. VanHoose noted that Alabama did some work on king mackerel.
- Add red tide, cold kills where appropriate in the section.

Section 5

- This section will have constant revision until publication.
- The new standards from the Magnuson/Stevens Act should be incorporated
- The Sustainable Fisheries Act needs to be added.
- Each state should send regulation revisions to S. VanderKooy on a continuing basis.

Section 6

- This section needs state-by-state coastwide information, not too specific (don't break it down into bay systems, etc.) Each state should send information to S. VanderKooy for compilation.
- B. Muller noted that Florida may not have very detailed historical information for the west coast.

- Texas has some very good historical information. L. McEachron will send in a portion for inclusion.
- Information on the commercial fishery is needed in the same basic format as the recreational side. A brief characterization of the fishery should be included. Information is needed from all the states.
- C. Adams noted that a heading on release mortality should be included here. Other nonfishing induced mortality rates should also be included in this section (*e.g.* power plant mortalities in Texas). S. VanderKooy will double check the Atlantic striped bass management plan from ASMFC to see where they have included this kind of information.
- Include recreational and commercial landings and landings by gear type, by state. C. Adams will focus on value in Section 7 and refer back to the landings in Section 6.
- MRFSS data should be cited *as of 00/00/00.*
- Historical landings data is available and perhaps should be put into the table form in an appendix.
- J. Shepard is concerned about the lack of information on the number of trips. The TTF agreed that trip information should be included.

Section 7

- Landings tables will be taken out, but will refer back to Section 6.
- Qualifiers should be put in to explain sudden increases/drops in landings. For instance, Alabama shows a big decrease in landings in 1974 because landings had typically been brought into Alabama from the Chandeleur Islands in Louisiana. When Louisiana increased its license price making it prohibitive in cost to Alabama fishermen, Alabama landings dropped dramatically.
- C. Adams asked each state to look at landings trends and qualify with a reference, if possible.
- B. Muller asked if price variability was statistically significant. He suggested Adams may want to go into more detail on the attributes of prices in the narrative. Unfortunately, the other states do not have this type of information.
- T. Waldrop asked if a recreational value can be placed on a pound of seatrout. C. Adams noted that the data is too raw to try to value a fish that way. L. McEachron noted that the FWS does provide those types of numbers every year; however, this information is not published. Adams did note that the American Sportsfishing Association has recently published an article on the impact of sportsfishing in the Gulf of Mexico, but it would be dangerous to extrapolate how high a component the spotted seatrout fishery is to sportsfishing in general.
- C. Adams has restitution values from Louisiana and Florida. Texas and Alabama have never developed these tables.
- Research needs and recommendations - getting real values.

- L. McEachron noted that C. Adams could get import information from the Market News Office in Brownsville, Texas.
- C. Adams has some information on consumption estimates from Florida but needs consumption estimates for the other states. H. Blanchet will check with their health department for this kind of information for Louisiana.

Section 8

- The group noted that MRFSS does have target data.
- State-wide angler surveys - The Louisiana survey did try to pull people who stated spotted seatrout as the primary preference species as opposed to generic recreational fishers.
- The Bertrand coastal study covered three coastal parishes in Louisiana so if racial and ethnic information is wanted, Louisiana has it. J. Warren has a similar study for Mississippi.
- Expenditure data should go into Section 7. Demographic numbers should stay in Section 8.
- S. Smith (Florida) has some commercial information that focused on nearshore net boats.
- Mississippi should have the best commercial sociological information.
- There will be more information on the recreational side than the commercial side simply because there is more information for the recreational fishery.
- J. Gill's descriptions of the community structure can be worked in, but it is available in the form of a usable reference? J. Gill provided two publications which may be useful. GSMFC will distribute. The TTF discussed whether the information is available to address sociological issues in an unbiased manner. Is there information on the structure of the community and opportunities available to commercial fishermen? This information must be adequate information from the literature.

Section 9

- Contaminants issues
- Increased recreational harvesters
- "Information on recreational catch and effort suggests that recreational landings for spotted seatrout equal or exceed historic landings for commercial and recreational landings combined."
- Page 9-2 paragraph at the top. The take of small fish... not necessarily the case. M. Van Hoose noted that the "little fish" argument has been around forever, has not seen fruition, and needs to go.
- The TTF agreed that this section needs careful examination - statements should have reference within the FMP to back them up.
- These issues need to be addressed in a gulf context; there is too much from just one state (Alabama).

- 9.4.2 second paragraph, last sentence "excessive" wrong word - "ineffectual" is better.
- In the same paragraph, over generalization "lack of limit possession" sentence - the TTF disagrees with this sentence totally.
- 9.4.7 first paragraph - not just an enforcement issue. It is an issue with the fishermen, managers, and enforcement. J. Waller recommended slashing the first sentence entirely.
- Each state representative should generate a version of this section detailing problems in their state for compilation into the FMP.

Section 10

- The introductory paragraph should state that these are recommendations; this is a section of possibilities some of which may be more effective or more necessary (acceptable) than others. In establishing fishing years, Texas has a fishing year that begins in May, but the remaining states are different. Should everyone change to Texas or should Texas change to the other states?
- Each state representative should review and edit.

Section 11

- Management recommendations will be made at a later date.

Section 12

- Regional research priorities and data requirements
  Habitat - contaminants
  Economics - methodology for true values in the fishery

Timetable for Completion

The stock assessment should be complete this fall, the next meeting to review progress is tentatively scheduled for early 1998. Several sites were recommended including New Orleans or coming back to Pensacola.

There being no further business, the meeting adjourned at 12:10 p.m.

A practical handbook on the use of otolith for determining the ages of Gulf of Mexico fishes

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- History
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The cultural framework of America's fishing communities is being incrementally, systematically dismantled by lobbying efforts in pursuit of other special interest agendas. While the traditional and cultural heritage of waterfront communities is disregarded in favor of more influential societal factions, commercial fishermen stubbornly cling to their time-honored profession. The unanimous consensus among fishermen is that science (facts) should be the prevailing influence on all fisheries regulation. Unfortunately, in most cases, political clout rules, to the detriment of the fisherman's family.

If commercial fishing is to remain an option for small business entrepaneurs, capricious and arbitrary regulation of such enterprises must be replaced by equitable, scientific resource management.

Otherwise, commercial fishermen (unless they work for some big corporate interest) will become extinct, thereby allowing additional growth of the recreational and tourism industries which seek to monopolize use of near-shore marine resources.

Hilton Floyd
SASI President
September 1997

SUBJECT: Re: Seatrout Meeting
DATE: Fri, 5 Sep 1997 15:49:21 g
FROM: rditton

.2 Recreational anglers

There are data and information deficiencies which make it difficult to profile spotted seatrout anglers. The Marine Recreational Fisheries Statistics Survey (MRFSS) provides a longitudinal perspective on various catch types for spotted seatrout, social information is available in aggregate form and not by angler's species preference or species targeted. Perhaps in the future additional add-on studies can be implemented in an effort to learn more about this angler subgroup in support of fisheries management.

In lieu of region wide information on spotted seatrout anglers, several states have conducted statewide angler surveys; some of which have had sufficient sample size to enable understandings of anglers preferring or targeting particularly popular species such as spotted seatrout and red drum. Some have had sufficient sample sizes to represent marine anglers as a group but not enough to probe for group differences by species sought or preference. Findings from both categories of surveys are appropriate to this management plan and will be presented here.

In Texas in 1992, for example, a mail survey was sent to those anglers who reported on a previous statewide survey in 1990 that spotted seatrout was a preferred species in saltwater. The survey was sent to 1,597 anglers by the Texas Parks and Wildlife Department and Texas A&M University ; there were 788 usable returns for an effective response rate of 66% when non-deliverables were deleted from consideration. The purpose of this survey was to collect information from spotted seatrout anglers on their characteristics, fishing habits, motivations and attitudes, and expenditures in Texas. Survey results presented have limited generalizability to the State of Texas but provide some insight to relevant questions and the basis for expectations in other Gulf of Mexico states.

Spotted seatrout is preferred by a majority or nearly a majority of anglers in several Gulf states. Kelso et al.(1991) reported that 50% of saltwater anglers in Louisiana indicated a first choice preference for spotted seatrout; 42% indicated a first choice preference for red drum. Spotted seatrout was second(18%) to red drum (32.6%) as a first preference species in Texas. Bertrand(1984) reported that relatively few anglers primarily sought speckled seatrout only (7.7%) or red drum only (6.7%) statewide but that the two species taken together as a species preference accounted for 54.8 of the 491 anglers interviewed statewide. Accordingly, there are few differences reported between spotted seatrout anglers and marine anglers in general where comparisons have been made.

8.2.1Racial and Ethnic Characteristics

Spotted seatrout anglers were much like the general population of Texas anglers where most(89%) were white/ anglo, 5% were black/ African American, and 6% were Asian/ Pacific Islander, American Indian, or other. When asked about their ethnic origin, 10% indicated they were of Spanish/ Hispanic origin (Ditton and Hunt 1995).(WE CAN RE-RUN THE DATA FOR SST ANGLERS TO GET PRECISE FIGURES FOR THIS ANGLER GROUP BUT THE MAIN POINT HERE IS THAT THERE WAS NO DIFFERENCES WITH POPULATION FIGURES. THAT IS WHY WE DIDN'T REPORT THESE DIFFERENCES IN OUR PROJECT EXECUTIVE SUMMARY).

8.2.2. Age and Education Profiles

As is the case with the angler population, the spotted seatrout angler subgroup is dominated by 30- 49 year old white males in Texas(Ditton and Hunt 1995).

8.2.3. Resource Expectations

On a five-point scale that ranged from not at all satisfied to extremely satisfied, most (71%) reported they were moderately to extremely satisfied with spotted seatrout fishing in Texas. Overall, [illegible]% of all saltwater anglers reported they were moderately to extremely satisfied with saltwater fishing in Texas(Ditton and Hunt 1995).

Spotted seatrout anglers were queried on various management options in 1995 TPWD/ TAMU mail survey. As background, most (60%) spotted seatrout anglers in Texas disagreed with the statement that "recreational anglers were putting too much pressure on spotted seatrout populations". This group of anglers was split on whether they felt saltwater tournaments were putting too much pressure on spotted seatrout populations (32% agreed, 31% disagreed, and 37% were neutral). About 16 % of spotted seatrout anglers participated in a saltwater tournament in the previous 12 months.

In terms of size limits, most (62%) of spotted seatrout anglers supported a regulation whereby they would be allowed to keep one fish under the current 15" limit in Texas with a bag limit of ten fish with fewer (47%) supporting the idea of being allowed to keep two undersized fish. One-half (50%) supported (with 15% neutral) lowering the 15" minimum size to 14".

References

Bertrand, A.L. 1984. Marine recreational finfishermen in Louisiana. LSU-CEFI-84-26. Center for Wetland Resources, Louisiana State University, Baton Rouge, 36p.

Ditton, R.B. and K.M. Hunt. 1995. Demographics, participation, attitudes, management preferences, and trip expenditures of Texas anglers. Technical Document #HD- 605. Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, 58p.

Kelso, W.E., B.D. Rodgers, D.A. Rutherford, and D.R. Rogers. 1991. Survey of Louisiana sport fishermen--1990. School of Forestry, Wildlife, and Fisheries, Louisiana State University, Baton Rouge, 65p.

Additional questions for you and the group.

1. I am interested in any other reoports that give coverage for spotted seatrout anglers in Miss, Ala, and Florida. The Florida work I have seen didn't break out anglers by the GOM and South Atlantic. Is this a problem??

2. We have expenditure data from our SST angler survey that probably should go into the econ. Section(Section 7). Do you want it?? Section 7 right now looks almost exclusively commercial in orientation. From a best available technical information perspective, it looks like we will have to use angler expenditure data in lieu of consumer's surplus info on a SST angling experience. Does anybody know of any such data that have been gathered from SST anglers??

3. When it comes to recreational fishery organizations associated with the SST fishery, several come to mind. First, the CCA organizations in each state which are very concerned with SST. Also, We should include the various guide associations along the GOM coastline. In Texas, we have the Coastal Bend Guides association which operates out of Rockport, TX. Perhaps the group can put its collective heads together to make a complete list of relevant organizations. Additionally, there has been an explosion in tournaments (amateur, pro, and pro-am!which are featuring near shore species like red drum and SST. Some office staff need to do some phone calling to pull this together. SST and its management is viewed as an important tourism element by every Chamber of Commerce from Browsville to Key West. A complete list of chambers should be included in this document because of the economic development aspects of fisheries and related tourism economies.

4. I am not aware of any economic impact studies of SST recreational fisheries ; can anyone at the meeting help me in this regard??

That's all of the questions I have at the moment. Feedback from the group will be appreciated; I am at a loss to get beyond the limited generalizability of our work in Texas. Nevertheless, it is the best available technical information and should be helpful at least in terms of expectations in other state jurisdictions. Best regards, Bob

Robert B. Ditton
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(E-mail) rditton@orca.tamu.edu
http://lutra.tamu.edu/rbd.htm
(Human Dimensions Lab) http://lutra.tamu.edu/rbd/hdnr.htm

Check out the Homepage for the AFS Committee on the Human Dimensions of Recreational Fisheries:
http://lutra.tamu.edu/hdrfish.htm

APPROVED BY:

COMMITTEE CHAIRMAN

COMMERCIAL FISHERIES INFORMATION NETWORK (ComFIN)
MINUTES
Tuesday, September 23, 1997
San Antonio, Texas

Chairman, Joe Moran, called the meeting to order at 9:00 a.m. The following members, staff, and others were present:

Members
Page Campbell, TPWD, Rockport, TX
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Ron Lukens, GSMFC, Ocean Springs, MS
Daniel Matos, PRDNER, Mayaguez, PR
Joe Moran, SCDNR, Charleston, SC
Trish Murphey, NCDMF, Morehead City, NC
Joe O'Hop, FDEP, St. Petersburg, FL
John Poffenberger, NMFS, Miami, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Laura Bishop, NMFS, Galveston, TX
Mary Anne Camp, NMFS, Miami, FL
Steven Koplin, NMFS, Silver Spring, MD

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Approval of Agenda

The agenda was approved with the addition of "Discussion of Development of Recommendations Document" under agenda item 11.

Approval of Minutes

The minutes of the meeting held on March 4, 1997 in Washington, DC were approved as written.

Review of List of Personnel with Access to Confidential Data

M. Camp distributed a list of personnel with access to confidential data and requested that members make corrections, deletions, and additions. Personnel added to the list must sign a statement of non-disclosure and return to M. Camp. User identification numbers must be requested of M. Camp. D. Donaldson noted that Dave Van Voorhees of the National Marine Fisheries Service (NMFS) has e-mailed the non-disclosure form to charter boat samplers.

Update on the GSMFC Ageing Guidelines Document

R. Lukens reported that the Gulf States Marine Fisheries Commission (GSMFC) Stock Assessment Team (SAT) met recently to discuss the development of a handbook which will establish standard protocol for collecting, preparing, processing, and reading otoliths for ageing. This document will be species specific. The first draft of this document should be completed by the end of this year or early next year. A training workshop for Gulf of Mexico species should be held in the latter part of 1998. Discussion followed concerning the use of other methods in determining age. R. Lukens will relay to the SAT this committee's discussion of the importance of using other ageing techniques in addition to otoliths.

Discussion of Periodic Meetings of Port Samplers

D. Donaldson reported to the committee on the subject of meetings of the states and federal port samplers. Due to the large number of samplers in the southeast region, J. Shepard suggested having three meeting groups comprised of: (1) North Carolina, South Carolina, and Georgia; (2) Florida; (3) Alabama, Mississippi, and Louisiana. D. Matos suggested that agents from Puerto Rico meet in Puerto Rico and help facilitate the meeting, with L. Bishop giving the workshop. The committee will determine which subjects would be the most beneficial for these meetings. Data elements, regulations, priorities, sampling allocations, and protocols for collecting samples were suggested as topics, as well as time for state and federal samplers to meet and share information. Staff will compile a draft agenda and send to committee members for changes, deletions, additions, comments, etc. Committee members will discuss this tentative agenda with their port agents and relay suggestions, comments, etc. to staff. Committee members agreed that a two day meeting in

December or January would be the best time frame. D. Donaldson stated that it appears that there are funds in the budget to conduct these meetings. Staff will further explore the issue.

Discussion and Planning of a Training Session for Connecting to the SEFHost Computer

D. Donaldson stated that at the last meeting, there was discussion concerning logging on and accessing data from the SEFHost. Apparently, there has been some difficulty in getting onto the computer. M. Camp stated that anyone with a user identification to the system, should have received a manual giving instructions on using the system. This manual is currently being updated and should be on the World Wide Web NMFS homepage within approximately six months. There was discussion concerning different possibilities for training on the SEFHost, with the possibility of having a training session at the NMFS Miami Lab. It was suggested that each participant attempt to get on the SEFHost, using the current resources. The contact person for assistance on connecting to the SEFHost is Ken Zinniger - (305) 361-4251. For assistance in communications, call Charles Lavarini - (305) 361-4461. Committee members were encouraged to attempt using the system with telephone assistance. If a training session becomes necessary, one will be arranged in the future.

M. Camp stated that there are problems with the TIP data entry system in Windows 95. The TIP system is now in a test mode, and when the problem is corrected the new version will be sent out, probably sometime in October.

Development of a Data Collection Document of Commercial Fisheries in the Southeast

D. Donaldson reported on the Data Collection Planning Process Document. Staff developed a list of finfish and invertebrates species for the Gulf, South Atlantic, and Caribbean regions. The committee reviewed the list of species under assessment. J. Shepard suggested communicating with the NMFS Southeast regional office naming the identified species and asking for specific details on the number of otoliths, length frequencies, etc. Additions and deletions were made to the list of species and those corrections represent the administrative record for this portion of this meeting. Lengthy discussion ensued regarding the best method to use in selecting species for inclusion in the plan. The following species, although not inclusive, were selected in the Gulf: gulf flounder, spotted seatrout, striped mullet, black drum, striped bass, and southern flounder. R. Lukens

suggested that staff contact the GSMFC Stock Assessment Team members to discuss the species identified by this committee and ask for recommendations. L. Kline will contact the ACCSP stock assessment group. Staff will compile a draft plan which will be discussed at the next meeting.

Data Collection Work Group Report

Bycatch Module - L. Kline reported to the committee on Atlantic States Marine Fisheries Commission (ASMFC) Bycatch workshop. Approximately fifty persons attended the workshop and the main focus was on commercial and for-hire fisheries. An at sea observer program will collect the information for commercial fisheries, and a trip ticket system will be used. A draft report of this workshop should be available by the end of September, and D. Donaldson will provide this to the work group. D. Donaldson stated that when this report becomes available, a work group meeting or conference call will be held to address these findings. The work group will present this information to the committee at the spring 1998 meeting.

Market Module - D. Donaldson reported that the Social/Economic Work Group reviewed the Market Module which was developed by the Data Collection Work Group. The Social/Economic Work Group recommended several changes to this module. Donaldson reviewed these suggestions with the committee and after discussion, the committee agreed that staff will make changes to the Market Module.

Comparison of Louisiana Proposed Trip Ticket and NMFS Gulf Shrimp Program - J. Shepard reported that Louisiana, in implementing a trip ticket program, has incorporated data elements which should solve some of the problems of data collection. If the Louisiana trip ticket system can collect comparable data, this information can be used in place of data collected by the Gulf Shrimp program. There is a pilot study planned to begin July 1, 1998 with 10 to 20 dealers being selected to participate. The target date for full implementation is January 1, 1999. This system will be dealer based with license sales dedicated to the trip ticket program. D. Donaldson noted that the data elements for the Louisiana Trip Ticket system are compatible with the data elements developed by the ComFIN committee for its' generic trip ticket system.

Future Needs Work Group Report

D. Donaldson reported on the Future Needs work group, which met to develop a generic trip ticket system. The Data Collection work group, as well as the Gulf Geographic Subcommittee, had previously developed data elements and these were refined and modified. The work group has defined "trip" as the time a vessel left the dock to the point the product is transferred.

The work group also discussed the Vessel Registration System (VRS) and a commercial fisherman identification system and requested that the ComFIN committee discuss this concept. A unique identifier would be assigned to all commercial fishermen and this number would be retained regardless of location. After some discussion, **R. Lukens moved to table this subject indefinitely. The motion was seconded and passed with S. Lazauski opposed.**

D. Donaldson reported on the development of the Data Elements Matrix for the generic trip ticket system. The issue of fishermen providing information to dealers was discussed at length, as well as the question of whether to collect effort data on the trip ticket or via a survey. The ACCSP has a trip ticket program where information to obtain effort will be collected for every trip, while the ComFIN will use a system where effort information may be obtained via a survey. Since the ComFIN, RecFIN, and ACCSP are designed to be compatible, the issues of compatibility and comparability are significant. In comparing these two programs (ComFIN and ACCSP), it is essential that the perception of compatibility be noted. The committee compared the data elements for the generic trip ticket with the ACCSP trip ticket program data elements. **R. Lukens moved to provide the two tables of data elements (ComFIN generic trip ticket and ACCSP trip ticket) to the Gulf of Mexico Geographic Subcommittee. The subcommittee will examine the differences and discuss potential solutions. The motion was seconded and passed with J. Shepard opposed.**

Operations Plan

Status of 1997 Activities - D. Donaldson reviewed with committee members the tasks from the 1997 Operations Plan and their status. All tasks either have been, or will be addressed before the end of 1997.

Development of 1998 Operations Plan - The committee reviewed the 1998 Operations Plan. Additions and corrections were made to the Plan and represents the administrative record of this portion of the meeting. D. Donaldson will mail a ballot or members can e-mail their vote approving the Operations Plan. The U.S. Virgin Islands will be asked to name a representative to the Future Needs Work Group.

Development of Recommendations Document - D. Donaldson reported to the committee that a facilitated session was held to identify issues that need to be addressed concerning recreational fisheries data. A recommendations document has been developed for the RecFIN(SE) as a result of the facilitated session and Donaldson suggested that it would be useful to have a similar document developed for the ComFIN. This document could be developed from the information compiled during the brainstorming session. The recommendations document will be presented to the committee at the fall 1998 meeting. D. Donaldson suggested identifying an *ad hoc* Recommendations Work Group, with the following members: R. Lukens, W. Laney, D. Lupton, and J. Poffenberger.

Election of Vice-Chairman

D. Matos was nominated as Vice-Chairman of the committee and was elected unanimously.

There being no further business, the meeting adjourned at 5:50 p.m.

APPROVED BY:

FISHERIES INFORMATION NETWORK
MINUTES
Wednesday, September 24, 1997
San Antonio, Texas

Chairman Joe Moran called the meeting to order at 8:30 a.m. The following members, staff and others were present:

Members
Page Campbell, TPWD, Rockport, TX
Bob Dixon, NMFS, Beaufort, NC
Graciela Garcia-Moliner, CFMC, San Juan, PR
Lee Green, TPWD, Rockport, TX
Stephen Holiman, NMFS, St. Petersburg, FL
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Craig Lilyestrom, PRDNER, San Juan, PR
Ron Lukens, GSMFC, Ocean Springs, MS
Daniel Matos, PRDNER, Mayaguez, PR
Joe Moran, SCDNR, Charleston, SC
Trish Murphey, NCDMF, Morehead City, NC
Nick Nicholson, GDNR, Brunswick, GA
Joe O'Hop, FDEP, St. Petersburg, FL
Maury Osborn, NMFS, Silver Spring, MD
John Poffenberger, NMFS, Miami, FL
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Others
Laura Bishop, NMFS, Galveston, TX
Maryanne Camp, NMFS, Miami, FL
Steven Koplin, NMFS, Silver Spring, MD

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, Ms

Adoption of Agenda

The agenda, with minor changes, was approved.

Approval of Minutes

The minutes from the Fisheries Information Network meeting held on March 5, 1997 in Washington, DC were approved as written.

Discussion of the Fishery Information System

J. Poffenberger reported that two of the main responsibilities of the National Marine Fisheries Service (NMFS) under section 401 of the Sustainable Fisheries Act are the Vessel Registration System (VRS), and a Fishery Information Management System (FIS). The NMFS is required to recommend a plan to Congress. Poffenberger stated that in the case of the FIS, the following need to be included: the types of data to be collected, the level of detail, how information should be related, method and level of verification, and level of standardization. The model being considered by NMFS is a regional approach, with the Atlantic coast, the Gulf of Mexico/Caribbean, the Pacific coast and Alaska comprising the four regions. Data collection and standard procedures would be regional, but information would be available at a centralized location. Detailed information would be maintained on a regional basis, with summary data from all regions available at a central site. There are several options for providing data to the system; some possibilities are, the partners/states, commissions, and private contractors. Poffenberger stated that the target date for a draft document for Congress is October 13 and asked for input from Committee members. There will be a 60 day comment period after notice in the Federal Register. S. Koplin noted that NMFS has requested a six month extension.

The Committee discussed the FIS in detail, including funding, data collection, consolidation of data, location of centralized data base, staffing, regions, etc. J. Poffenberger noted the need for compatibility of data from all regions and requested committee members input on any and all phases of FIS. R. Lukens noted that the Gulf States Marine Fisheries Commission (GSMFC) would have a formal response to the FIS proposal. R. Lukens suggested that staff write a letter endorsing the concept and details of the FIS proposal, using the RecFIN and ACCSP as models. This draft letter would then be sent to Committee members for comment and vote.

Discussion of Vessel Registration System

Overview - S. Koplin of NMFS reported to the Committee on the Vessel Registration System (VRS). The NMFS has sent to its stakeholders five proposals on the VRS. 1. The NMFS would be responsible for registering all boats. 2. The states, in participation with NMFS, would register boats. 3. NMFS would have a third party register boats. 4. The U.S. Coast Guard (USCG) would document all commercial fishing craft, regardless of size. 5. Adopt the Vessel Identification System (VIS) which would involve the USCG and the states. The VIS, at this time, appears to be the most efficient program. The NMFS will suggest that a hull identification number be required on all commercial fishing vessels. This number will remain on the vessel permanently and can be provided by the USCG or the states. At this time the USCG vessel documentation system is being rebuilt into a system which will be easier to utilize. Since there is a comment period, M. Osborn noted that this is an opportunity to inform Congress of the cost associated with the FIS and VRS. R. Lukens stated that comments concerning the VRS and VIS would be added to the letter regarding the FIS.

Status of Memorandum of Understanding for RecFIN/ComFIN

D. Donaldson reported that Memorandum of Understanding (MOU) has been signed by all members. Donaldson will send a copy of the signed MOU to all participants.

Discussion of Information Dissemination of Program Material

Internet Capabilities of Participants - D. Donaldson noted that one of the tasks in the Operations Plan was to develop Internet capabilities for participants. Committee members were given a list of members e-mail addresses and were asked to make corrections. Donaldson also explained how to access the GSMFC site, and also noted that meeting notices are being posted on the web page.

Discussion of FIN Administrative Issues

Administrative Subcommittee Report - R. Lukens reported to the Committee on the Administrative Subcommittee, noting that the Recreational Fishing License issues would be dealt with at the RecFIN meeting. The Subcommittee discussed the subjects of education and outreach,

and advisory committee structure. Since the ACCSP has established both programs, L. Kline addressed the Committee on these subjects. The ACCSP Coordinating Council has adopted the policy of recognizing the importance of fishermen and industry input into ACCSP programs. The ACCSP Outreach Strategy Outline was reviewed noting the importance of stakeholder input, the methods used to gather input, and dissemination of information. The Advisory Committee is comprised of commercial fishermen, dealer/processors, recreational fishermen and charter/head boat operators. A process is in place for gathering public input and dissemination of information, and press releases are also utilized. R. Lukens noted that the GSMFC is now naming a Commercial/Recreational Advisory Panel (AP) and perhaps this Committee would be able to utilize this AP. **M. Osborn moved that the FIN use the GSMFC Commercial/Recreational Advisory Panel as a forum to provide input on this Committee's planning efforts, to include Caribbean issues, and to assure the South Atlantic is kept informed. The motion was seconded and passed unanimously.**

R. Lukens moved to modify the ACCSP outreach program and provide it to the Committee for review and consideration. The motion was seconded and passed unanimously.

Letterhead - With the addition of the following statement, the letterhead was approved by the Committee: A state/federal cooperative program providing sound scientific information on catch, effort, and participation for the prudent conservation and management of marine commercial and recreational fisheries resources in the Southeast Region

Logo - The logo, using a triangle design with darker watermark of a fish in center, was approved by the Committee

Brochure - The brochure, with the addition of bullets indicating states/partners, was approved by the Committee.

Discussion of Development of Technical Source Document for ComFIN/RecFIN

D. Donaldson reported that the ACCSP has a series of Technical Source Documents. It has been suggested that a similar document be developed for the RecFIN/ComFIN programs. R. Lukens stated that most of the information for producing such a document is currently available. The Committee agreed to have staff develop a Technical Source Document for FIN and have it

reviewed by the Administrative Subcommittee.

Update and Status of Atlantic Coastal Cooperative Statistics Program (ACCSP)

L. Kline reported that the Series 3 Technical Source Document (TSD) will be ready shortly, and the ACCSP will ask for comment from RecFIN/ComFIN. Series 4, which deals with the bycatch monitoring program, is currently being prepared. The implementation date has been changed to May 1998. D. Donaldson will forward the TSD to Committee members for comment. L. Kline, D. Donaldson and R. Lukens met and discussed the similarities and differences between RecFIN/ComFIN and ACCSP and determined the programs are moving in the same direction.

Time Schedule and Location for Next Meeting

If there is to be a joint meeting with the ACCSP, the meeting will be held in the end of January 1998, otherwise the FIN meeting will be held during the week of February 24, 1998. The location of the meeting will be in Florida with Miami, Orlando, and Tampa/St.Petersburg area being the choices.

There being no further business, the meeting was adjourned at 12:20 p.m.

APPROVED BY:

COMMITTEE CHAIR

SOUTHEAST RECREATIONAL FISHERIES INFORMATION NETWORK [RecFIN(SE)]
MINUTES
September 24 - 25, 1997
San Antonio, Texas

Chairman Nick Nicholson called the meeting to order at 1:05 p.m. The following members, staff, and others were present:

Members
Bob Dixon, NMFS, Beaufort, NC
Graciela Garcia-Moliner, CFMC, San Juan, PR
Lee Green, TPWD, Rockport, TX
Stephen Holiman, NMFS, St. Petersburg, FL
Lisa Kline, ASMFC, Washington, DC
Wilson Laney, USFWS, Raleigh, NC
Skip Lazauski, AMRD, Gulf Shores, AL
Craig Lilyestrom, PRDNER, San Juan, PR
Ron Lukens, GSMFC, Ocean Springs, MS
Joe Moran, SCDNR, Charleston, SC
Trish Murphey, NCDMF, Morehead City, NC
Nick Nicholson, GDNR, Brunswick, GA
Joe O'Hop, FDEP, St. Petersburg, FL
Maury Osborn, NMFS, Silver Spring, MD
Joe Shepard, LDWF, Baton Rouge, LA
Tom Van Devender, MDMR, Biloxi, MS

Staff
Dave Donaldson, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS

Approval of Agenda

The agenda was approved as written.

Approval of Minutes

The minutes of the meeting held March 5 and 6, 1997 in Washington, DC were approved as written.

Development of Data Collection Document of Recreational Fisheries in the Southeast

D. Donaldson reviewed the Data Collection Plan and the Data Collection Planning Process for recreational fisheries and stated that the ComFIN Committee is undertaking the same task for commercial fisheries. R. Lukens noted that the Gulf States Marine Fisheries Commission (GSMFC) Stock Assessment Team (SAT) has been given specific stock assessment responsibilities and staff will contact them to determine the recreational data that are required. The following species were identified by the ComFIN Committee: spotted seatrout, black drum, menhaden, mullet and southern flounder. Staff will proceed with the development of the Data Collection Plan and report to the committee at the spring 1998 meeting. L. Kline noted that the ACCSP has adopted a similar process to be implemented next year.

Administrative Subcommittee Report

Discussion of Licensing Criteria and Justification Paper - R. Lukens reported that the Fisheries Information Network (FIN) Administrative Subcommittee held a conference call on September 10, 1997on the subject of marine recreational fishing license criteria and justification. The subcommittee is trying to establish the criteria necessary for a licensing system to be useful as a sampling frame for recreational fisheries surveys. A list of criteria developed by the Atlantic Coastal Cooperative Statistics Program (ACCSP) was compared with the RecFIN initial list of criteria and the two are very similar. R. Lukens submitted the following recommendation from the Administrative Subcommittee to the RecFIN Committee: the initial list of criteria, the resulting matrix, and the list of criteria developed by the ACCSP be used by the RecFIN Committee to establish final criteria and guidance for licensing systems in order to use them as sampling frames. The RecFIN Committee reviewed both lists of criteria, and the following are minimum criteria for using this licensing system for a sampling frame:

- All marine recreational fishing activities should be licensed in order to survey range of activities
- Exempted individuals should be identified
- Issuance should be on an annual basis, 12 months from date of issue

- The license system should be fully automated at point of sale, daily updates are preferred, but weekly updates are acceptable

- Information should include name, address, phone number, and drivers license number if applicable

- Access should be provided to survey personnel in an electronic format

T. Murphey moved to adopt the above as minimum licensing criteria. The motion was seconded and passed unanimously.

The Administrative Subcommittee was provided with a document describing the need for marine recreational fishing licenses. After reviewing this document, the subcommittee recommends that the materials be reviewed by the RecFIN Committee and that a brochure be developed from those materials, tailored to the states that do not have a license. D. Donaldson reviewed a brochure published by the ACCSP entitled, State Licensing of Saltwater Anglers: Issues and Answers. At the present time all Gulf states have marine recreational licenses. Georgia, North Carolina, Puerto Rico, and the U.S. Virgin Islands (USVI) do not have marine recreational licenses. After discussion, the RecFIN Committee directed staff to work with Puerto Rico and the USVI to amend the language in the above mentioned documents to suit the Caribbean area. S. Holiman raised the issue of language pertaining to marine recreational fishing licenses. After discussion, the committee clarified the following: **Licenses are to be renewed on an annual basis since it provides a more current and accurate sampling frame, however we recognize that there are lifetime licenses and temporary licenses that can be accommodated. R. Lukens moved to adopt this statement. The motion was seconded and passed unanimously**.

Biological/Environmental Work Group Report

Discussion Regarding Funding Initiatives to Establish MRF Surveys in the Caribbean - D. Donaldson reported to the committee on a work group meeting held in July. One purpose of the meeting was to explore the development of a funding initiative to establish MRF surveys in the Caribbean. During the facilitated session held in 1996, one of the issues identified as high priority was the establishment of MRF surveys in the Caribbean. It was determined that Puerto Rico

Department of Natural and Environmental Resources (PRDNER) and U.S. Virgin Islands Division of Fish and Wildlife (USVIDFW) were still interested in starting MRF surveys, with PRDNER already in the process of developing a marine recreational fisheries survey. C. Lilyestrom explained the proposal to the committee and will provide a copy of this proposal to D. Donaldson. Funding will be provided in part by Wallop-Breaux Sport Fish Restoration. A meeting of the Biological/Environmental Work Group and representatives of PRDNER and USVIDFW will be held in late 1997 or early 1998 to help identify the methodologies that can be used in developing the survey in the Caribbean. The committee agreed that staff will write a letter to the U.S. Fish and Wildlife Service (USFWS) in the Caribbean, copying B. Cooke and C. Diaz, stating that the RecFIN Committee is in full support of this project and will be directly involved with inkind support.

RecFIN(SE) QA/QC Document - D. Donaldson reported that J. Brust is responsible for the draft of the QA/QC Document. A revised copy of the document was provided to committee members for their review. Members were reminded to try for consistency with the ACCSP. Donaldson explained that if the layout of the document and the amount of detail provided is acceptable to the Committee, the work group can develop additional sections for log books and other methodologies in the future. Committee members were asked to give any editorial changes to D. Donaldson. **J. O'Hop moved to accept the Quality Assurance/Quality Control Document as amended. The motion was seconded and passed unanimously.**

Metadata Criteria and Plans for Development of Metadata Database - D. Donaldson reported that the Biological/Environmental Work Group developed a matrix for the compilation of metadata. There are several major categories of metadata identified by the work group, and these include: environmental events, changes in regulations, changes in survey methods, economic and social factors, and other events. D. Donaldson stated that the RecFIN Committee has compiled some information in an attempt to develop a metadata data base. After lengthy discussion, the committee charged the Biological/Environmental Work Group with the task of determining how to structure a data base, focusing on the category of fishing regulations. R. Lukens noted that the GSMFC currently has an annual publication, the Law Summary, which lists the fishing regulations of the Gulf states. Some issues for the work group to consider are: how the sources should be compiled, a draft prototype on developing a data base structure, who should provide data, how should data be

entered into the system (each individual state enter their own, or Commissions enter all), a proposed schedule, etc. The work group will report to the RecFIN Committee at the Fall 1998 meeting.

Recommendations Regarding Duplicative Data Collection Activities in the Southeast - The Biological/Environmental Work Group report, with recommendations on how to address duplicative data collection activities in the Southeast, was reviewed by the Committee. After discussion, the following suggestions and recommendations were made. **Since there is an overlap in the South Carolina Billfish Monitoring Project and Ocean Pelagic Gamefish Survey with the National Marine Fisheries Service (NMFS) Billfish Tournament/Non-Tournament Sampling, R. Lukens moved that the RecFIN Committee recommend that South Carolina communicate with the NMFS regarding this overlap. The motion was seconded and passed unanimously.**

Since the Alabama Inshore Private Boat Survey is a new program, it will be analysed and presented to the committee by S. Lazauski at the February 1998 RecFIN meeting to determine any overlaps. Based on the suggestion of the work group, the committee recommends that the Mississippi Department of Marine Resources (MDMR) and the MRFSS develop a cost/benefit proposal comparing the Mississippi Creel Survey with the MRFSS, then explore the possibility of using the Mississippi data in place of the MRFSS. R. Lukens suggested having staff work with MRFSS and MDMR to structure a proposal to investigate this matter, possibly using outside sources for an evaluation.

Data Review Work Group Report

D. Donaldson reported that the Data Review Work Group held a conference call in September to develop guidelines for reviewing the MRFSS data. The work group recommended that the data being prepared for wave meetings should also be available to the states for their review, and that the NMFS notify the states and other interested parties when the data has been modified. The committee then reviewed the MRFSS Data Review Process developed by the work group, and made several changes and additions. The amended review process is attached. **R. Lukens moved to accept the MRFSS Data Review Process developed by the Data Review Work Group with changes recommended by the RecFIN Committee. The motion was seconded and passed unanimously.**

After discussion, the committee agreed that M. Osborn will set up automatic e-mail messages for notifying RecFIN and ACCSP members when MRFSS data is available, etc.

Update on Charter Boat Pilot Survey in the Gulf of Mexico

D. Donaldson reported that the Charter Boat Pilot Survey started September 1, 1997. The survey is comprised of three parts: the current MRFSS, a telephone Captain's survey, and a log panel survey in the northwest part of Florida. A conference call will be held on September 29 to discuss any problems and issues regarding the project. The states are doing the intercept surveys for the Charter Boat mode only, and are making the telephone calls. Texas is not participating in the data collection since the MRFSS is not collected in Texas, however they have been involved in the planning process for the survey. There have been some minor problems, but overall the project is running smoothly. Outreach meetings with the captains and charter boat associations were held throughout the summer. There will be an evaluation period in late August, 1998 to examine the different methodologies and determine which method provides the most accurate effort estimates. The sampling frame will be updated on a wave by wave basis. M. Osborn noted that this is truly a cooperative effort between the states, GSMFC, NMFS, and NPS.

Operations Plan

Status of 1997 Activities - Committee members were provided with a list of tasks from the 1997 Operations Plan and their status. D. Donaldson and M. Osborn reviewed the list of activities and their status with committee members and determined that all tasks are being completed at this meeting or will be in the allotted time frame.

Development of 1998 Operations Plan - The plan is being developed from the list of recommendations developed by the committee from the facilitated session in 1995. L. Kline suggested that since some of the tasks in the RecFIN Operations Plan are very similar to the tasks of the ACCSP, it would be beneficial if the work were done jointly by both groups. The committee agreed and Kline will present this to the ACCSP at their winter meeting.

The committee then reviewed the 1998 Operations Plan, making modifications and revisions. **W. Laney moved to accept the 1998 Operations Plan as amended. The motion was**

seconded and passed unanimously. D. Donaldson will make corrections and send the revised version of the 1998 Operations Plan to committee members. The revised 1998 Operations Plan represents the administrative record for this portion of the meeting.

Election of Chairman

J. Shepard was elected Chairman, and C. Lilyestrom was elected Vice-Chairman.

Other Business

Bycatch - L. Kline reported that the ACCSP recently held a Bycatch Workshop dealing with general recreational and for-hire fisheries. A report on the workshop should be complete by the end of this month. Kline will forward this report to D. Donaldson for RecFIN purposes. The RecFIN committee will address the issue of bycatch definition at the Spring 1998 meeting.

Action Items - M. Osborn requested that committee members be sent a list of any action items generated by the Rec/ComFIN meetings beginning with the Spring, 1998 meeting.

Private Access - J. O'Hop noted that the ACCSP Technical Committee asked its members to determine how difficult it would be to list private docks, marinas, etc. L. Kline suggested that the RecFIN Committee could review the ACCSP Technical Source Document (TSD) 3 on the issue of private access. This subject will be considered by the committee at the Spring 1998 meeting.

There being no further business, the meeting was adjourned at 11:45 a.m.

RecFIN(SE) Biological/Environmental Work Group
Meeting Summary
July 29-30, 1997

The meeting convened at 9:00 a.m. The following members and others were present:

Members
Jeff Brust, ASMFC, Washington, DC
Bob Dixon, NMFS, Beaufort, NC
Ron Salz, NMFS, Silver Spring, MD
Tom Schmidt, NPS, Homestead, FL
Tom Van Devender, MDMR, Biloxi, MS
Craig Lilyestrom, PRDNER, San Juan, PR
Graciela Garcia-Moliner, CFMC, San Juan, PR

Staff
David Donaldson, GSMFC, Ocean Springs, MS

Purpose of the Meeting

D. Donaldson stated that the purposes of the meeting were election of a new work group leader; development of a data collection funding initiative in the Caribbean; review the RecFIN(SE) Quality Assurance/Quality Control (QA/QC) document; review and development of metadata criteria; and examination of duplicative marine recreational data collection activities in the Southeast Region.

Discussion of Development of Marine Recreational Fishery Surveys in the Caribbean

D. Donaldson reported that during the facilitated session in 1996, one of the activities that was identified as high priority was establishment of marine recreational fisheries (MRF) surveys in the Caribbean. To ensure that the Caribbean was still interested in starting MRF surveys, staff met with Puerto Rico Department of Natural and Environmental Resources (PRDNER) and U.S. Virgin Islands Division of Fish and Wildlife (USVIDFW) personnel to discuss the issues related to develop of such surveys. Both agencies were very interested in starting MRF surveys. In fact, PRDNER has developed a proposal for the development of a marine recreational fisheries survey. This falls right in line with what the RecFIN(SE) is attempting to accomplish. The group discussed the possibility of working with Puerto Rico and decided that instead of developing a survey independently, the group should work with Puerto Rico and the U.S. Virgin Islands to develop such these surveys. Staff will keep the group informed concerning the status of the PRDNER proposal and attempt to schedule a meeting with PRDNER and USVIDFW personnel and the work group to discuss the establishment of MRF surveys. The meeting will probably be held in late 1997/early 1998.

Review of the RecFIN(SE) QA/QC Document

D. Donaldson stated that, at the direction of the RecFIN(SE) Committee, the work group was charged with revisiting the QA/QC document. J. Brust revised a copy of the document and the

revised document was reviewed by the group. The group did a page-by-page edit of the document. The revised document represents the administrative portion of the meeting. A revised document is attached.

The meeting recessed at 5:00 p.m.

July 30, 1997

Development of Metadata Criteria

D. Donaldson stated that the work group has addressed this issue and developed some guidelines for developing metadata. The group agreed that metadata are more descriptive than analytical and can be used to interpret survey data. Information to be included in metadata can be grouped into several major categories which include major environmental events (tropical storms, hurricanes, floods, droughts, oil spills), changes in fishing/boating regulations, procedural changes in survey methods, economic/social conditions and factors (major trends, political events, gas prices, etc.), and other pertinent events. The group developed a matrix for each of these categories which will be used to compile the information. The matrix is attached. There was some discussion regarding how this information will be incorporated into the survey data. It is envisioned that the metadata will be provided to users whenever they access the data. This will provide the user with possible explanations for inconsistencies in the data.

Discussion of Duplicative Data Collection Efforts in the Southeast Region

D. Donaldson stated that this task is one of the major objectives of the RecFIN(SE). After discussing the issue, the group decided that letters should be sent to the parties involved in the various duplicative activities which could facilitate discussion on potential ways of reducing and/or eliminating the activities. The group developed some suggestions regarding the identified duplicative efforts. Listed below are the areas that were identified by the RecFIN(SE) Committee as duplicative efforts in the Southeast Region and comments by the Biological/Environmental Work Group.

- The U.S. Fish and Wildlife Service and MRFSS overlap in participation estimates every five years, as well as Alabama, and Georgia

  The group did not identify this overlap as a serious problem. There is really no overlap between the FWS and the MRFSS since the two surveys are designed to get different information. It was suggested that if Alabama and Georgia were going to continue with their own participation surveys, that the FWS could discontinue conducting their survey in those states.

- Everglades and Biscayne National Parks and MRFSS overlap in catch and harvest data

The group suggested that with the addition of several questions on the MRFSS interview questionnaire, it could be determined if the fisherman fished in the National Park and thus allow the NPS and NMFS to share the data and avoid duplication. This could be done for the Everglades National Park but not for the Biscayne Park. The survey in the Biscayne National Park does not use random, systematic sampling, therefore the data are not comparable to the MRFSS. It was also suggested that the estimates generated by the NPS for the Everglades National Park and the MRFSS be compared to determine the similarities and differences in the estimates.

- NMFS Panama City Charter Boat Survey is currently under evaluation

  The group briefly discussed the current charter boat pilot survey that will be conducted in the Gulf of Mexico in fall 1997. The group agreed that the outcome of this project will eliminate any duplication of effort.

- NMFS Billfish Tournament/Non-Tournament Sampling possible overlap with South Carolina and North Carolina - catch and effort data

  The group determined that there is no overlap with the NMFS Non-Tournament Survey and South Atlantic states since the NMFS survey is only conducted in the Gulf of Mexico. Also, there was no apparent duplication with the state of North Carolina. The group did identify two surveys in South Carolina, the Billfish Monitoring Project and the Ocean Pelagic Gamefish Survey, which could conflict with the NMFS survey. The group suggested that a letter be sent to the two agencies asking them to coordinate their effort to ensure non-duplicative activities.

- North Carolina - Albermarle Sound Survey overlap with MRFSS - catch and effort data; Roanoke River Striped Bass Survey overlap MRFSS - catch and effort data

  The group determined that there was no overlap between the North Carolina Surveys and the MRFSS since the North Carolina surveys were designed to collect data on a specific fishery for quota monitoring. It was suggested that there could be some coordinating among North Carolina and the MRFSS to ensure that there is no overlap of samplers at the same site, although this would not be a problem since North Carolina conducts the MRFSS in their state.

- South Carolina - Finfish Survey overlap with MRFSS - catch and effort data, lengths; Charter Boat Survey overlap with MRFSS - catch and effort data

  The group discussed that the two survey methods are similar however, South Carolina does not use randomly-selected sites since it targets species which are

considered "important". It was suggested that South Carolina could potentially add on to the current MRFSS using the sampling optimization procedure to focus on priority species for their state to obtain the data. The group stated that South Carolina and MRFSS staff should get together to discuss the differences among the two surveys and attempt to reduce the overlap. The group discussed the overlap between the MRFSS and the South Carolina Charter Boat. It was pointed out that a similar activity to the Gulf of Mexico Charter Boat Pilot Survey will be conducted in South Carolina in the near future. The group agreed that the outcome of this project will address any duplication of effort.

- Florida - MRF Statistical Data Collection - Site description overlap with MRFSS; Angler Interview possible overlap with MRFSS

  The group determined that there was no real overlap between the MRFSS and the Florida Angler Interview Survey. It was suggested that the MRFSS could possibly use the Florida site description list for their survey. The group suggested that the two agencies should get together to discuss this possible option.

- Alabama - Inshore Private Boat Survey overlap with MRFSS - catch and effort data

  Since the Alabama survey is new, the group did not have enough information to determine where there was duplication. It was asked what the purpose of the Alabama survey was and if the information needed could be gotten from the MRFSS.

- Mississippi - Creel Survey overlap with MRFSS - catch and effort data, and sites; Recreational Oyster Harvest potential overlap with MRFSS in 1996

  The group discussed the potential of using the data from the Mississippi Creel Survey in place of conducting the MRFSS in the state. The Mississippi Creel Survey is similar in design to the Texas Survey. The group suggested that the two agencies explore the possibility of using the Mississippi data.

Being no further business, the meeting was concluded at 12:15 p.m.

MATRIX FOR COLLECTION OF METADATA

Event	Magnitude	Geographic scope	Temporal scope	Potential impacts	Source(s)

There will be a matrix for each of the major categories of metadata (environmental events, changes in regulations, changes in survey methods, economic/social factors, and others.

RecFIN(SE) Data Review Work Group
Conference Call Summary
September 11, 1997

The call convened at 9:00 a.m. The following people were present:

Lisa Kline, ASMFC, Washington, DC
Patty Phares, NMFS, Miami, FL
Doug Mumford, NCDMR, Washington City, NC
Joe Shepard, LDWF, Baton Rouge, LA
Ron Lukens, GSMFC, Ocean Springs, MS
David Donaldson, GSMFC, Ocean Springs, MS

D. Donaldson stated that the purpose of the call was to develop guidelines for reviewing the MRFSS data. The group has already developed a process for reviewing the data which was approved at the last RecFIN(SE) meeting and needs to determine the mechanisms to review the data. The approved process for reviewing the data was discussed by the group. D. Mumford noted that many of the issues addressed through the process are already in place via the wave meetings conducted by the MRFSS. It was stated that "fish dumps" are available for review by the states. These dumps include the raw data for type 2 and 3 records. J. Shepard stated that he was not interested in reviewing the raw data but would like to look at the preliminary estimates and determine if there are any problems. The issue of specific guidelines for actually reviewing the data was discussed and the group decided that those procedures should be determined by the state. In terms of the procedures for reviewing the data, **the group recommended that the data which are being prepared for the wave meetings should also be made available to the states for their review.** These data will probably be available prior to the wave meetings which will allow the states to identify questionable data that can be examined during the wave meetings. The group discussed the type and amount of data which should be made available to the states. It was suggested that initially, all the data (raw data, tables, estimates, etc.) that are prepared for the wave meetings should be available to the states for review. Once all the partners are able to determine the utility of all the information provided, the Committee and/or Work Group could determine if some of the information could be omitted in future reviews. The group also discussed the issue of notification of modification of the data. **The group recommended that the NMFS notify the states and other interested parties when the final data has been modified. It was stated that this could be accomplished on the MRFSS home page by indicating what file(s) was changed and the date it was modified.** Through these discussions, the data review process was slightly modified and the modified process is attached.

Being no further business, the conference call was concluded at 9:35 a.m.

MRFSS Data Review Process

1. When the previous 2-wave's data are being prepared for the wave meetings, the NMFS will provide those data to the states from which that data were collected. Data can be in the form of a database, standardized summaries or both, depending on the computer analysis capabilities of a particular state.

2. The states have 4 weeks to review the preliminary wave data and document questionable data. The states will be responsible for developing methods for reviewing the data and providing those methods to MRFSS staff.

3. When questionable data has been identified, the states will send this information to the GSMFC, (by an established deadline) who will compile the data from all the states and forward them to the MRFSS staff. The MRFSS staff will investigate these data and take appropriate actions.

4. At the Spring RecFIN(SE) meeting, the identified questionable data will be addressed by the Committee and a report regarding the status of each problem and resulting action will be presented through wave 5.

5. All comments regarding final data review, which usually takes place in March, must be provided to MRFSS staff four weeks from the end of the wave.

FISHERIES INFORMATION NETWORK

Administrative Subcommittee Report

The Administrative Subcommittee of the Fisheries Information Network held a conference call on September 10, 1997. The following individuals participated in the call:

Lisa Kline	Atlantic States Marine Fisheries Commission
Joe Shepard	Louisiana Department of Wildlife and Fisheries
Bob Dixon	National Marine Fisheries Service - Beaufort
Maury Osborn	National Marine Fisheries Service - Headquarters
Ron Lukens (Chairman)	Gulf States Marine Fisheries Commission
Dave Donaldson (Staff)	Gulf States Marine Fisheries Commission

Marine Recreational Fishing License Criteria

This issue arose as a result of the prospect of using recreational fishing license data bases as a sampling frame from which to survey recreational anglers. Reference has been made on several occasions to the study conducted by the National Marine Fisheries Service (NMFS) in conjunction with the Oregon Department of Wildlife and Fisheries. While the approach worked to some degree in the study, a number of problems were uncovered. The possibility of conducting other such studies has been discussed toward the goal of attempting to account for the problems encountered in the Oregon study.

The Recreational Fisheries Information Network (RecFIN) Gulf Geographic Subcommittee developed a list of criteria to be considered and achieved in order for a license data base to be applied as a sampling frame. That list was used to compile information about existing licenses, and included

- licenses needed for all fisheries (finfish, shrimp, shellfish, etc.)
- identified exemptions
- duration of license and renewal cycle
- degree of automation
- timeliness of data (how quickly new licenses are entered into system)
- name, address, and phone number of licensee

From the compilation using the listed criteria, a matrix was developed that describes current license structures. It was pointed out that the Atlantic Coast Cooperative Statistics Program (ACCSP) has also worked on this issue and developed a list of criteria. A comparison of those items with the above criteria revealed that they are very similar. **The Administrative Subcommittee recommends that the initial list of criteria, the resulting matrix, and the list of criteria developed by the ACCSP be used by the RecFIN Committee to establish final**

criteria and guidance for license structures, if they are to be used as a sampling frame.

Recreational Fishing License Justification

If license data bases are to be used as a sampling frame for surveying recreational anglers, all states within the geographic area of interest must have a license. Currently within the Southeast Region, Georgia, North Carolina, Puerto Rico and the Virgin Islands do not have marine recreational licenses. A recommendation was made by the RecFIN Committee that discussion materials should be developed that provide rationale and justification for a marine recreational fishing license, to be provided to individuals, organizations, and agencies within states that do not have licenses as a way of encouraging them to establish a program.

D. Donaldson provided the Administrative Subcommittee with a short document containing pertinent information, and L. Kline indicated that there is information available from the ACCSP that will assist in the discussion. M. Osborn recommended that a brochure be developed for distribution to the fishing public to provide information and garner support. **The Subcommittee recommends that the materials be reviewed and that a brochure be developed from those materials, tailored to the states that do not have a license.**

Education and Outreach

a. Education and outreach program component

Based on a recommendation from the Fisheries Information Network (FIN) Committee, the Administrative Subcommittee discussed the prospect of establishing an education and outreach component of the program. L. Kline indicated that the ACCSP has established such a program component that could serve as a model for application to the FIN. The Subcommittee suggests that Kline provide a presentation to the FIN Committee at the September 1997 meeting in San Antonio, Texas.

b. Advisory committee structure and process

As a result of the above discussion, Kline also indicated that the ACCSP has established an advisory committee that has already been operating. The Subcommittee elected for Kline to also present the pertinent information regarding this issue at the September meeting.

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

Need for Marine Recreational Fishing License

Recreational fisheries are extremely important to the Southeast Region. In 1994, recreational anglers in the Region took an estimated 34 million fishing trips and caught approximately 201 million fish weighing about 38,000 metric tons. Because of the Southeast Region's productive marine fishery resource base and substantial fishing infrastructure, recreational anglers in the Southeast (excluding the Caribbean for which data are lacking due to insufficient funds) account for about 50% of the nation's total sportfishing effort, 51% of the recreational catch in numbers of fish, and 41% of the recreational landings by weight (NMFS 1995). Along the Region's 30,000-mile shoreline are found an estimated 150 coastal fishing piers; 1,600 marinas; 1,600 charter boats; 180 head boats; hundreds of dive boats and small guide boats; untold miles of "fishable" beaches, bridges, and jetties; and an unequaled assemblage of natural and artificial fishing reefs. Furthermore, over 2.8 million private recreational boats are used by the Southeast Region's coastal residents for saltwater fishing.

Management of the Southeast Region's fisheries is complicated by their migratory nature. Movements along shore bring many stocks under the jurisdictions of multiple states. Furthermore, many species move between inshore and offshore habitats during different stages of their lives and therefore come under both state and federal jurisdiction at various times. Thus, several fishery management agencies often regulate the same resource or stock. All the agencies face the same problem of conserving important marine resources, while at the same time providing satisfying recreational fishing opportunities to their constituents. Because of this fact, marine fisheries resources must be properly managed to ensure the continued existence. One method to ensure that these resources are managed as efficiently and effectively as possible is implementation of marine recreational fishing license.

A user fee or license would provide information which is critical to marine fisheries management. For fishery manager to properly manage any resource, the amount being harvested annually must be determined. There are two critical components of any marine recreational license. The first is identification of all the users (name, address, phone number and other related elements). This information can be used to conduct surveys to determine the average harvest, per species, per fisherman. The other component that a marine recreational license provides is an accurate assessment of the total number of individuals participating in marine recreational fishing activities. An accurate assessment of marine recreational fishermen is extremely important for several reasons. The total number is necessary to expand the average harvest to calculate the total number of finfish and shellfish harvested on an annual basis. In addition, the importance, both politically and economically, of marine recreational fishing activities can be determined by knowing the total number of fishermen who participate in marine recreational fishing.

Because the establishment of marine recreational licenses require legislative action, the implementation of such licenses rests in the political process and can only be developed when fishermen become convinced of the necessity for and benefit of these systems. Fishermen are becoming more aware of the problems facing the marine resources and the need for licensing systems in order to determine the total number of recreational anglers and their economic contributions to the fishing industry. Because of the apparent crisis of marine recreational resources, increased participation and awareness of the importance of marine recreational fisheries, and the

increased organization of recreational fishermen, the climate is right for implementation of marine recreational fishing licenses. However, to ensure the success of implementation of licensing systems, there needs to be a coordinated regional effort among all the interested agencies involved in management of marine resources.

The components of marine recreational fishing licenses have been developed, discussed and considered for a number of years. All the parts have been designed and tested and now is the time to implement them. In order to properly manage the fisheries resources both commercial and recreational statistics are needed. Only marine recreational licensing systems can establish a population base for the collection of recreational statistics that are necessary for complete and accurate fisheries management.

MINIMUM CRITERIA FOR USING LICENSING SYSTEM AS A SAMPLING FRAME

- All marine recreational fishing activities should be licensed in order to survey range of activities
- Exempted individuals should be identified
- Issuance should be on an annual basis, 12 months from date of issue
- The license system should be fully automated at point of sale, daily updates are preferred, but weekly updates are acceptable
- Information should include name, address, phone number, and drivers license number if applicable
- Access should be provided to survey personnel in an electronic format

LICENSING INFORMATION

FOR

RecFIN PARTICIPANTS

December 1997

RECREATIONAL MARINE LICENSES[1]

	TX	LA	MS	AL	FL	GA	SC	NC	PR	VI
Resident	Y	Y	Y	Y	Y		Y			
Non-resident	Y	Y	Y	Y	Y		Y			
For-hire	Y	Y	Y	Y	Y		Y			
Free		Handicapped								
Exemptions										
16 or less	Y	Y	Y	Y	Y		Y			
60 or greater	Y	Y	Y	Y	Y		Y[2]			
Handicapped			Y		Y		Y			
Military on leave					Y		Y			
Shore/pier fishing					Y[3]		Y			
License information										
Name	Y	Y	Y	Y	Y		Y			
Address	Y	Y	Y	Y	Y		Y			
Telephone number	Y	Y	Y	Y	Y		Y			
Duration	9/1-8/31	7/1-6/30	7/1-6/30	8/1-7/31	7/1-6/30		7/1-6/30			
Computerization	Y				Y		Y			

[1]For more detailed information regarding the licenses, please refer to Appendix A.
[2]The number of fishermen over 65 is known.
[3]License not required for shore fishing.

Appendix A

TEXAS
Effective Dates: September 1 to August 31

Resident
Annual Fishing
Annual Hunting & Fishing
Short-term Fishing (14 days)
Special Resident Fishing (for blind persons, disabled veterans, and certain resident commercial fishermen)
Lifetime Fishing License
Lifetime Hunting & Fishing

Non-resident
Annual Fishing
Short-term Fishing (5 days)

Special Stamps and Permits
Saltwater Sportfishing Stamp
Saltwater Fishing Trotline Tag (one numbered tag required for each 300 feet or fraction thereof on all saltwater trotlines)
Individual Bait-Shrimp Trawl
Mussel Shell Permit
Sports Oyster Boat License (for a dredge up to 14 inches in width)
Non-Resident Sports Oyster Boat License

Exempt Categories
Residents under 17 years old.
Residents 65 years of age and over.
Non-residents under 17 years of age from Oklahoma, Kansas, and Louisiana. (reciprocal)
Non-residents 65 years of age or older from Kansas and Louisiana. (reciprocal)
Non-residents 64 years of age or older from Oklahoma. (reciprocal)

Reciprocal Agreements
Sport fishermen of Texas and Louisiana who are properly licensed or exempt in either state may fish common boundary lakes and rivers between Louisiana and Texas. Also, states which exempt Texas residents under 17 years of age and 65 years of age or older from fishing license requirements in their state are exempted from Texas license requirements.

Fish Species That Licensees May Not Seek
None

Other Aquatic Species For Which a License is Required
Mussels, shrimp, clams, naiads, oysters and crabs

Independent Authority to Establish Fishing Regulations
1983 legislation grants authority to the State to make regulations pertaining to the taking and possession of fish in both salt and freshwater (does not apply to shrimp and oysters). Commission has authority to increase all license, stamps, and tag fees. (Fee increases not conditionally linked to inflation.)

Agency Analysis of State's Sport Fish Licensing System
None

Computerization of Fishing License Data
This program started during 1988-89 license year. Demographic data is currently secured on three types of fishing

licenses (resident, combination fishing and hunting, resident fishing, and resident temporary - 14 day). The types of licenses and stamps that demographic information is available for are indicated on previous page. Demographic data for residents who furnish a valid driver's license number when purchasing a fishing license - approx. 90%

Quantification of Persons Exempt From Sport Fishing Licenses
Quantification of the number of individuals who are not required to obtain a sport fishing license ended on April 2, 1987.

License Fee Increase to Match Wallop-Breaux Income
There is no anticipation of a license fee increase to obtain additional matching monies for Federal Aid in Sport Fish Restoration (Wallop-Breaux) income.

Promotion of License Sales
Posters furnished to license agents to advertise that licenses are available at their business.

Permits/Licenses Required for Professional Fishing Guides
A fishing guide license costs $75.00 and requires only the name and address of the applicant.

State Contact for Fishing Licensing Information
Paul Israel, License Section Supervisor
Texas Parks and Wildlife Dept.
4200 Smith School Road
Austin, TX 78744
(512) 389-4818

LOUISIANA
Effective Dates: July 1 to June 30

Resident
Saltwater Fishing

Non-Resident
Saltwater Fishing
Saltwater Short-term Fishing
Combination Fishing & Saltwater Trip (2 days)

Special Stamps and Permits
Clams & Oysters - Tongs (Resident)
Clams & Oysters - Tongs (Non-resident)
Recreational Crab (limited to 10 traps)

Free Licenses
Veterans having a permanent service-connected disability classification of 50% or more, and who are Louisiana residents.
Residents who are blind, paraplegic, or multiple amputees (must show identification and proof of disability satisfactorily).

Exempt Categories
Persons under 16 years of age.
Any resident who has resided in Louisiana for two or more years just prior to application and who is 60 years of age or older.

Fish Species That Licensees May Not Seek
None

Other Aquatic Species For Which a License is Required
None

Fishing Regulations That Agency Can Establish Independent of Legislature
Regulations regarding management practices, such as seasons, some size limits, etc.

Additional Information
Any person in the armed forces of the United States, on active military duty, shall be allowed to purchase and use resident licenses.
Any citizen of this state on active duty in the armed forces of the United States and who is assigned to an active duty post located outside the state of Louisiana shall not be required to obtain a license or pay a fee to fish and hunt while visiting in this state, provided that he/she has proper written evidence that his/her absence from his/her active duty assignment is authorized.

Agency Analysis of State's Sport Fish Licensing System
None

Computerization of Fishing License Data
None

Quantification of Persons Exempt From Sport Fishing Licenses

None

License Fee Increase to Match Wallop-Breaux Income
None

Promotion of license Sales
None

Permits/Licenses Required for Professional Fishing Guides
None

State Contact for Fishing Licensing Information
Mrs. Janis Landry
Fiscal Manager
Department of Wildlife & Fisheries
P.O. Box 98000
Baton Rouge, LA 70898-9000
(504) 765-2881

MISSISSIPPI
Effective Dates: July 1 to June 30

Resident
Saltwater Annual Fishing

Non-resident
Saltwater Annual Fishing
Short-term Fishing (3 days)

Exempt Categories
Residents and non-residents under the age of 16
Residents age 65 or more (must carry proof of age)
Residents who are blind, paraplegic, a multiple amputee, or considered totally disabled by the Veterans or Social Security Administrations or Railroad Retirement Board (must carry proof of disability

Fish Species that Licensees may Not Seek
None

Other Aquatic Species For Which a License is Required
A combination hunting and fishing license is required to take frogs (bag limit 25/day during season of April 3 - October 6, 1985) and to take turtles (no bag limit throughout the year; taking endangered or threatened turtle species is prohibited)

Fishing Regulations That Agency Can Establish Independent of Legislature
Seasons, species, bag limits, size limits, hours of day or night, special areas opened or closed, number of poles, number of hooks, etc.

Agency Analysis of State's Sport Fish Licensing System
None

Computerization of Fishing License Data
None

Quantification of Persons Exempt From Sport Fishing Licenses
None

License Fee Increase to Match Wallop-Breaux Income
There is anticipation of a license fee increase to obtain additional matching monies for Federal Aid in Sport Fish Restoration (Wallop-Breaux) income.

Permits/Licenses Required for Professional Fishing Guides
None

State Contact for Fishing Licensing Information
William S. Perret
Mississippi Department of Marine Resources
152 Gateway Drive
Biloxi, MS 39531
(601) 385-5860

ALABAMA
Effective Dates: August 1 to July 31

Resident
Annual Saltwater Fishing
Short-term Fishing (7 days)

Non-Resident
Annual Saltwater Fishing
Short-term Fishing (7 days)

Exempt Categories
Persons under the age of 16
Residents over 65 years of age

Fish Species That Licensees May Not Seek
All species of sturgeon and paddlefish

Additional information
Military personnel and their immediate families stationed in Alabama 90 days or more may purchase licenses at resident rates.

Fishing Regulations That Agency Can Establish Independent of Legislature
Regulations pertaining to seasons and creel limits.

Agency Analysis of State's Sport Fish Licensing System
Review completed in 1988

Computerization of Fishing License Data
None

License Increase to Match Wallop-Breaux Income
License fee increase for 1990 Lifetime license

Permits/Licenses Required for Professional Fishing Guides
Any person, firm or corporation who engages in the business of carrying one or more persons fishing in saltwater and brackish waters of Alabama for a fee shall obtain a commercial party boat license.

State Contact for Fishing Licensing Information
R. Vernon Minton, Director
Division of Marine Resources
Department of Conservation and Natural Resources
P.O. Box 189
Dauphin Island, AL 36528

FLORIDA
Effective Dates: July 1 to June 30

Resident
12 month Fishing
Short-term Fishing (7 days)
5 year Fishing (does not include snook or crawfish stamps, or tarpon tag)
Lifetime Fishing License (snook and crawfish stamps not included)

Non-resident
12 month Fishing
Short-term (3 days)
Short-term (7 days)
Vessel carrying 11 or more people
Vessel carrying 5-10 people
Vessel carrying 1-4 people
Pier (or similar structure fixed to land wherein a fee is charged for use of structure)

Special Stamps and Permits
Snook Stamp
Crawfish Stamp
Tarpon Tag

Exempt Categories
Resident under 16 or over 65 years of age
Any resident fishing in saltwater from land or from a structure fixed to land
Any individual saltwater fishing from a vessel the operator of which is licensed pursuant to ss. 370.0605(2)(b), F.S. Only one individual at a time on board a vessel that has been issued a saltwater products license may claim exemption from the saltwater license requirement.
Military personnel who are Florida residents while they are home on leave for a period of 30 days or less.
Residents permanently and totally disabled or HRS clients for developmental services.

Fish Species That Licensees May Not Seek
None

Other Aquatic Species For Which a License is Required
None

Fishing Regulations That Agency Can Establish Independent of Legislature
None

Computerization of Fishing License Data
None

Quantification of Persons Except From Sport Fishing Licenses
None

License Fee Increase to Match Wallop-Breaux Income
None

Promotion of License Sales

None

Permits/Licenses Required for Professional Fishing Guides
None

State Contact for Fishing Licensing Information
Ms. Susan Wood
Assistant Accounting Director
Florida Game & Freshwater Fish Commission
620 South Meridian Street
Tallahassee, FL 32399-1600

SOUTH CAROLINA
Effective Dates: July 1 to June 30

Resident
Annual Marine Recreational Fishing Stamp

Non-Resident
Annual Marine Recreational Fishing Stamp

Special Stamps and Permits
Public Fishing Pier Permits (No person may charge a fee to the public to fish from a pier without obtaining a marine fishing pier permit.)
Charter Vessel Permit (No vessel may transport marine recreational fishermen for a fee without a charter fishing permit.)
Vessels licensed to carry six or less passengers
Vessels licensed to carry seven to 49 passengers
Vessels licensed to carry more than 49 passengers
Rental Boat Fee (required if the vessel carries only passengers who hire the vessel)

Exempt Categories
Persons under 16 years of age and residents with a valid gratis over 65 license
Persons fishing with hook and line from the shore or a shore-based structure
Fishermen fishing from a permitted charter boat or a permitted public fishing pier
Members of the U.S. armed forces who are residents of South Carolina stationed outside this state upon presentation of official furlough or leave papers
Permanently and totally disabled residents and veterans with proper documentation
Persons crabbing or shrimping
Fishermen engaged in commercial operations

Additional Information
Stamp requirements pertain to the taking or landing of marine fish which is defined to include all species of finish, oysters, and clams in South Carolina's tidal waters. Stamp must be validated by the signature of the licensee across the face of the stamp.
Licensed fishing vessels must maintain a log of the number of persons carried each day, number of hours engaged in fishing, and number and weight of fish by species caught each day.
Licensed fishing piers must maintain log of number of persons fishing from that structure each day

Fish Species That Licensees May Not Seek
Shortnose sturgeon, Atlantic sturgeon, Nassau grouper, and Jewfish

Agency Analysis of state's Sport Fish Licensing System
The license database is used as a frame for a variety of in-house surveys.

Computerization of Fishing License Data
Fishing license data is computerized

Quantification of Persons Exempt From Sport Fishing Licenses
The number of gratis (over 65) licenses are known.

License Fee Increase to Match Wallop-Breaux Income
Wallop-Breaux projects are matched without the use of marine recreational fisheries stamp and permit fees

Promotion of License Sales

License sales are promoted through a well-publicized stamp art contest and a broad-based license sales agents network. In addition, an extensive SCDNR press release program routinely transmits fishing stamp information to over 100 different media companies in South Carolina and to the Associated Press Wire Service.

Permits/Licenses Required for Professional Fishing Guides

None

State Contact for Marine Recreational Fisheries Stamp Information

David M. Cupka, Director
Office of Fisheries Management
Marine Resources Division
South Carolina Department of Natural Resources
P.O. Box 12559
Charleston, SC 29422-2559
(803) 762-5043

GEORGIA
No license is required to fish in marine waters.

NORTH CAROLINA
No license is required to fish in marine waters.

PUERTO RICO
No license is required to fish in marine waters.

U.S. VIRGIN ISLANDS
No license is required to fish in marine waters.

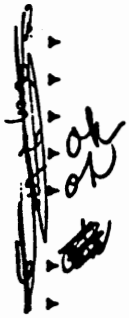
stock assessment biologists in the determination of annual sampling allocations. (Stratification could be on a fisheries-by-fisheries basis).

- Recommendations for standard definitions include:
  1) Regulatory discards: caused by regulatory decisions, such as size or trip limits, seasons, quotas, protected or prohibited species, etc.
  2) Economic discards: caused by no economic incentive to land the product, e.g. low price, unmarketable species, etc.

11. Sampling Frame of Recreational Participants

The ACCSP accepts the utility of a universal recreational license. However, the Council remains concerned about the political realities of a universal recreational fishing license and urges the Operations Committee to look into other mechanisms the identify the recreational universe.

Attributes to consider in the design of a successful sampling frame of recreational participants include:



- system should be automated
- data should be entered in a timely manner
- data should be updated frequently
- no exemptions should be given (i.e., all ages should be included)
- permits/licenses should be inexpensive or free for current exemptions (i.e., children, seniors, physically challenged)
- issuance should be on an annual basis
- sampling frame should include all fisheries
- easy access should be provided to the database

These attributes will be developed further as discussion continues on the development of a sampling frame encompassing the universe of participants in recreational fisheries.

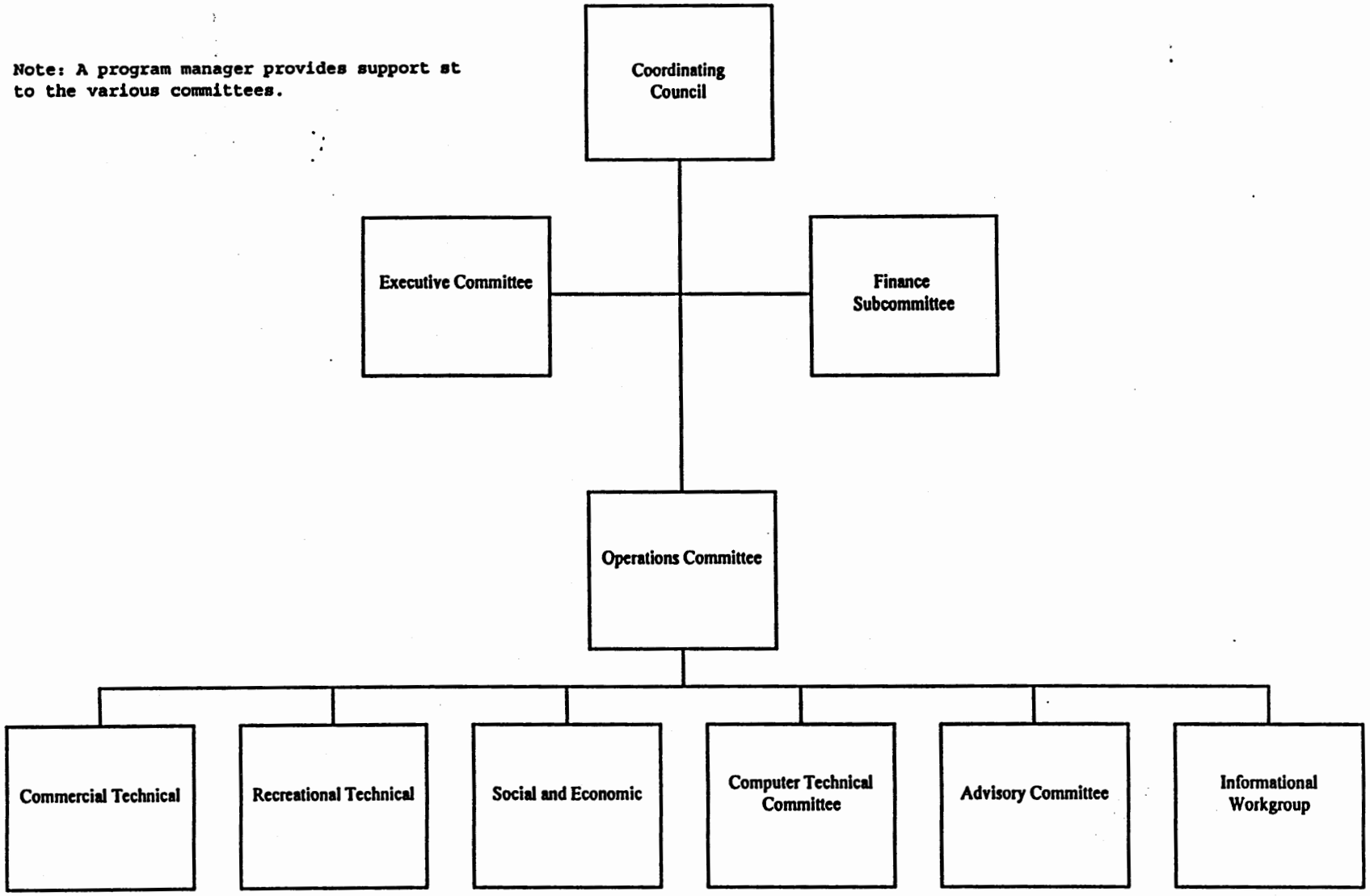
12. Beach guides (non-vessel for-hire)

Data collection on beach guides should be addressed through special recreational surveys. Beach guide information could be collected through the MRFSS shore modes through the inclusion of an additional question to determine if the shore trip is a guided trip. Information could also be collected by adding beach guides to the for-hire vessel sampling frame with a code to indicate they are not a for-hire vessel.

Refer back to the Recreational Technical Committee and the CESS.

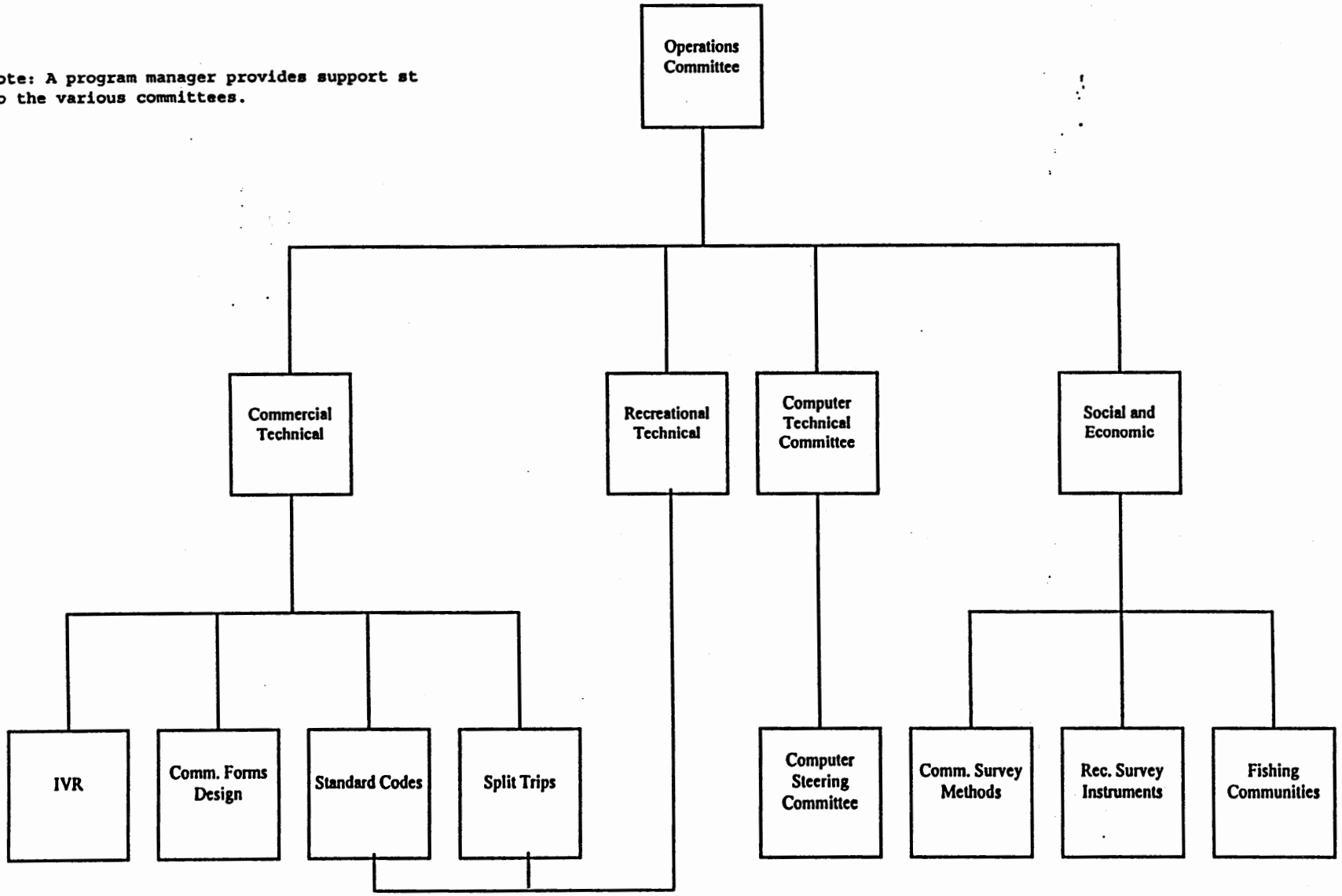
ACCSP Organization - Committee Level

Note: A program manager provides support st to the various committees.



ACCSP Organization - Subcommittee Level

Note: A program manager provides support st to the various committees.



portant gamefish is lacking, fishing facilities are inadequate, allocation decisions are inequitable, management measures are too exploitative of the resource, and channels for open and meaningful dialogue are non-existent. Consequently, sport fishing leaders have learned that in addition to generating needed funds, licenses have given them a more effective voice in the decision process. This fact makes the angling community an important constituency and creates lines of communication and accountability between anglers and the managers.

Key Elements for a Successful Program

Many state licensing programs have been viewed as a success by both managers and anglers. Successful programs have been based on the following factors: 1) a long-term public educational effort as to why such a system was needed and what it would provide; 2) open public discussions and examination of alternative solutions; 3) the identification and development of two way communication with key leaders of the marine recreational fisheries community; 4) the development of assurances that all revenues generated would be used now, and in the future, only to benefit marine recreational resources and fishermen; 5) documentation of the support within the recreational fisheries community for such a system; and 6) the ability and willingness to continually compromise and alter the proposed system based on public comment.

Developing Grassroots Support

The importance of developing grassroots support for a marine fishing license within the marine recreational fisheries community cannot be over emphasized. There is general agreement that implementation of a saltwater fishing license program requires strong constituent support. Widespread angler support and commitment to the program is essential, and cannot be expected unless license fees are collected in dedicated funds and co. ous oversight is provided to ensure funds go for the designated purposes. It is essential to: 1) identify and educate key spokesmen for the marine recreational fisheries community; and 2) convey public support within the recreational fisheries community for such a system to the state legislature.

Dedicated Funds

Dedicated funding has been one of the most important elements in making the state resource management agency a strong and viable organization. An important aspect of any dedicated fund is to assure use of funds for their intended purpose. As long as there is a pot of money someone will try to tap into it. This can occur at many different levels. The most obvious threat to dedicated funds is through legislative attacks. Monies from the sale of the stamps, permits, prints, and related articles must be paid into a special account separate from the general fund. Monies in the account should carried forward each year and allowed to be used to match available federal funds. Constituents of license programs must stay involved to assure dedicated funds are being used as intended.

Program Awareness & Education

Public support is based on their understanding of what a license means for the fishery and anglers. The public understands more research can be supported with license fees which provides information for better management, and better fishing. However, it is important for anglers to understand that better fishing will not occur immediately. Managers must explain how activities benefit fisheries over a given time period. Also, managers need to listen to the angling public for an understanding of what anglers expect to receive from their license fees. Most likely managers and citizens have the same goals in mind, but see different ways of getting to them. By purchasing a license, a citizen has invested in the public resource and, like a stock holder, has a say in how that resource is managed. They have a right to information, but they also have a responsibility to objectively review such information.

Creation of a Marine Recreational Fisheries Advisory Board

Creation of a Marine Recreational Fisheries Advisory Board to assist in prioritizing the expenditures of monies received in the special account has been a critical element in successful programs. Appointments to such a board should include people who fish at least occasionally. The key is to have people who have a real connection with saltwater recreational fishing and who understand how they can work together to benefit the fishery.

Summary

A saltwater fishing license is a vehicle for dealing with today's political realities and the problems of state fisheries management. Experience has shown that in most cases, the benefits of a license system outweigh the costs and can provide the capital and organization needed to enhance and protect marine sport fisheries. Regardless of your current position on marine recreational licensing, by taking a fresh look at the issues -- today's needs, benefits, social and economic considerations, contrasting viewpoints and the information in this brochure, insight into a new idea, understanding or concept applicable to our respective states will be acquired.

Funding for this brochure was provided through a cooperative agreement (grant no. 14-48-0009-95-1225) with the U.S. Fish and Wildlife Service as part of the Wallop-Breaux Program. For more information, contact: ASMFC at (202)289-6400 (phone) or (202)289-6051 (fax).

State Licensing of Saltwater Anglers: Issues and Answers

A Summary of Pertinent Issues from a Workshop Convened by the Atlantic States Marine Fisheries Commission

June 1996

State Licensing of Saltwater Anglers: Issues & Answers

There are few topics that generate as full a range of opinions and emotions as he issue of marine recreational fishing licenses. ome view licenses as an absolute bane for ma- ine recreational fishing. Others consider them n important and essential tool in efforts to con- erve, restore, and manage marine fisheries. With doption of Resolution No. IV in 1988, the Atlan- ic States Marine fisheries Commission (ASMFC) upported the concept of states licensing their salt- ater anglers. At that time, the only Atlantic coastal tate to have any form of marine licensing was laryland. Maryland's newly enacted license was equired for anglers fishing in Chesapeake Bay. To- ay, Florida, Virginia and South Carolina have oined Maryland in adopting some form of marine ecreational fisheries licensing. The debate for and gainst such licensing continues.

'isheries at the Crossroads

egional population growth and the tourism- ased economies of many coastal communities ave influenced steady growth in marine recre- tional fishing. In 1991, marine anglers along the tlantic coast took an estimated 40 million fish- ng trips and caught approximately 207 million sh. Of these, approximately 72 million finfish ere landed weighing roughly 32 thousand met- ic tons (NMFS, 1991). Future demand for ma- ne recreational fishing by residents of Atlantic oastal states is projected to increase 21 percent etween 1990 and 2010.

n many ways, marine recreational fisheries along ne Atlantic coast are at a crossroads. Conditions in ne 1990s are considerably different than in the 30- ear post war period between 1950 and 1980. Popu- itions of many traditional target species are show- ing signs of stress and in some cases have become overfished. Fishery management agencies continue to struggle to secure fiscal and staff resources needed to carry out basic fishery management research and operations. The prognosis for the future best can be understood when viewed in the broader context of changing conditions in Atlantic coastal region.

Current Status of State Marine Licensing Programs

There currently are 12 coastal states in the US with some sort of marine recreational fishing license. All of the west coast states, except Hawaii have a licenses. All of the Gulf coast states also have ma- rine recreational fishing licenses. Along the east coast, only Florida, South Carolina, Virginia and Maryland have licensing programs, and all of rela- tively recent origin. The type of saltwater license varies among the states. There is no stand-alone saltwater fishing license.

Fees - What Does a License Cost?

License fees vary greatly. The average resident li- cense fee is about $12 with the average non-resident license fee being about $18. When these averages are computed to include those states that require both a freshwa- ter license and a saltwater stamp to fish in marine waters, the average non-resident license fee ex- ceeds $31.

The majority of states that separately license char- ter and partyboats, do not require passengers fish- ing from those boats to have their own license. The licensing structure for charter and party boats is so divergent, it is difficult to compare fee struc- tures. Most states do, however, have a category for vessels carrying six or fewer passengers. Within that category, the fees range from $60 to $500, with the average being somewhat over $200 per vessel. One interesting aspect here is that there is very little difference in the fee structure for party and char- ter boats between those states that exempt passen- gers from having a license and those that do not.

What Are the Benefits of a Saltwater License?

Improved data collection has been a long-stand- ing reason cited by managers for instituting a salt- water sport fishing license. Comprehensive salt- water licensing provides an effective means of es- timating the fishing pressure directed toward stocks. Saltwater licenses also hold promise as a means of providing managers some other essen- tial tools they need, including: 1) a means of im- proving information on the nature and extent of angling; 2) enhanced compliance with fishery management plans and regulations; and 3) effec- tive communications and a more supportive fish- ing community.

In addition to providing direct funding support for management agency programs, the mere exist- ence of a license can serve to increase state alloca- tions under the Federal Sport Fish Restoration Pro- gram. Further, license revenues can be used to leverage additional funds from other governmen- tal and private sources. Other arguments in favor of state saltwater licensing include:

- Provides a census of anglers for monitoring and research purposes.
- Raises funds in support of fisheries management.
- Funds help to restore, maintain and promote world-class fishing.
- Provides political leverage for those paying the license fees.

Why Don't All Atlantic Coastal States Have a Saltwater License?

It is the loss of trust in "Government," that unde- finable "they," which represents the largest stum- bling block to marine licensing on the Atlantic coast. Another problem is a temporary drop in partici- pants that comes each time the license fee is in- creased. A survey conducted by the Sport Fishing Institute in 1991 on the factors affecting license sales in each state found that for every dollar in- crease in a resident sport fishing license, sales de- clined by an average of 4.7 percent during the year it was implemented. Additional arguments against state saltwater licensing include:

- The sea is the last free frontier and forefathers did not have to buy a license to fish.
- Money will be used to provide other state ser- vices (will not be used in support of marine fisheries management).
- Will negatively impact people of limited means.
- Out of state tourists will quit coming to our state.
- Loss of income by tackle shop owners.
- Anglers are already taxed through the federal Wallop-Breaux program.

Constituency Empowerment

The sport fishing communities are becoming in- creasingly supportive of license programs because they have learned that a license can empower them as a constituency. Sport fishing leaders are fre- quently critical of state and federal management agen- cies for being non- responsive to their needs or concerns. Anglers often be- lieve research on im-

APPROVED BY:
Richard Waller
COMMITTEE CHAIRMAN

SEAMAP Subcommittee Meeting
MINUTES
Gulf Shores, AL
Monday, October 13, 1997

Chairman Richard Waller called the meeting to order at 1:07 p.m. The following members and others were present:

Members:
Richard Waller, USM/IMS/GCRL, Ocean Springs, MS
Mark Leiby, FDEP/FMRI, St. Petersburg, FL
Richard Leard, GMFMC, Tampa, FL
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Terry Cody, TPWD, Rockport, TX
Jim Hanifen, LDWF, Baton Rouge, LA

Others:
Scott Nichols, NMFS, Pascagoula, MS
Ken Savastano, NMFS, SSC, MS
Mike Ray, TPWD, Austin, TX
Wendel Lorio, MSU, SSC, MS

Staff:
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

J. Shultz will not be in attendance at this meeting but she submitted a letter stating S. Nichols will be her proxy (ATTACHMENT I).

Adoption of Agenda

The agenda was approved with no changes.

Approval of Minutes (8/3/97)

* J. Hanifen asked that the Louisiana section under Activities and Budget Needs for FY 1998 be changed to read:

Louisiana - will attempt to continue all surveys at level funding. Historically, Louisiana has not charged any indirect costs to SEAMAP but the financial office is charging all new projects approximately 31% in indirect costs. Since SEAMAP is an established project, they have been able to argue against charging indirect costs. Also, ship expenses have increased. If SEAMAP is charged with indirect costs and if ship time increases too much, Louisiana will only be able to do the summer and fall surveys. Level

funding is $120,700. **T. Cody moved to accept the minutes as amended. J. Hanifen seconded it and it passed unanimously.**

Administrative Report

The Reef Fish Survey began in July and is continuing to date. The purpose of the survey is to assess relative abundance and compute population estimates of reef fish using a video/trap technique. Vessels from NMFS, Alabama and Texas participate in the survey.

The Fall Plankton Survey was conducted from September 3rd through October 4th and approximately 180 stations were sampled. The purpose of the survey is to assess the abundance and distribution of king mackerel and red drum eggs and larvae in the Gulf of Mexico. Vessels from NMFS, Florida, Alabama, Mississippi and Louisiana participated in the survey.

The Fall Shrimp/Groundfish Survey is scheduled to be conducted from October through December 1997. The purpose of the survey is to determine abundance and distribution of demersal organisms in the Gulf of Mexico. Vessels from NMFS, Louisiana, Mississippi, Alabama and Texas will participate in the survey.

Both the 1994 and 1995 Atlases have been completed and will be distributed this month. Work has begun on the 1996 Atlas and should be completed by the end of the year. The TCC Report has been completed and will be distributed at this meeting. Work is currently being done on the Joint Annual Report and will be completed by the end of the year.

D. Donaldson said the plots from the Shrimp/Groundfish cruise were on the home page and had an average of 10 hits a week. He also asked the Subcommittee to put links on their home page to SEAMAP's.

Also, the letter to Admiral Toban informing him of SEAMAP activities was mailed.

Update on SEAMAP chlorophyll Sampling Issues

* J. Hanifen submitted a report and recommendations (ATTACHMENT II) on the chlorophyll data analysis. He reviewed each item/figure of the report and suggested the Subcommittee take action on these items. **J. Hanifen moved to adopt the recommendations in the report and to charge the Environmental and Data Coordinating Work Groups to meet and fulfill the recommendations. D. Donaldson will meet with J. Hanifen and R. Waller to write other specific charges besides the recommendations in the report, to the Work Groups. The Subcommittee also wants the work groups to develop a quality control/quality assurance document for all of the data sets.** S. Nichols seconded and after extensive discussion on the specific charges, it passed unanimously. Because of budgetary constraints, the Environmental Work Group and the Data Coordinating Work Group will have to meet via conference call to get organized on the recommendations and then have a meeting to finalize their suggestions to the Subcommittee.

Discussion regarding Coordination with the Gulf of Mexico Program

D. Donaldson said that R. Waller, K. Savastano and himself met with Gene Meyer with the EPA Gulf of Mexico Program (GOMP). His group has been charged with developing a document that describes

the "state of the Gulf" and he's interested in using SEAMAP data and other existing databases to help develop this document. He also asked if SEAMAP and GOMP could develop a partnership to gain additional information to assist in describing the Gulf. The main focus in their program at this time is nutrients and he asked if the Subcommittee would discuss the possibility of collecting nutrient samples (surface) in water bottles and provide them to the GOMP to do the analysis. He asked if the Subcommittee approved, how much would it cost to collect the samples. In reference to collecting nutrients, the GOMP will have to be more specific on exactly what they want the Subcommittee to do. After discussion, the Subcommittee decided that D. Donaldson and R. Waller will continue to provide information to the GOMP when applicable.

Work Group Reports

Data Coordinating - K. Savastano submitted the DCWG report (ATTACHMENT III) and reviewed each item. He stated the 1996 data is complete with the exception of the Caribbean data; processing of the 1996 Atlas is in progress; 210 requests have been received and 209 have been completed -- he also mentioned he is getting more requests for SEAMAP data (approximately 30/year and expects it to increase); work is being done on re-engineering the system for the new software and expects it to be completed by March 1998; the on-line data base now contains 375 cruises with a total of 2,498,051 records. Also, several one day workshops for SEAMAP data base access are planned/in progress for the Gulf participants.

Red Drum - D. Donaldson said the RDWG had a conference call at the end of August to discuss fish kills during the red drum tag/recapture project. A. Kemmerer requested the group meet to discuss the issue and explore possible alternatives or maybe even potentially ending the project. The RDWG reviewed the procedures that are in place and felt confident that the safeguards that are being used are significant enough to help minimize the fish kills and supports the project. A summary of the conference call was forwarded to A. Kemmerer stating this. Actually, the amount of fish that were killed was only one-tenth of a percent of the entire red drum population and the recreational fishery kills 10 times that each day. S. Nichols said sampling has been completed for the year and he thanked the group and L. Simpson for their support of the project. He said they tagged approximately 10,000 fish.

Plankton - D. Donaldson updated the Subcommittee on the status of the use of SEAMAP bluefin tuna larvae for genetics work. He said those larvae have not been used that preliminary analyses of other samples has been disappointing. The results are not what they had expected. Apparently, there is not enough genetic material to extract from the larvae for the replicates and backups that they need. They are continuing work on this but they haven't used SEAMAP larvae yet and they are trying different methods to see if they can get better results. J. Shultz will keep the Subcommittee informed on the status of this. D. Donaldson distributed a report (ATTACHMENT IV) from NMFS which outlines the samples that have been sent to the PSIC for the Subcommittee's review. J. Shultz also wanted to inform the Subcommittee that if SEAMAP does not supply the PSIC with additional funding, they may have to reduce effort in the coming years. The PSIC has been sorting the same amount of samples for years without additional funding and it is time to increase funding. Also, J. Shultz presented a paper at the International Council of Exploration of the SEA (ICES) in Baltimore on mackerel plankton sampling.

Election of Chairman

* The nominating committee nominated Richard Waller for Chairman and Jim Hanifen for Vice Chairman. **T. Cody moved to accept these nominations by acclamation.** S. Heath seconded and it passed unanimously.

Other Business

The SEAMAP Subcommittee discussed investigating putting SEAMAP data on the Internet because with such a wide access, this will be a good way to get information out on SEAMAP. D. Donaldson has several ideas on how to do this and informed the Subcommittee of the MRFSS web page and stated this could be used as a model for setting up the SEAMAP page. The Subcommittee likes the idea and agreed to wait and see how MRFSS' page works. They also agreed to only use summaries and possibly use the data sets that are produced for the Atlas' tables and plots and design a query system around that. D. Donaldson will continue investigating this idea and keep the Subcommittee informed on his progress.

Terry Cody asked the Subcommittee for permission to give a presentation at the Texas Chapter AFS meeting on SEAMAP longline data. The Subcommittee agreed that this was a good idea. T. Cody stated that he and other TPWD personnel will work on the presentation and keep the Subcommittee informed.

T. Cody said R. Blankenship called him and said he had what he thinks is a larval lobster and wonders if there's anybody interested in it. M. Leiby told him B. Lyons at FMRI has been working on them for years and would be interested.

There being no further business, the meeting adjourned at 3:43 p.m.

ATTACHMENT I

Southeast Fisheries Science Center
Mississippi Laboratories
Pascagoula Facility
P.O. Drawer 1207
Pascagoula, MS 39564-1207

DATE: 10 October 1997

MEMORANDUM FOR: Richard Waller, Chairman of SEAMAP Subcommittee

FROM: Joanne Lyczkowski-Shultz, NMFS Subcommittee Member

SUBJECT: My Proxy for the upcoming Subcommittee Meeting

Be it here known that Dr. Scott Nichols will take my place as the NMFS representative on the SEAMAP Subcommittee during the meeting to be held on 13 October 1997 in Gulf Shores, Alabama. I regret that I will not be in attendance at this meeting. Be assured, though, that I will be serving the cause of SEAMAP during this absence from the meeting for I will be in Beaufort, North Carolina conferring with the Chief larval fish identifier (Maggie Konieczna) of the Polish Sorting and Identification Center. We will be examining larvae and discussing difficult taxa, namely the snappers!

Please give my regards to Walter and Greta. I truly regret missing the opportunity to enjoy the evening at their home with all of you!

Respectfully Yours,
Joanne

State of Louisiana

ATTACHMENT II

James H. Jenkins, Jr.
Secretary

Department of Wildlife and Fisheries
Post Office Box 98000
Baton Rouge, LA 70898-9000
(504)765-2800

M.J. "Mike" Foster, Jr.
Governor

October 13, 1997

MEMORANDUM

TO: Richard Waller, Chairman, SEAMAP Subcommittee

FROM: Jim Hanifen

SUBJECT: Chlorophyll data

The attached is a summary of the analysis requested by the Subcommittee of data derived from spectrophotometric and fluorometric methods. These analyses were performed by Terry Romaire of my staff. They illustrate not only the variability in chlorophyll concentration in the Gulf of Mexico, but also the substantial differences among methods used to measure it.

I concur with the report recommendations and urge Subcommittee action on them. They are as follows:

- Fluorometric values should be removed from the chlorophyll field in the SEAMAP datasets and properly identified as fluoroescence.

- The Subcommittee should charge the Environmental Work Group with examining the quality of the environmental data sets and historical use of the data, and developing recommendations for future data acquisition that will meet the needs of data users and resource managers.

- The Subcommittee should charge the Data Coordinating Work Group with developing recommendations for criteria to include data in SEAMAP data sets. This should include performance standards and quality assurance/quality control criteria for collecting and recording data, and establish administrative accountability for the content of SEAMAP data sets.

Report to the SEAMAP Subcommittee
Chlorophyll_a Methods Comparison
October 13, 1997

LDWF reported earlier on inconsistencies between various methods for determining chlorophyll_a concentrations from seawater samples.

Comparative data using 3 techniques were collected from Louisiana seasonal SEAMAP cruises during fall and winter 1996, and summer 1997:

- Extracted spectrophotometric per Jeffries & Humphries (SEAMAP Method);
- Extracted fluorometric (benchtop); and
- In-situ fluorometric.

Additional paired spectrophotometric/in-situ fluorometric data from NMFS' summer 1997 cruise were compared.

Simple linear regressions between paired measurements were performed using SAS, PROC GLM procedure. Coefficients of determination (r^2) ranged from 0.42 to 0.94

Figure 1. Comparison between extracted spectrophotometric and in-situ fluorometric measurements from surface water samples collected during 3 seasons. Chlorophyll concentration varied substantially among seasons, as did the relationship between spectrophotometric and fluorometric measurements. Correspondence between the two methods was best during summer 1997, and poor during other seasons.

Figure 2. Comparison between extracted spectrophotometric and in-situ fluorometric measurements from mid-depth water samples collected during 3 seasons. Note differences in the relationship between the two methods with that of surface water samples. Correspondence between the two methods poor during all seasons.

Figure 3. Comparison between extracted spectrophotometric and in-situ fluorometric measurements from bottom water samples collected during 3 seasons. Note differences in the relationship between the two methods with that of surface and mid-depth water samples. Correspondence between the two methods poor during all seasons.

Figures 1 through 3 indicate the variability of chlorophyll concentration at different levels in the water column and between seasons. They also demonstrate the poor relationship between the spectrophotometric and in-situ fluorometric methods for determining chlorophyll concentration.

Figure 4. Comparison between paired spectrophotometric/in-situ fluorometric data from NMFS and Louisiana summer 1997 cruises. Note the substantially different relationship between the two methods as recorded from different platforms.

Assuming proper calibration of both NMFS and Louisiana lab and field instruments, the variation in slope of the regression line and r^2 likely are the result of geographic differences in the

distribution of chlorophyll; Louisiana collected relatively more samples in waters influenced by the Mississippi River plume.

Figure 5. Comparison between extracted and in-situ fluorometric measurements collected during 3 seasons. Note the seasonal variation and poor correspondence between the two fluorometric methods.

Figure 6. Comparison between chlorophyll_a (?) measured by 3 methods. Note that the most comparable values between the 3 methods are produced when chlorophyll concentration is in the range of 0.0 to 4.0 mg/m^3. As concentrations of chlorophyll_a exceed 4.0 mg/m^3 (as measured spectrophotometrically) the other 2 methods produce progressively larger over- or under-estimates. Extracted fluorometry consistently measures higher concentrations of chlorophyll, while in-situ fluorometry measures lower concentrations.

Conclusions:

Fluorometry does not measure chlorophyll_a.

There is no predictable relationship between spectrophotometric measurements of chlorophyll concentration and fluorometric values. The relationship varies with:

- season;
- location; and
- chlorophyll concentration.

Recommendations

To solve the current problem

- Fluorometric values should be removed from the chlorophyll field in the SEAMAP datasets and properly identified as fluoroescence.

- The Subcommittee should charge the Environmental Work Group with examining the quality of the environmental data sets and historical use of the data, and developing recommendations for future data acquisition that will meet the needs of data users and resource managers.

To ensure future integrity of SEAMAP long-term data

- The Subcommittee should charge the Data Coordinating Work Group with developing recommendations for criteria to include data in SEAMAP data sets. This should include performance standards and quality assurance/quality control criteria for collecting and recording data, and establish administrative accountability for the content of SEAMAP data sets.

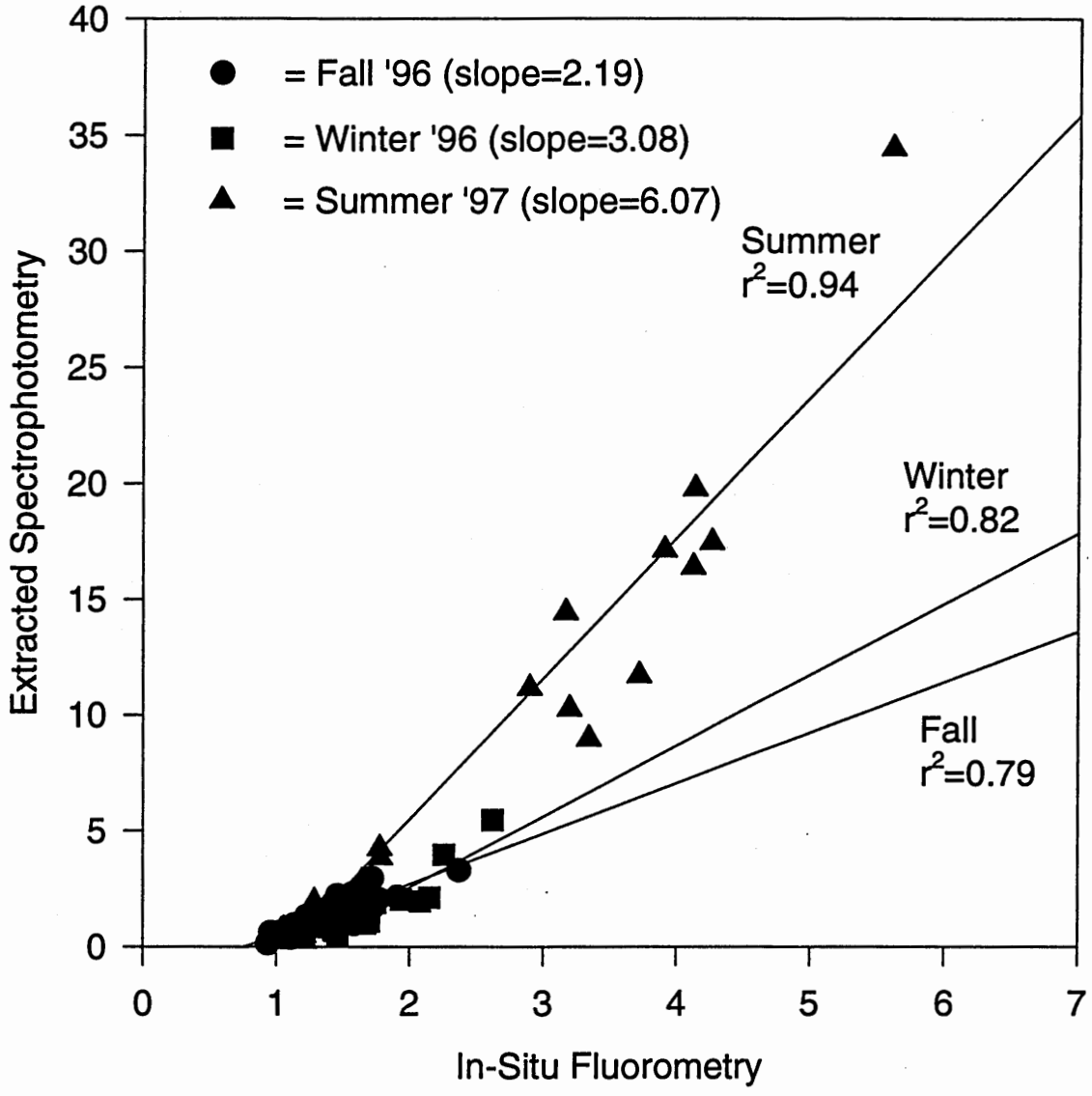


Figure 1. Correlation between extracted spectrophotometric and in-situ fluorometric chlorophyll_a measurements from surface waters by season for fall and winter '96, and summer '97 cruises in Louisiana's waters.

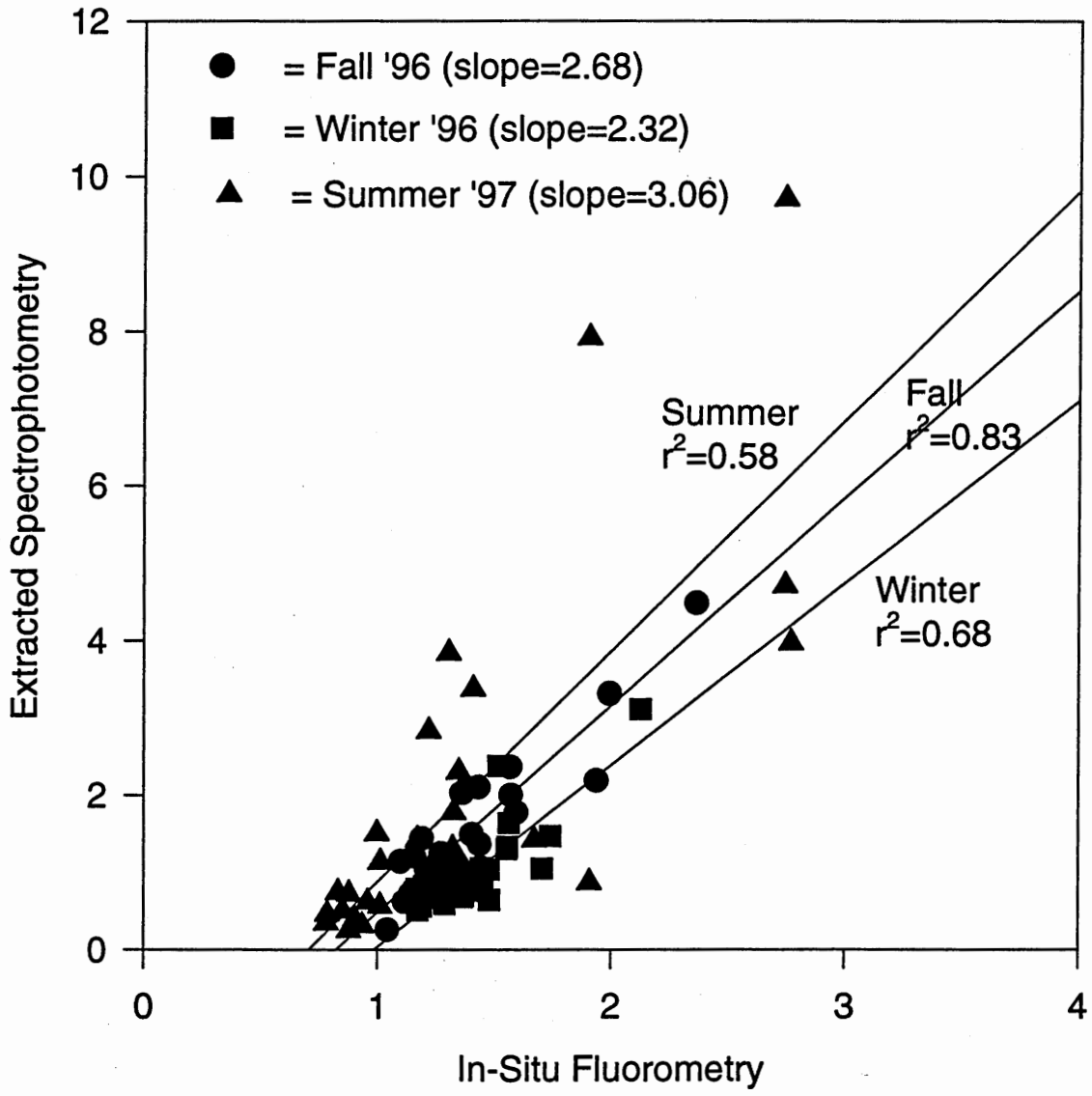


Figure 2. Correlation between extracted spectrophotometric and in-situ fluorometric chlorophyll_a measurements for mid waters by season for fall and winter '96, and summer '97 cruises in Louisiana's waters.

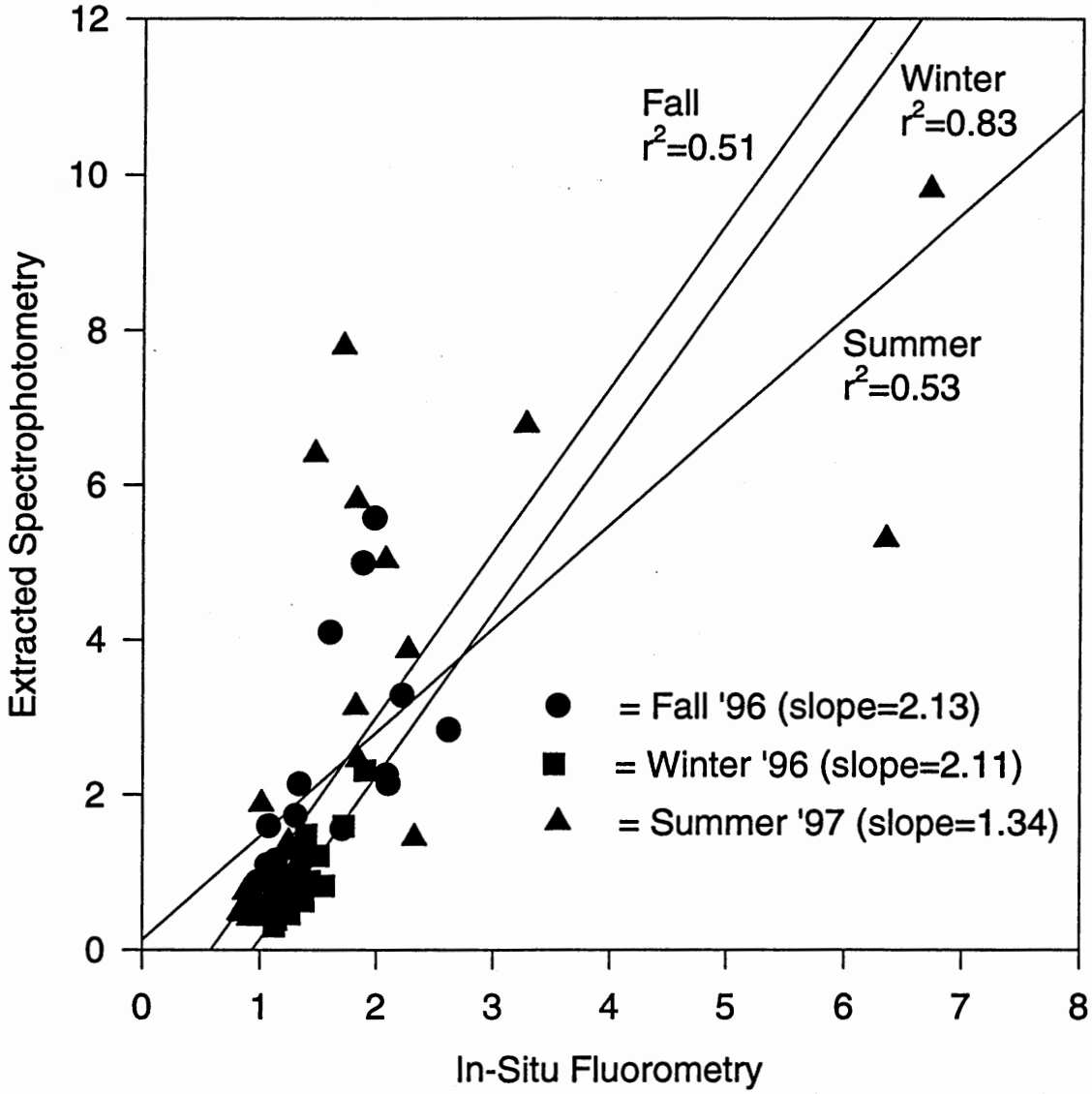


Figure 3. Correlation between extracted spectrophotometric and in-situ fluorometric chlorophyll_a measurements for bottom waters by season for fall and winter '96, and summer '97 cruises in Louisiana's waters.

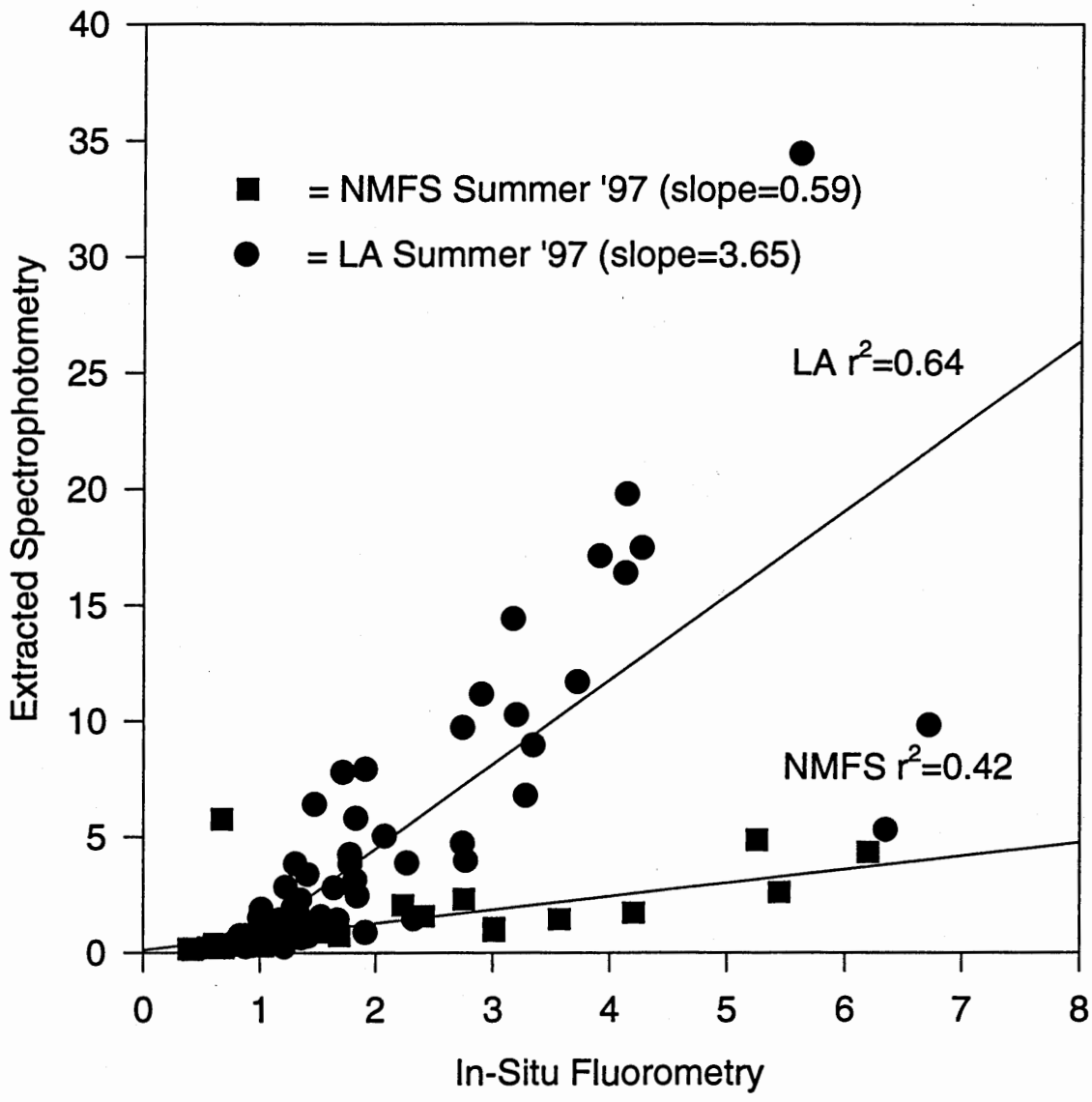


Figure 4. Correlation between extracted spectrophotometric and in-situ fluorometric chlorophyll_a measurements for the NMFS summer '97 cruise and the Louisiana summer '97 cruise.

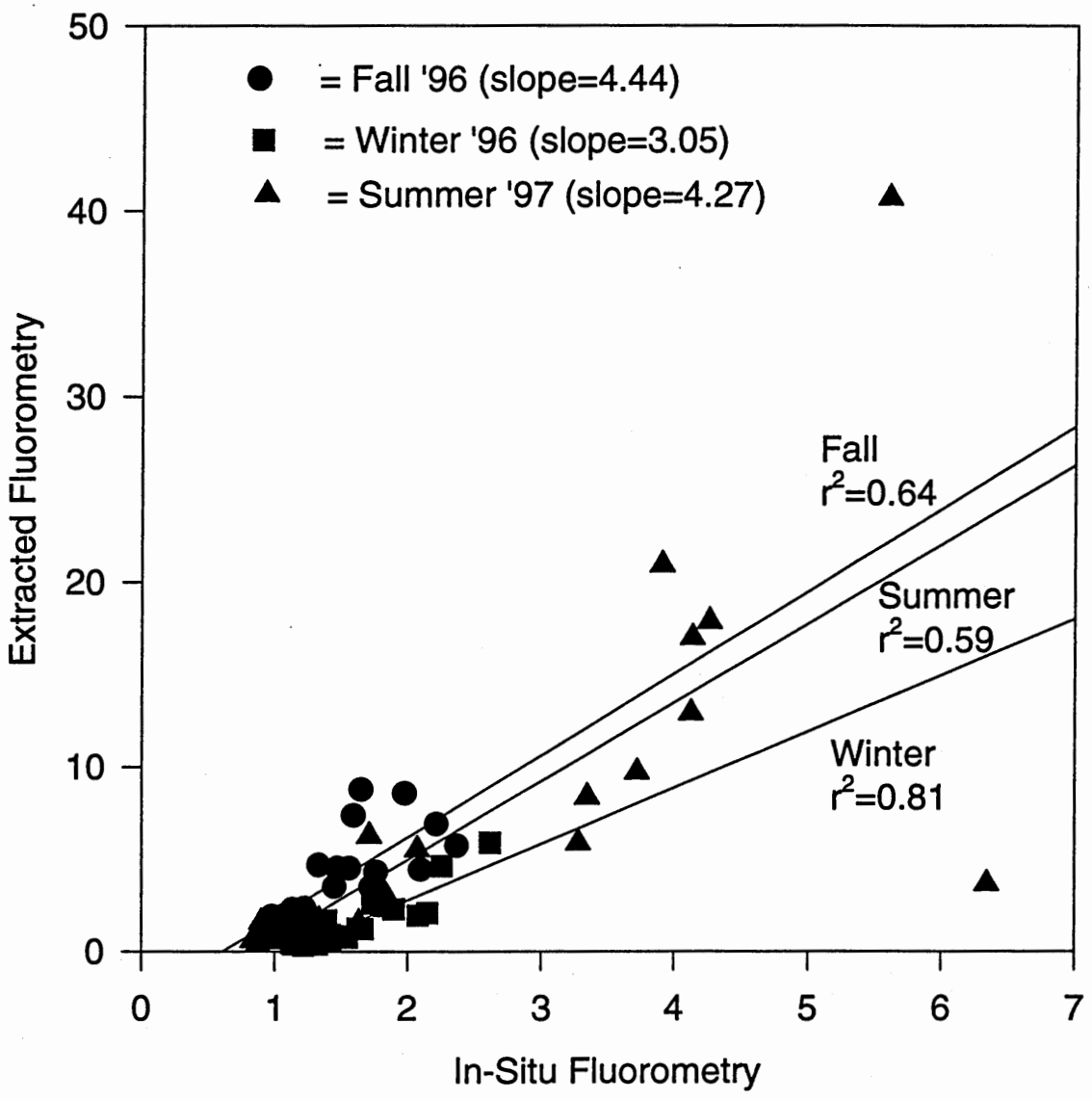
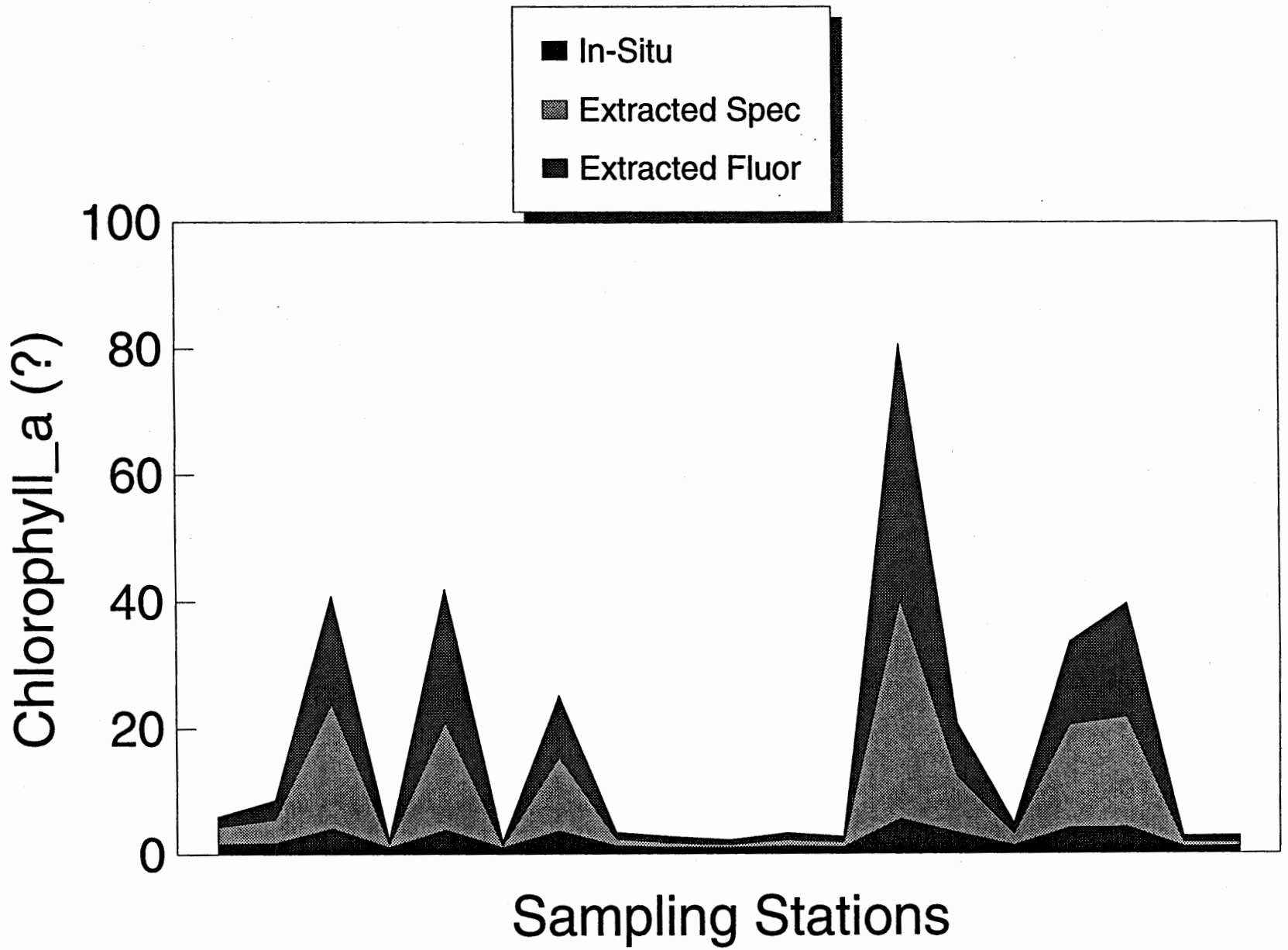


Figure 5. Correlation between extracted fluorometric and in-situ fluorometric chlorophyll_a measurements for fall and winter '96, and summer '97 cruises in Louisiana's waters.

Figure 6. Comparison between chlorophyll_a (?) measured by three methods.



October 13, 1997

ATTACHMENT III

SEAMAP DATA MANAGEMENT

A. Data Processing Status

Status reports for the 1982 through 1997 SEAMAP data are shown in Attachments 1-11. All cruise data in the SEAMAP on-line data base have been reformatted to SEAMAP versions 3.0, 3.1, 3.2 or 3.3. Processing of the SEAMAP 1996 data is complete with the exception of the Caribbean data. Data processing of the 1997 data and 1982-1987 Gulf data is in progress. Several one day workshops for SEAMAP data base access are planned/in progress for the Gult participants.

B. Gulf Atlas Processing

Preliminary modifications to the SEAMAP Atlas processing software have been made in preparation for the 1996 SEAMAP Atlas. Processing of the 1996 Atlas is in progress.

C. Data Requests

Two hundred and ten SEAMAP requests have been received to date. Two hundred and nine have been completed and work is being done on the remaining request. Thirty requests were filled since October 1996.

D. Software/System Progress

Re-engineering the main frame SEAMAP software in order to take advantage of the ORACLE data base software is currently in progress. The development work is being performed on the SGI work station in Pascagoula. Integration testing between the p.c. and main frame software is scheduled to start in November 1997.

E. On-line Data Base Status

Status of the SEAMAP data as of October 08, 1996 is shown in Attachment 12. The SEAMAP on-line data base had 332 cruises with a total of 2,230,802 records (approximately 87.8 megabytes of data). Since October 1996, forty-three cruises were processed through version 3.2 or 3.3 and added to the on-line data base as shown in Attachment 13. The SEAMAP on-line data base now contains 375 cruises with a total of 2,498,051 records (approximately 99.3 megabytes of data).

Kenneth Savastano
Data Manager

ATTACHMENT 1

15-Jul-97

SEAMAP 1982

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	821	CRUISE 821	3	13	11	86	11	*1	*1	*1	*1	*1	*1	*1	*1	121	3.0	17-Jun-94	
MS	17	821	CRUISE 821	3	21	21	415	20	1365	*1	*1	*1	*1	*1	*1	*1	1842	3.2	18-Apr-96	
TOTAL					34	32	501	31	1365								1963			

15-Jul-97

SEAMAP 1983

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	831	CRUISE 831	3	18	18	217	18	*1	*1	*1	*1	*1	*1	*1	*1	271	3.0	27-Jun-94	
MS	17	831	CRUISE 831	3	26	14	385	14	*1	14	832	*1	12	35			1320	3.2	18-Apr-96	
US	4	135	SUMMER SEAMAP	3	263	195	4343	248	*1	*1	*1	*1	57	162			5211	3.3	09-Jul-97	
TOTAL					307	227	4945	280		14	832		69	197			6802			

15-Jul-97

SEAMAP 1984

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
AL	23	841	CRUISE 841	3	10	10	120	10	613	*1	*1	*1	*1	*1	*1	*1	763	3.0	27-Jun-94	
MS	17	841	SUMMER SEAMAP	3	24	24	357	24	*1	6	165	*1	*1	*1	*1	*1	600	3.2	17-Aug-95	
MS	17	842	ICHTHYOPLANKTON SURVEY	3	10	*1	*1	*1	*1	*1	*1	*1	10	30			40	3.1	25-Jul-95	
US	4	145	SUMMER SEAMAP	3	289	220	5596	259	11816	186	5093	*1	68	204			23663	3.1	04-Dec-96	
TOTAL					333	254	6073	293	12429	192	5258		78	234			25066			

15-Jul-97

SEAMAP 1985

DATA SOURCE	VESSEL	CRUISE		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	TOTAL HOURS
													2	4			421	3.0	22-Oct-93	66
AL	23	851	SUMMER SEAMAP	3	20	18	286	20	*1	5	68	*1	*1	*1	*1	*1	523	3.0	22-Oct-93	52
AL	23	852	FALL SEAMAP	3	11	11	226	10	237	6	22	*1	5	15			1368	3.1	23-Feb-95	
MS	17	851	SUMMER SEAMAP	3	36	31	754	31	*1	27	474	*1	20	60			2932	3.1	05-May-95	
MS	17	852	FALL SEAMAP	3	60	40	893	40	1839	*1	*1	*1	2	6			5209	3.1	13-Jun-95	
MS	17	853	WINTER SEAMAP	3	42	40	960	42	2752	40	1327	*1	5	15			1136	3.1	19-May-95	
MS	17	854	FALL SEAMAP	3	16	15	290	15	785	*1	*1	*1	38	112			29202	3.2	28-May-96	
US	4	153	SUMMER SEAMAP	3	355	317	6737	191	5226	292	15972	*1	2	5			35464	3.2	15-Sep-95	
US	4	156	FALL SEAMAP	3	411	407	9261	322	19609	188	5261									118
TOTAL					951	879	19407	671	30448	558	23124		74	217			76255			

TUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 2

15-Jul-97

SEAMAP 1986

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL GENERAL	L/F	SHRIMP STATION	SHRIMP L/F	MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
AL	Z3	861	SUMMER SEAMAP	3	13	210	13	*1	11	76	*1	1	3			338	3.0	13-Oct-93	47
AL	Z3	862	FALL SEAMAP	3	16	*1	16	*1	*1	*1	*1	16	32			64	3.0	28-Oct-93	58
AL	Z3	863	FALL SEAMAP	3	6	123	6	44	*1	*1	*1	*1	*1	*1	*1	185	3.0	13-Oct-93	21
MS	17	861	BUTTERFISH	3	51	817	15	*1	*1	*1	*1	16	46			967	3.1	14-Sep-94	
MS	17	862	SUMMER SEAMAP	3	20	378	18	833	12	233	*1	6	18			1526	3.1	11-Jan-95	
MS	17	863	SUMMER SEAMAP	3	14	412	12	624	13	165	*1	*1	*1	*1	*1	1254	3.1	17-Jan-95	
MS	17	864	FALL ICHTHYOPLANKTON	3	9	*1	9	*1	*1	*1	*1	9	27			45	3.1	17-Jan-95	
MS	17	865	FALL SEAMAP	3	18	327	18	*1	*1	*1	*1	*1	*1	*1	*1	381	3.1	11-Jan-95	
SC	51	861	FALL SEAMAP	3	68	1641	68	16326	*1	*1	*1	*1	*1	*1	*1	18171	2.02	03-Feb-93	3
SC	51	862	WINTER SEAMAP	3	44	532	44	2683	*1	*1	*1	*1	*1	*1	*1	3325	2.02	03-Feb-93	28
SC	51	863	FALL SEAMAP	3	70	1792	70	9865	*1	*1	*1	*1	*1	*1	*1	11867	2.02	03-Feb-93	23
US	4	160	SUMMER SHRIMP/GROUNDFISH	3	214	4114	159	4885	128	4574	*1	43	129			14368	3.1	05-Dec-94	
US	4	161	FALL ICHTHYOPLANKTON	3	128	*1	119	*1	*1	*1	*1	91	273			520	3.0	04-Mar-94	
US	4	163	FALL SHRIMP/GROUNDFISH	3	306	6025	300	19008	*1	*1	*1	64	192			26136	3.1	26-Oct-94	
TOTAL					977	16371	867	54268	164	5048		246	720			79147			180

15-Jul-97

SEAMAP 1987

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL GENERAL	L/F	SHRIMP STATION	SHRIMP L/F	MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
AL	Z3	871	SUMMER SEAMAP	3	1	31	*1	*1	*1	*1	*1	*1	*1	*1	*1	33	3.0	26-Jul-93	3
AL	Z3	872	SUMMER SEAMAP	3	12	124	12	*1	3	4	*1	*1	*1	*1	*1	167	3.0	08-Oct-93	63
AL	Z3	873	FALL ICHTHYOPLANKTON	3	10	*1	10	*1	*1	*1	*1	10	10			30	3.0	08-Oct-93	9
AL	Z3	874	FALL SEAMAP	3	5	42	*1	*1	*1	*1	*1	*1	*1	*1	*1	52	3.0	08-Sep-93	10
AL	Z3	875	FALL SEAMAP	3	8	45	8	*1	*1	*1	*1	*1	*1	*1	*1	69	3.0	08-Oct-93	13
MS	17	871	BUTTERFISH CRUISE	3	53	1349	*1	4310	*1	*1	*1	*1	*1	*1	*1	5765	3.0	04-Aug-93	34
MS	17	872	SUMMER SEAMAP	3	76	1979	70	3827	41	807	*1	8	24			6892	3.0	06-Dec-93	243
MS	17	873	FALL ICHTHYOPLANKTON	3	19	*1	19	*1	*1	*1	*1	19	42			80	3.0	09-Jul-93	11
MS	17	874	FALL SEAMAP	3	22	488	18	593	*1	*1	*1	4	9			1148	3.0	16-Jul-93	33
SC	51	871	SPRING SEAMAP	3	52	2065	52	7455	*1	*1	*1	*1	*1	*1	*1	9676	2.02	15-Jan-93	27
SC	51	872	SUMMER SEAMAP	3	52	2018	52	6919	*1	*1	*1	*1	*1	*1	*1	9093	2.02	19-Jan-93	17
SC	51	873	FALL SEAMAP	3	52	1811	52	4847	*1	*1	*1	*1	*1	*1	*1	6814	2.02	15-Jan-93	17
SC	51	874	FALL SEAMAP	3	54	2213	54	5269	*1	*1	*1	*1	*1	*1	*1	7644	2.02	15-Jan-93	19
SC	51	875	WINTER SEAMAP	3	52	2075	52	5455	*1	*1	*1	*1	*1	*1	*1	7686	2.02	19-Jan-93	17
US	4	167	SEAMAP SUMMER SHRIMP/GROUNDFISH	3	509	9063	240	58315	308	7008	*1	44	131			76037	3.0	10-Nov-94	
US	4	169	FALL ICHTHYOPLANKTON	3	91	*1	91	*1	*1	*1	*1	91	273			455	3.0	18-Feb-94	
US	4	171	SEAMAP FALL SHRIMP/GROUNDFISH	3	359	7968	163	35358	*1	*1	*1	24	72			44270	3.0	06-May-94	
TOTAL					1427	31271	893	132348	352	7819		200	561			175911			516

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 3

15-Jul-97

SEAMAP 1988

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL	L/F	SHRIMP STATION	SHRIMP L/F	L/F	ICHTHYOPLANKTON MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
AL	23	881	SUMMER SEAMAP	3	7	7	136	7	288	2	7		*1	*1	*1	*1	*1	454	2.02	17-May-93	20
AL	23	882	SUMMER SEAMAP	3	4	4	43	4	85	*1	*1		*1	*1	*1	*1	*1	140	2.02	17-May-93	20
AL	23	883	RED DRUM/KING MACKEREL	3	10	*1	*1	10	*1	*1	*1		*1	10	10			30	2.02	17-May-93	14
FL	36	881	SPRING ICHTHYOPLANKTON	3	17	*1	*1	17	*1	*1	*1		*1	17	47			81	2.0	16-Nov-92	26
FL	36	882	FALL ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1		*1	36	107			179	2.0	16-Nov-92	22
LA	25	883	SUMMER SEAMAP	3	21	21	195	21	2064	*1	*1		*1	21	21			2343	3.2	30-Jul-96	
LA	25	885	FALL SEAMAP	3	21	21	193	21	1410	*1	*1		*1	21	21			1687	3.2	30-Jul-96	
LA	35	881	SPRING SEAMAP	3	24	24	563	24	7323	*1	*1		*1	11	26			7984	3.1	12-Oct-94	77
LA	35	882	SUMMER SEAMAP	3	24	24	571	24	7888	19	328		*1	12	36			8914	3.1	17-Jan-95	
LA	35	884	FALL SEAMAP	3	20	20	489	20	5255	18	278		*1	10	27			6127	3.1	19-Jun-95	
LA	35	886	FALL SEAMAP	3	24	23	668	24	8036	*1	*1		*1	8	24			8799	3.2	12-Aug-96	
MS	17	881	SUMMER SEAMAP	3	47	41	926	47	6200	24	525		*1	6	17			7827	3.0	01-Jul-93	146
MS	17	882	FALL ICHTHYOPLANKTON	3	33	*1	*1	33	*1	*1	*1		*1	33	82			148	2.02	04-Jun-93	31
MS	17	883	FALL SEAMAP	3	26	23	644	26	4377	*1	*1		*1	3	9			5105	3.0	01-Jul-93	85
SC	51	881	SPRING SEAMAP	3	52	52	1593	32	4096	*1	*1		*1	*1	*1	*1	*1	5825	2.02	20-Nov-92	34
SC	51	882	SUMMER SEAMAP	3	52	52	1839	50	5518	*1	*1		*1	*1	*1	*1	*1	7511	2.02	01-Dec-92	34
SC	51	883	SUMMER SEAMAP	3	52	52	2063	44	9235	*1	*1		*1	*1	*1	*1	*1	11446	2.02	02-Dec-92	11
SC	51	884	SUMMER SEAMAP	3	52	52	1988	52	7234	*1	*1		*1	*1	*1	*1	*1	9378	2.02	20-Nov-92	13
SC	51	885	FALL SEAMAP	3	52	52	2347	52	8807	*1	*1		*1	*1	*1	*1	*1	11310	2.02	20-Nov-92	14
SC	51	886	FALL SEAMAP	3	52	52	2190	52	7501	*1	*1		*1	*1	*1	*1	*1	9847	2.02	01-Dec-92	23
SC	51	887	FALL SEAMAP	3	52	52	2223	52	6533	*1	*1		*1	*1	*1	*1	*1	8912	2.02	26-Nov-92	14
SC	51	888	FALL SEAMAP	3	52	52	2351	42	7552	*1	*1		*1	*1	*1	*1	*1	10049	2.02	02-Dec-92	0
TX	31	881	SUMMER SEAMAP	3	16	16	344	16	1706	13	442		*1	*1	*1	*1	*1	2553	2.02	04-Aug-93	58
TX	31	882	FALL SEAMAP	3	16	16	76	16	160	*1	*1		*1	*1	*1	*1	*1	286	2.02	05-Aug-93	52
TX	32	881	SUMMER SEAMAP	3	16	16	299	16	1312	14	290		*1	*1	*1	*1	*1	1963	2.02	04-Aug-93	43
TX	32	882	FALL SEAMAP	3	16	16	225	16	969	*1	*1		*1	*1	*1	*1	*1	1242	2.02	05-Aug-93	20
TX	33	881	SUMMER SEAMAP	3	16	16	117	16	330	5	13		*1	*1	*1	*1	*1	513	2.02	04-Aug-93	36
TX	33	882	FALL SEAMAP	3	16	16	247	16	1003	*1	*1		*1	*1	*1	*1	*1	1298	2.02	05-Aug-93	21
TX	34	881	SUMMER SEAMAP	3	16	16	144	16	644	10	43		*1	*1	*1	*1	*1	889	2.02	04-Aug-93	39
TX	34	882	FALL SEAMAP	3	16	16	210	16	920	*1	*1		*1	*1	*1	*1	*1	1178	2.02	05-Aug-93	22
TX	40	881	SUMMER SEAMAP	3	16	16	239	16	905	16	249		*1	*1	*1	*1	*1	1457	2.02	04-Aug-93	37
TX	40	882	FALL SEAMAP	3	16	16	131	16	461	*1	*1		*1	*1	*1	*1	*1	640	2.02	05-Aug-93	20
US	4	172	STRIPED BASS SURVEY	3	571	374	327	82	*1	*1	*1		*1	176	*2			1354	3.0	20-Jan-94	22
US	4	173	SPRING ICHTHYOPLANKTON SURVEY	3	165	*1	*1	165	*1	*1	*1		*1	143	290	1569	2348	4537	3.0	20-Sep-95	161
US	4	174	SEAMAP SHRIMP/GROUNDFISH	3	408	387	7465	192	40083	220	4850		5	19	57			53667	3.0	11-Dec-93	684
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	154
US	4	177	SEAMAP FALL SHRIMP/GROUNDFISH	3	598	595	12342	210	54937	*1	*1		98	39	117			68897	3.0	02-Dec-93	641
TOTAL					2800	2140	43188	1581	202832	341	7025		103	731	1050	3033	5474	269567			2594

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

15-Jul-97

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	TOTAL HOURS
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	28
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	22
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	11
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	12
FL	36	891	SPRING 1989 ICHTHYOPLANKTON	3	25	*1	*1	25	*1	*1	*1	*1	25	75			125	2.0	22-Jul-92	29
FL	36	892	FALL 1989 ICHTHYOPLANKTON	3	36	*1	*1	36	*1	*1	*1	*1	36	108			180	2.0	22-Jul-92	16
LA	35	891	LA 1989 SPRING SEAMAP	3	24	24	614	24	7914	21	140	*1	8	21			8782	2.0	28-Jul-92	22
LA	35	892	LA 1989 SUMMER SEAMAP	3	22	22	439	22	3984	17	292	*1	12	36			4834	2.0	28-Jul-92	22
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	19
LA	35	894	LA 1989 FALL SEAMAP	3	24	24	572	24	4390	24	499	*1	12	36			5593	2.0	28-Jul-92	21
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	27
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	18
LA	35	897	LA 1989 WINTER SEAMAP	3	16	16	493	16	3635	16	567	*1	7	21			4780	2.0	28-Jul-92	20
MS	17	891	SUMMER SHRIMP/GROUNDFISH SVY	3	41	34	989	41	7581	20	261	*1	7	21			8988	2.0	31-Oct-91	51
MS	17	892	FALL ICHTHYOPLANKTON SURVEY	3	65	*1	*1	65	*1	*1	*1	*1	65	75			205	2.0	30-Oct-91	74
MS	17	893	FALL SHRIMP/GROUNDFISH SURVEY	3	20	17	568	20	4631	*1	*1	*1	3	9			5265	2.0	01-Nov-91	48
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	88
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	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	74
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	11
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	12
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	9
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	7
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	7
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	6
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	6
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	6
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	6
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	5
US	4	179	SA-SEAMAP/BEAUFORT ECOSYSTEM	3	571	438	847	37	2176	*1	*1	*1					4069	2.0	05-Nov-92	182
US	4	180	OREGON II SUMMER SEAMAP	3	244	237	4178	172	26040	140	4815	*1	21	63			35889	2.0	21-Oct-92	505
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	219
US	4	184	SEAMAP SHRIMP/GROUNDFISH	3	512	490	11997	229	66970	*1	*1	6	39	117			80321	2.0	06-Oct-92	355
US	49	892	SEAMAP ICHTHYOPLANKTON/THERMAL	3	141	*1	*1	131	*1	*1	*1	*1	125	212			484	2.0	15-Dec-92	277
TOTAL					2636	2073	40720	1736	177591	702	14939	6	489	1020	1855	4205	247483			2307

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 5

15-Jul-97

SEAMAP 1990

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	TOTAL HOURS
AL	23	901	SUMMER SHRIMP GROUNDFISH	3	14	14	159	14	684	5	74	*1	*1	*1	*1	*1	964	2.0	26-Mar-92	13
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	10
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	8
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	13
FL	36	901	SPRING 1990 ICHTHYOPLANKTON	3	21	*1	*1	21	*1	*1	*1	*1	21	61			103	2.0	22-Jul-92	28
FL	36	902	FALL 1990 ICHTHYOPLANKTON	3	30	*1	*1	30	*1	*1	*1	*1	30	90			150	2.0	22-Jul-92	33
LA	35	901	LA SPRING SEAMAP	3	24	18	457	23	3581	15	128	*1	6	15			4261	2.0	28-Jul-92	23
LA	35	902	LA SUMMER SEAMAP	3	31	24	444	31	3151	15	171	*1	7	21			3888	2.0	28-Jul-92	27
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	17
LA	35	904	LA FALL SEAMAP	3	31	24	381	25	2954	18	174	*1	7	20			3627	2.0	28-Jul-92	20
LA	25	905	LA FALL SEAMAP	3	21	21	125	21	833	7	121	*1	21	42			1191	2.0	28-Jul-92	19
LA	35	906	LA WINTER SEAMAP	3	25	21	554	24	5978	20	952	*1	4	12			7586	2.0	28-Jul-92	25
MS	17	901	SUMMER SHRIMP/GROUNDFISH	3	44	40	1086	44	8868	10	395	*1	4	12			10499	2.0	01-Nov-91	39
MS	17	902	FALL ICHTHYOPLANKTON SURVEY	3	107	*1	*1	107	*1	*1	*1	*1	107	113	32	91	450	2.0	10-May-94	67
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	31
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	47
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	44
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	61
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	13
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	13
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	12
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	11
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	11
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	12
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	12
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	12
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	10
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	9
US	4	187	SEAMAP ICHTHYOPLANKTON	3	151	*1	*1	139	*1	*1	*1	*1	139	408			698	2.0	07-Jan-92	101
US	4	189	SPRING SHRIMP/GROUNDFISH	3	290	267	5620	230	34308	219	6083	*1	19	57			47074	2.0	27-Sep-91	452
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	162
US	4	191	SEAMAP/GROUNDFISH SURVEY GOM	3	293	290	6725	218	39457	*1	*1	2	39	117			47102	2.0	23-Sep-91	285
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	100
TOTAL					2128	1566	33572	1887	157070	644	14345	2	583	1340	32	91	212677			1740

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

15-Jul-97

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	TOTAL HOURS
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	6
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	8
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	14
FL	36	911	SPRING 1991 ICHTHYOPLANKTON	3	13	*1	*1	13	*1	*1	*1	*1	13	39			65	2.0	22-Jul-92	22
FL	36	912	FALL 1991 ICHTHYOPLANKTON	3	23	*1	*1	23	*1	*1	*1	*1	23	68			114	2.0	22-Jul-92	21
LA	25	913	SUMMER SEAMAP	3	21	21	130	21	1479	6	62	*1	21	42			1782	2.02	30-Nov-92	13
LA	25	915	FALL SEAMAP	3	21	21	193	21	1716	12	230	*1	21	42			2256	2.02	30-Nov-92	21
LA	35	911	SPRING SEAMAP	3	29	22	602	29	6570	19	188	*1	7	21			7480	2.02	30-Nov-92	22
LA	35	912	SUMMER SEAMAP	3	31	24	360	31	3368	12	251	*1	7	21			4098	2.02	30-Nov-92	29
LA	35	914	FALL SEAMAP	3	31	24	461	30	3096	22	395	*1	7	21			4080	2.02	30-Nov-92	27
LA	35	916	WINTER SEAMAP	3	31	24	606	30	5814	24	779	*1	7	16			7324	2.02	01-Dec-92	23
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	54
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	38
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	27
PR	56	911	CARIBBEAN SURVEY	3	417	417	415	*1	*1	*1	*1	1741	*1	*1	*1	*1	2990	3.2	01-Jul-96	
PR	57	912	CARIBBEAN SURVEY	3	102	102	89	*1	*1	*1	*1	341	*1	*1	*1	*1	634	3.2	24-Jun-96	
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	89
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	76
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	66
TX	31	911	SUMMER SEAMAP	3	16	16	250	16	1354	10	76	*1	*1	*1	*1	*1	1738	2.0	28-Sep-92	7
TX	32	911	SUMMER SEAMAP	3	16	16	270	16	1406	13	156	*1	*1	*1	*1	*1	1893	2.0	28-Sep-92	6
TX	33	911	SUMMER SEAMAP	3	16	16	182	16	596	10	99	*1	*1	*1	*1	*1	935	2.0	28-Sep-92	4
TX	34	911	SUMMER SEAMAP	3	16	16	138	16	681	10	51	*1	*1	*1	*1	*1	928	2.0	28-Sep-92	3
TX	40	911	SUMMER SEAMAP	3	16	16	187	16	891	12	182	*1	*1	*1	*1	*1	1320	2.0	28-Sep-92	2
TX	31	912	FALL SEAMAP	3	16	16	154	16	639	*1	*1	*1	*1	*1	*1	*1	841	2.0	16-Oct-92	3
TX	32	912	FALL SEAMAP	3	16	16	236	16	1015	*1	*1	*1	*1	*1	*1	*1	1299	2.0	16-Oct-92	3
TX	33	912	FALL SEAMAP	3	16	16	112	16	352	*1	*1	*1	*1	*1	*1	*1	512	2.0	16-Oct-92	2
TX	34	912	FALL SEAMAP	3	16	16	148	16	563	*1	*1	*1	*1	*1	*1	*1	759	2.0	16-Oct-92	1
TX	40	912	FALL SEAMAP	3	16	16	137	16	545	*1	*1	*1	*1	*1	*1	*1	730	2.0	16-Oct-92	8
US	4	192	ATLANTIC SEAMAP	3	314	208	*1	107	*1	*1	*1	*1	*1	*1	*1	*1	629	2.0	30-Oct-91	97
US	4	196	SEAMAP GULF PLANKTON SUR	3	159	*1	*1	139	*1	*1	*1	*1	159	442			740	2.0	15-Apr-92	200
US	4	195	SEAMAP SPRING GROUNDFISH SURVEY	3	288	267	6546	223	40667	186	7976	*1	37	111			56264	2.0	12-Dec-91	223
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	101
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	88
TOTAL					2884	2204	35184	1954	166697	652	16736		551	1352	2578	6202	238525			1304

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 7

15-Jul-97

SEAMAP 1992

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	TOTAL HOURS
AL	Z3	920	REEFFISH TRAP/VIDEO	3	7	7	3	*1	*1	*1	*1	20	*1	*1	*1	*1	37	3.0	28-Jan-94	
AL	Z3	921	SUMMER SEAMAP	3	16	16	332	16	2059	6	78	*1	*1	*1	*1	*1	2523	2.1	08-Jan-93	19
AL	Z3	922	FALL SEAMAP ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	2.1	08-Jan-93	22
AL	Z3	923	FALL SEAMAP	3	8	8	193	8	1099	*1	*1	*1	*1	*1	*1	*1	1316	2.1	08-Jan-93	12
FL	26	921	SPRING ICHTHYOPLANKTON	3	21	*1	*1	21	*1	*1	*1	*1	21	57	837	1521	2457	2.02	18-May-94	17
FL	26	922	FALL ICHTHYOPLANKTON	3	14	*1	*1	14	*1	*1	*1	*1	13	37	426	834	1325	2.02	20-Sep-95	18
LA	35	921	SPRING SEAMAP	3	30	24	625	30	7061	24	233	*1	6	18			8045	3.0	16-Nov-93	24
LA	35	922	SUMMER SEAMAP	3	31	24	373	31	4215	12	88	*1	7	21			4795	3.0	16-Nov-93	22
LA	35	923	FALL SEAMAP	3	25	20	342	23	2551	19	315	*1	5	10			3305	3.0	16-Nov-93	23
LA	35	926	WINTER SEAMAP	3	31	24	659	31	7812	23	674	*1	7	20			9274	3.0	16-Nov-93	22
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	14
MS	17	922	SUMMER SEAMAP	3	44	42	1093	38	8408	32	916	*1	2	6			10579	2.02	08-Mar-93	27
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	9
PR	56	921	CARIBBEAN SURVEY	3	600	600	734	*1	*1	*1	*1	2674	*1	*1	*1	*1	4608	3.2	22-Jul-96	
PR	56	922	CARIBBEAN SURVEY	3	647	647	327	*1	*1	*1	*1	709	*1	*1	*1	*1	2330	3.2	22-Jul-96	
PR	57	922	CARIBBEAN SURVEY	3	90	90	160	*1	*1	*1	*1	628	*1	*1	*1	*1	968	3.2	03-Jul-96	
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	22
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	40
SC	51	923	FALL SEAMAP	3	188	188	4958	188	9692	89	1198	*1	*1	*1	*1	*1	16501	2.02	27-Jan-93	34
TX	31	921	SUMMER SEAMAP	3	16	16	168	16	827	12	159	*1	*1	*1	*1	*1	1214	2.02	25-Mar-93	12
TX	32	921	SUMMER SEAMAP	3	16	16	197	16	1043	7	34	*1	*1	*1	*1	*1	1329	2.02	25-Mar-93	10
TX	33	921	SUMMER SEAMAP	3	16	16	195	16	805	7	23	*1	*1	*1	*1	*1	1078	2.02	26-Mar-93	10
TX	34	921	SUMMER SEAMAP	3	16	16	158	16	769	12	90	*1	*1	*1	*1	*1	1077	2.02	26-Mar-93	10
TX	40	921	SUMMER SEAMAP	3	16	16	147	16	727	9	63	*1	*1	*1	*1	*1	994	2.02	26-Mar-93	10
TX	31	922	FALL SEAMAP	3	16	16	227	16	1141	*1	*1	*1	*1	*1	*1	*1	1416	3.0	01-Jul-93	8
TX	32	922	FALL SEAMAP	3	16	16	291	16	1655	*1	*1	*1	*1	*1	*1	*1	1994	3.0	01-Jul-93	8
TX	33	922	FALL SEAMAP	3	16	16	160	16	454	*1	*1	*1	*1	*1	*1	*1	662	3.0	01-Jul-93	9
TX	34	922	FALL SEAMAP	3	16	16	270	16	1442	*1	*1	*1	*1	*1	*1	*1	1760	3.0	01-Jul-93	7
TX	40	922	FALL SEAMAP	3	16	16	193	16	910	*1	*1	*1	*1	*1	*1	*1	1151	3.0	01-Jul-93	8
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	179
US	4	201	FALL ICHTHYOPLANKTON	3	49	*1	*1	49	*1	*1	*1	*1	27	79	1046	2236	3459	3.0	24-May-94	33
US	4	202	FALL BOTTOMFISH SURVEY	3	294	273	7061	220	43846	*1	*1	6	30	90	378	732	52900	3.0	20-Sep-95	102
US	28	923	REEFISH CRUISE	3	179	147	113	149	*1	*1	*1	607	29	147			1342	3.0	14-Jul-93	242
US	28	925	FALL ICHTHYOPLANKTON	3	118	*1	*1	116	*1	*1	*1	*1	73	219			453	3.0	02-Sep-93	52
VI	58	922	VIRGIN ISL REEFFISH 1992	3	63	63	85	*1	*1	*1	*1	128	*1	*1	*1	*1	339	3.1	19-May-95	
VI	59	922	VIRGIN ISL REEFFISH 1992	3	16	16	12	*1	*1	*1	*1	20	*1	*1	*1	*1	64	3.1	19-May-95	
TOTAL					3569	3006	35033	1929	161931	571	8924	4840	417	1272	2687	5323	228685			1025

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 8

15-Jul-97

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	TOTAL HOURS
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	6
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 SEAMAP	3	27	25	688	27	4713	*1	*1	*1	2	6			5486	3.0	07-Jun-94	
PR	56	931	CARIBBEAN CRUISE	3	600	600	466	*1	*1	*1	*1	1297	*1	*1	*1	*1	2963	3.2	22-Jul-96	
PR	56	932	CARIBBEAN CRUISE	3	563	563	468	*1	*1	*1	*1	1106	*1	*1	*1	*1	2700	3.2	24-Jul-96	
PR	57	932	CARIBBEAN CRUISE	3	499	496	316	*1	*1	*1	*1	746	*1	*1	*1	*1	2057	3.2	05-Nov-96	
PR	57	933	CARIBBEAN CRUISE	3	561	561	435	*1	*1	*1	*1	1013	*1	*1	*1	*1	2570	3.2	05-Nov-96	
SC	51	931	SPRING SEAMAP	3	210	210	4267	210	8920	80	1080	*1	*1	*1	*1	*1	14977	3.0	03-Feb-94	30
SC	51	932	SUMMER SEAMAP	3	156	156	3680	156	8484	65	1604	*1	*1	*1	*1	*1	14301	3.0	28-Jan-94	46
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	75
US	4	204	ICHTHYOPLANKTON MAMMALS	3	274	*1	*1	160	*1	*1	*1	*1	121	367	1267	2168	4236	3.0	20-Sep-95	54
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	46396	*1	*1	*1	36	108			54959	3.1	15-Jul-94	
US	28	934	SPRING ICHTHYOPLANKTON	3	91	*1	*1	82	*1	*1	*1	*1	82	235	1096	1840	3344	3.0	20-Sep-95	
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	
VI	58	931	VIRGIN ISL REEFFISH 1993	3	15	15	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	30	3.1	23-May-95	
VI	59	932	VIRGIN ISL REEFFISH 1993	3	30	30	8	*1	*1	*1	*1	9	*1	*1	*1	*1	77	3.1	19-May-95	
VI	60	932	REEFFISH SURVEY	3	24	24	43	*1	*1	*1	*1	92	*1	*1	*1	*1	183	3.1	10-Nov-94	
TOTAL					4997	3988	36344	2277	164930	591	13403	4997	695	1975	2363	4008	239873			211

STATUS CODES:
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ATTACHMENT 9

15-Jul-97

SEAMAP 1996

DATA SOURCE	VESSEL	CRUISE		INVENTORY STATUS	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL	L/F	SHRIMP STATION	SHRIMP L/F	L/F	ICHTHYOPLANKTON MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F		TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
AL	23	941	SUMMER SEAMAP	3	8	8	223	8	1570	5	202	*1	*1	*1				2024	3.1	08-Nov-94	
AL	23	942	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9				27	3.1	17-Jul-95	
AL	23	943	FALL SEAMAP	3	8	8	159	8	1036	*1	*1	*1	*1	*1	*1	*1	*1	1219	3.1	26-Jun-95	
AL	23	944	TRAP/VIDEO	3	11	11	25	11	*1	*1	*1	379	*1	*1	*1	*1		437	3.1	04-Aug-95	
FL	36	941	SPRING ICHTHYOPLANKTON	3	5	*1	*1	5	*1	*1	*1	*1	5	15				25	3.1	19-Oct-94	
FL	36	942	FALL ICHTHYOPLANKTON	3	29	*1	*1	29	*1	*1	*1	*1	29	87				145	3.1	16-Feb-95	
LA	35	940	COMPARATIVE TOW	3	49	49	1433	11	398	42	268	*1	*1	*1	*1	*1		2250	3.1	21-Sep-94	
LA	35	941	SPRING SEAMAP	3	31	24	697	31	9424	23	153	*1	7	19				10402	3.1	21-Sep-94	
LA	35	942	SUMMER SEAMAP	3	31	24	539	31	6411	17	465	*1	7	21				7539	3.1	28-Apr-95	
LA	35	943	FALL SEAMAP	3	31	24	588	31	5943	23	439	*1	7	21				7100	3.1	28-Apr-95	
LA	35	944	WINTER SEAMAP	3	24	20	465	24	4253	20	571	*1	4	10				5387	3.1	28-Apr-95	
MS	17	940	COMPARATIVE TOW	3	49	49	1427	*1	496	*1	*1	*1	*1	*1	*1	*1		2021	3.0	21-Sep-94	
MS	17	941	SUMMER SEAMAP	3	39	37	993	39	8131	28	923	*1	2	6				10196	3.1	17-May-95	
MS	17	942	REEFFISH SURVEY	3	9	9	20	9	*1	*1	*1	99	*1	*1	*1	*1		146	3.1	07-Apr-95	
MS	17	943	FALL ICHTHYOPLANKTON	3	47	*1	*1	47	*1	*1	*1	*1	47	51				145	3.1	25-Jul-95	
MS	17	944	FALL ICHTHYOPLANKTON	3	2	*1	*1	2	*1	*1	*1	*1	2	6				10	3.1	25-Jul-95	
MS	17	945	FALL GROUNDFISH	3	23	23	562	12	4204	*1	*1	*1	*1	*1	*1	*1		4824	3.1	07-Apr-95	
PR	56	941	CARIBBEAN SURVEY	3	170	170	237	*1	*1	*1	*1	775	*1	*1	*1	*1		1352	3.2	03-Jul-96	
PR	57	942	CARIBBEAN SURVEY	3	499	499	336	*1	*1	*1	*1	698	*1	*1	*1	*1		2032	3.2	05-Nov-96	
PR	57	943	CARIBBEAN SURVEY	3	595	595	689	*1	*1	*1	*1	1843	*1	*1	*1	*1		3722	3.2	05-Nov-96	
SC	51	941	SPRING SEAMAP	3	210	210	4051	210	7228	52	454	*1	*1	*1	*1	*1		12415	3.1	21-Sep-94	
SC	51	942	SUMMER SEAMAP	3	156	156	3360	156	7227	56	1109	*1	*1	*1	*1	*1		12220	3.1	13-Oct-94	
SC	51	943	FALL SEAMAP	3	188	188	5319	188	11833	116	2903	*1	*1	*1	*1	*1		20735	3.1	16-Feb-95	
TX	31	941	SUMMER SEAMAP	3	16	16	200	16	1278	6	70	*1	*1	*1	*1	*1		1602	3.1	21-Jun-95	
TX	32	941	SUMMER SEAMAP	3	16	16	199	16	1124	8	34	*1	*1	*1	*1	*1		1413	3.1	21-Jun-95	
TX	33	941	SUMMER SEAMAP	3	16	16	147	16	353	5	35	*1	*1	*1	*1	*1		588	3.1	21-Jun-95	
TX	34	941	SUMMER SEAMAP	3	16	16	127	16	675	10	117	*1	*1	*1	*1	*1		977	3.1	21-Jun-95	
TX	40	941	SUMMER SEAMAP	3	16	16	129	16	668	5	28	*1	*1	*1	*1	*1		878	3.1	21-Jun-95	
TX	31	942	FALL SEAMAP	3	16	16	270	16	1519	*1	*1	*1	*1	*1	*1	*1		1837	3.1	21-Jun-95	
TX	32	942	FALL SEAMAP	3	16	16	251	16	1456	*1	*1	*1	*1	*1	*1	*1		1755	3.1	21-Jun-95	
TX	33	942	FALL SEAMAP	3	16	16	140	16	538	*1	*1	*1	*1	*1	*1	*1		726	3.1	21-Jun-95	
TX	34	942	FALL SEAMAP	3	16	16	121	16	525	*1	*1	*1	*1	*1	*1	*1		694	3.1	21-Jun-95	
TX	40	942	FALL SEAMAP	3	16	16	146	16	562	*1	*1	*1	*1	*1	*1	*1		756	3.1	21-Jun-95	
US	4	209	SPRING ICHTHYOPLANKTON	3	217	*1	*1	155	*1	*1	*1	*1	122	505				877	3.1	12-Oct-94	
US	4	210	SUMMER SEAMAP	3	273	246	6212	239	42521	193	5352	*1	42	125				55161	3.1	16-Feb-95	
US	4	214	FALL GROUNDFISH	3	288	253	7781	251	51577	*1	*1	*1	48	144				60296	3.1	18-May-95	
US	28	944	ICHTHYOPLANKTON SURVEY	3	60	*1	*1	60	*1	*1	*1	*1	60	173				293	3.1	19-Oct-94	
US	28	945	REEFFISH SURVEY	3	191	160	111	159	291	*1	*1	432	30	115				1459	3.1	23-Mar-95	
US	28	946	FALL ICHTHYOPLANKTON	3	121	*1	*1	88	*1	*1	*1	*1	88	264				473	3.1	22-Mar-95	
VI	59	941	VIRGIN ISL REEFFISH 1996	3	88	88	38	*1	*1	*1	*1	63	*1	*1	*1	*1		277	3.1	19-May-95	
VI	60	941	REEFFISH SURVEY	3	34	34	62	*1	*1	*1	*1	167	*1	*1	*1	*1		297	3.1	09-Nov-94	
TOTAL					3655	3045	37057	1973	171241	609	13123	4456	509	1571				236730			

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 10

15-Jul-97

SEAMAP 1995

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	TOTAL HOURS
AL	23	950	TRAP/VIDEO	3	12	12	21	12	*1	*1	*1	231	*1	*1	*1	*1	288	3.2	16-Oct-96	
AL	23	951	SUMMER SEAMAP	3	10	10	205	10	1440	10	316	*1	*1	*1	*1	*1	2001	3.2	01-Aug-96	
AL	23	952	FALL ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.2	01-Aug-96	
AL	23	953	WINTER SEAMAP	3	6	6	127	6	942	*1	*1	*1	*1	*1	*1	*1	1087	3.2	01-Aug-96	
FL	26	951	SPRING ICHTHYOPLANKTON	3	15	*1	*1	15	*1	*1	*1	*1	15	45			75	3.1	04-Aug-95	
FL	26	952	FALL ICHTHYOPLANKTON	3	25	*1	*1	25	*1	*1	*1	*1	25	74			124	3.2	01-Mar-96	
LA	35	951	SPRING SEAMAP	3	31	24	534	31	5361	20	166	*1	7	21			6188	3.2	30-Jul-96	
LA	35	952	SUMMER SEAMAP	3	25	18	404	25	5024	15	352	*1	7	21			5884	3.2	30-Jul-96	
LA	35	953	FALL SEAMAP	3	31	24	385	31	3316	19	271	*1	7	21			4098	3.2	30-Jul-96	
MS	17	951	SUMMER SEAMAP	3	40	38	1126	40	9015	34	1051	*1	2	6			11350	3.2	23-May-96	
MS	17	952	FALL ICHTHYOPLANKTON	3	49	*1	*1	49	*1	*1	*1	*1	49	64			162	3.2	07-Oct-96	
MS	17	953	TRAP/VIDEO	3	8	8	5	8	29	*1	*1	*1	*1	*1	*1	*1	58	3.2	23-May-96	
MS	17	954	FALL SEAMAP	3	26	25	531	26	3103	*1	*1	*1	1	3			3714	3.2	23-May-96	
PR	57	952	CARIBBEAN SURVEY	3	350	350	308	*1	*1	*1	*1	1127	*1	*1	*1	*1	2135	3.1	09-Nov-96	
SC	51	951	SPRING SEAMAP	3	210	210	4696	210	10439	92	987	*1	*1	*1	*1	*1	16844	3.1	21-Jul-95	
SC	51	952	SUMMER SEAMAP	3	156	156	4075	156	11806	95	2053	*1	*1	*1	*1	*1	18497	3.2	01-Mar-96	
SC	51	953	FALL SEAMAP	3	188	188	4229	188	9885	99	2206	*1	*1	*1	*1	*1	16983	3.2	12-Mar-96	
TX	31	951	SUMMER SEAMAP	3	16	16	233	16	1184	6	55	*1	*1	*1	*1	*1	1526	3.2	30-Jul-96	
TX	32	951	SUMMER SEAMAP	3	16	16	372	16	2621	15	365	*1	*1	*1	*1	*1	3421	3.2	30-Jul-96	
TX	33	951	SUMMER SEAMAP	3	16	16	175	16	466	7	22	*1	*1	*1	*1	*1	718	3.2	30-Jul-96	
TX	34	951	SUMMER SEAMAP	3	16	16	149	16	507	8	11	*1	*1	*1	*1	*1	723	3.2	30-Jul-96	
TX	40	951	SUMMER SEAMAP	3	16	16	161	16	796	11	352	*1	*1	*1	*1	*1	1368	3.2	30-Jul-96	
TX	31	952	FALL SEAMAP	3	16	16	237	16	780	*1	*1	*1	*1	*1	*1	*1	1065	3.2	24-Jul-96	
TX	32	952	FALL SEAMAP	3	16	16	287	16	1581	*1	*1	*1	*1	*1	*1	*1	1916	3.2	24-Jul-96	
TX	33	952	FALL SEAMAP	3	16	16	206	16	943	*1	*1	*1	*1	*1	*1	*1	1197	3.2	24-Jul-96	
TX	34	952	FALL SEAMAP	3	16	16	182	16	758	*1	*1	*1	*1	*1	*1	*1	988	3.2	24-Jul-96	
TX	40	952	FALL SEAMAP	3	16	16	120	16	363	*1	*1	*1	*1	*1	*1	*1	531	3.2	24-Jul-96	
TX	31	953	TRAP/VIDEO	3	2	2	6	*1	41	*1	*1	*1	*1	*1	*1	*1	51	3.2	31-Dec-96	
US	4	216	SPRING ICHTHYOPLANKTON	3	309	*1	*1	266	*1	*1	*1	*1	266	778			1353	3.2	16-Oct-96	
US	4	217	SUMMER SEAMAP	3	233	220	6353	203	45116	172	7538	*1	21	62			59897	3.2	20-Mar-96	
US	4	219	FALL SEAMAP	3	249	234	7114	208	46287	*1	*1	*1	23	64			54156	3.2	11-Apr-96	
US	28	954	REEF SURVEY	3	165	133	69	127	*1	*1	*1	191	31	59			744	3.2	26-Sep-96	
US	28	955	FALL ICHTHYOPLANKTON	3	110	*1	*1	107	*1	*1	*1	*1	110	285			502	3.2	31-May-96	
TOTAL					2419	1818	32310	1912	161803	603	15745	1549	573	1512			219671			

STATUS CODES:

*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEN(VERIFIED AND DATA BASED)

ATTACHMENT 11

SEAMAP 1996

DATA SOURCE	VESSEL	CRUISE		STATUS	INVENTO STATION	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP L/F STATION	SHRIMP L/F L/F	MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
AL	23	961	SUMMER SEAMAP	3	10	10	278	10	1995	5	40	*1	*1	*1	*1	*1	2348	3.3	29-Sep-97	
AL	23	962	ICHTHYOPLANKTON	3	9	*1	*1	9	*1	*1	*1	*1	9	9			27	3.3	29-Sep-97	
AL	23	963	FALL SEAMAP	3	7	7	188	7	1396	*1	*1	*1	*1	*1	*1	*1	1605	3.3	29-Sep-97	
AL	23	964	TRAP/VIDEO	3	7	7	10	7	*1	*1	*1	165	*1	*1	*1	*1	196	3.3	29-Sep-97	
FL	26	961	SPRING ICHTHYOPLANKTON	3	18	*1	*1	18	*1	*1	*1	*1	18	54			90	3.2	29-Jan-97	
FL	26	962	SUMMER PLANKTON	3	19	*1	*1	19	*1	*1	*1	*1	19	57			95	3.3	13-May-97	
LA	35	960	WINTER SEAMAP	3	31	24	462	31	4915	23	426	*1	7	19			5931	3.2	19-Aug-96	
LA	35	961	SUMMER SEAMAP	3	30	24	399	30	4339	12	360	*1	6	18			5212	3.2	27-Nov-96	
LA	35	962	FALL SEAMAP	3	31	24	333	31	2972	13	70	*1	7	21			3495	3.2	27-Jan-97	
LA	35	963	WINTER SEAMAP	3	31	24	617	31	6395	24	586	*1	7	20			7728	3.3	20-May-97	
MS	17	961	SUMMER SEAMAP	3	40	38	925	40	7102	28	642	*1	2	6			8821	3.2	27-Nov-96	
MS	17	962	ICHTHYOPLANKTON	3	46	*1	*1	46	*1	*1	*1	*1	46	53			145	3.3	05-May-97	
MS	17	963	FALL SEAMAP	3	29	27	463	29	2460	*1	*1	*1	2	6			3014	3.3	05-May-97	
SC	51	961	SPRING SEAMAP	3	210	210	2615	210	7502	37	219	*1	*1	*1	*1	*1	11005	3.2	11-Jul-96	
SC	51	962	SUMMER SEAMAP	3	156	156	4053	156	10599	102	2059	*1	*1	*1			17241	3.2	15-Jan-97	
SC	51	963	FALL SEAMAP	3	188	188	6390	188	14853	149	4297	*1	*1	*1	*1	*1	26253	3.2	29-Jan-97	
TX	31	961	SUMMER SEAMAP	3	16	16	230	16	896	9	69	*1	*1	*1	*1	*1	1252	3.3	30-Jan-97	
TX	32	961	SUMMER SEAMAP	3	16	16	267	16	1423	14	74	*1	*1	*1	*1	*1	1826	3.3	30-Jan-97	
TX	33	961	SUMMER SEAMAP	3	16	16	152	16	489	6	16	*1	*1	*1	*1	*1	711	3.3	30-Jan-97	
TX	34	961	SUMMER SEAMAP	3	16	16	146	16	867	9	52	*1	*1	*1	*1	*1	1122	3.3	30-Jan-97	
TX	40	961	SUMMER SEAMAP	3	16	16	156	16	812	8	89	*1	*1	*1	*1	*1	1113	3.3	30-Jan-97	
TX	31	962	FALL SEAMAP	3	16	16	179	16	1133	*1	*1	*1	*1	*1	*1	*1	1360	3.3	30-Jan-97	
TX	32	962	FALL SEAMAP	3	16	16	285	16	1367	*1	*1	*1	*1	*1	*1	*1	1700	3.3	30-Jan-97	
TX	33	962	FALL SEAMAP	3	16	16	161	16	631	*1	*1	*1	*1	*1	*1	*1	840	3.3	30-Jan-97	
TX	34	962	FALL SEAMAP	3	16	16	162	16	562	*1	*1	*1	*1	*1	*1	*1	772	3.3	02-Jul-97	
TX	40	962	FALL SEAMAP	3	16	16	244	16	1477	*1	*1	*1	*1	*1	*1	*1	1769	3.3	30-Jan-97	
US	4	220	SPRING ICHTHYOPLANKTON	3	172	*1	*1	165	*1	*1	*1	*1	172	506			843	3.2	16-Oct-96	
US	4	221	SUMMER GROUNDFISH	3	255	236	6027	215	41026	173	4999	*1	22	66			52997	3.2	27-Nov-96	
US	4	223	GEAR COMPARISON	3	63	63	1428	*1	2457	*1	*1	*1	*1	*1			4011	3.2	06-Jan-97	
US	4	224	FALL SEAMAP	3	270	243	7454	221	50421	*1	*1	*1	43	129			58738	3.2	27-Jan-97	
US	28	967	WINTER PLANKTON	3	73	*1	*1	71	*1	*1	*1	*1	73	238			382	3.3	05-May-97	
US	28	965	FALL ICHTHYOPLANKTON	3	90	*1	*1	90	*1	*1	*1	*1	90	270			450	3.2	15-Jan-97	
TOTAL					1945	1441	33624	1784	168049	612	13998	165	523	1472			223090			

?-Sep-97

AMAP 1997

ATA URCE	VESSEL	CRUISE		STATUS	INVENTORY STATION	BIOLOGICAL STATION	BIOLOGICAL SPECIES	ENVIRONMENTAL	GENERAL L/F	SHRIMP L/F STATION	SHRIMP L/F L/F	MERISTICS	ICHTHYOPLANKTON STATION	ICHTHYOPLANKTON SAMPLE	ICHTHYOPLANKTON SPECIES	ICHTHYOPLANKTON L/F	TOTAL	SEAMAP VERSION	DATE DBASED	TOTAL HOURS
	51	971	SPRING SEAMAP	3	210	210	4652	210	9942	108	1274	*1	*1	*1	*1	*1	16606	3.3	15-Sep-97	
TAL					210	210	4652	210	9942	108	1274						16606			

ATUS CODES:

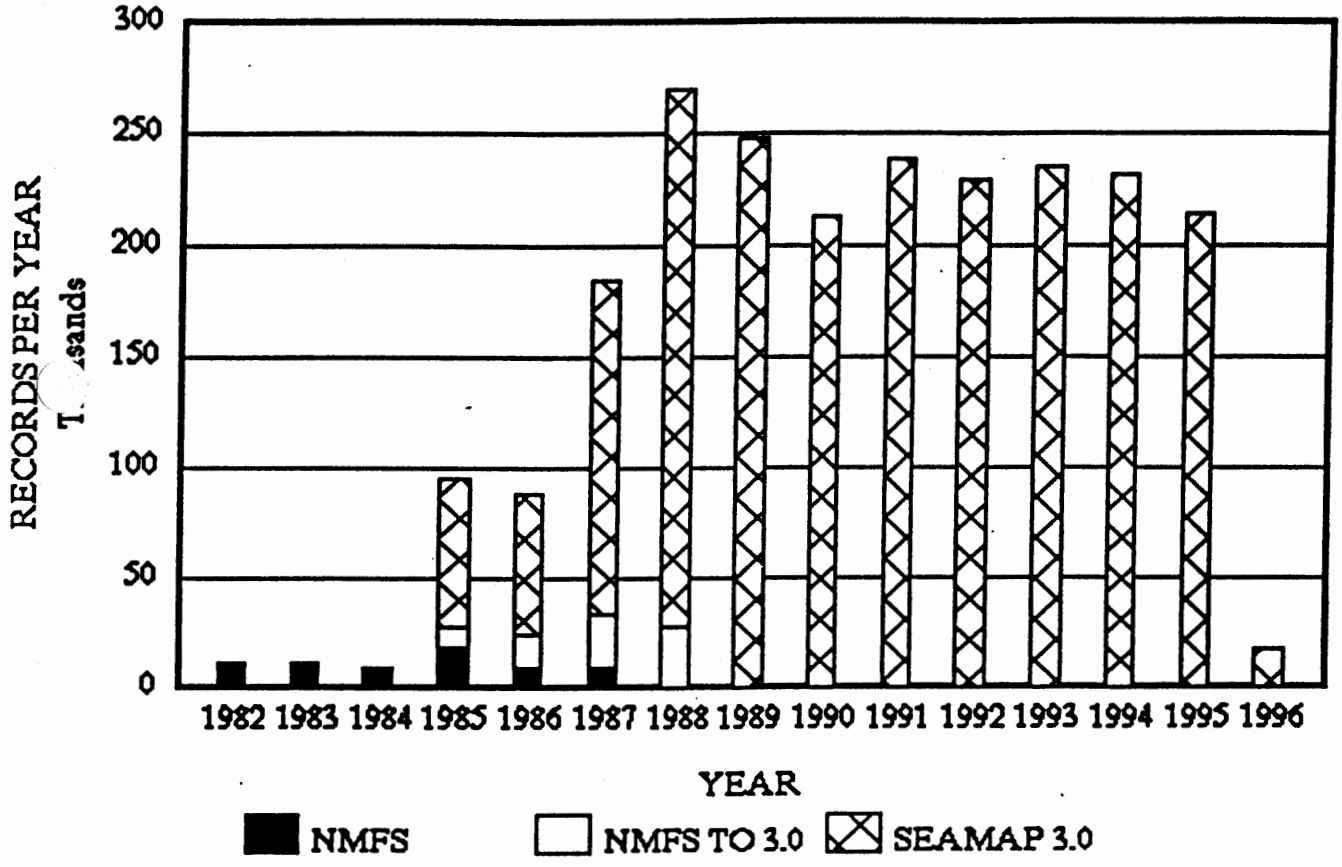
*1 NOT TAKEN
2 ENTERED IN P.C.
3 ENTERED ON MIAMI UNISYS A10 SYSTEM(VERIFIED AND DATA BASED)

ATTACHMENT 12

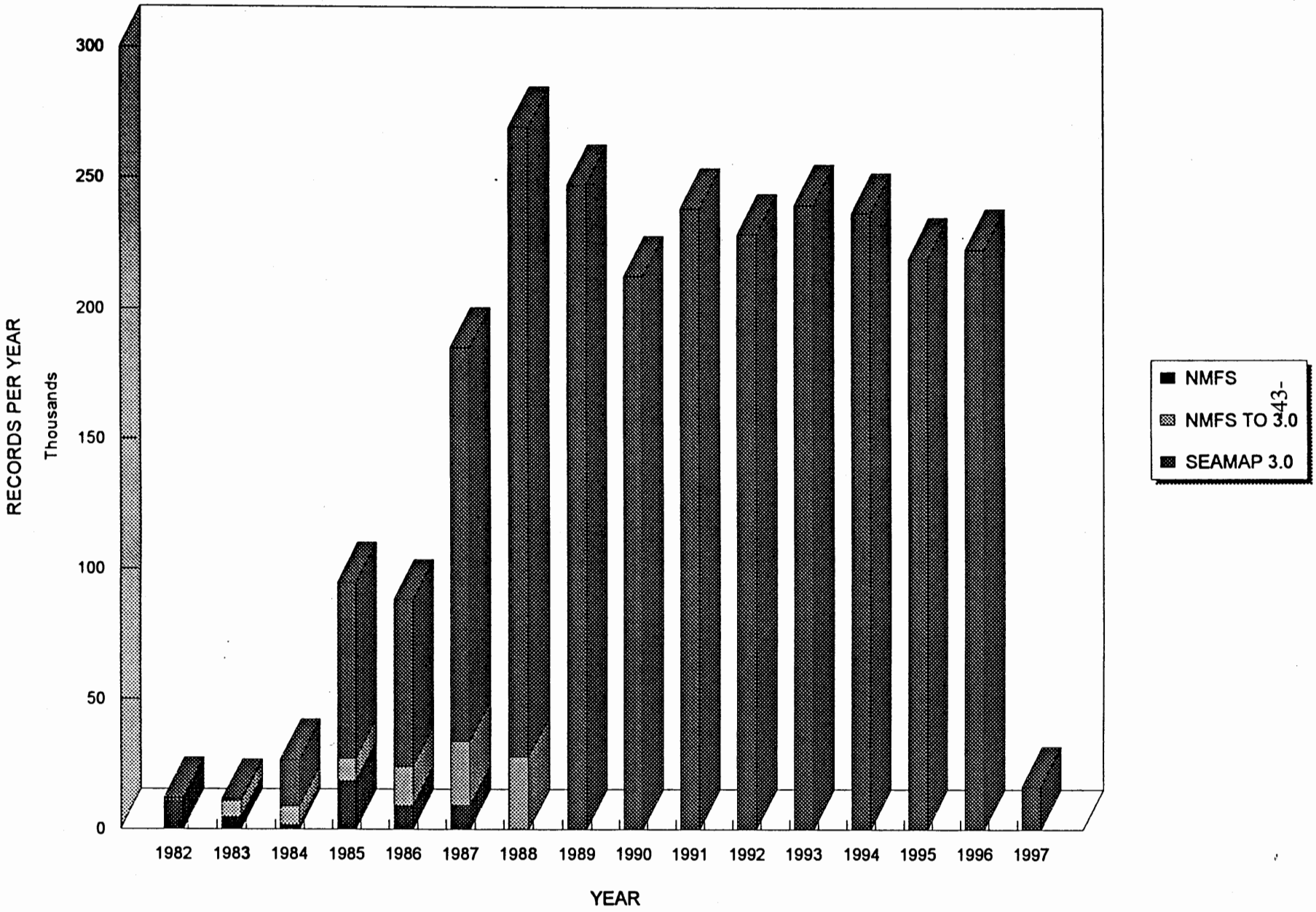
08-Oct-96

SEAMAP TOTAL RECORDS

BY YEAR



SEAMAP TOTAL RECORDS



ATTACHMENT 13

ATTACHMENT IV

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Fisheries Science Center
Mississippi Laboratories
3209 Frederic Street
Pascagoula, MS 39567

TO: Dr. Leonard Ejsymont

FROM: Alonzo N. Hamilton, Jr.

DATE: September 5, 1997

SUBJECT: September 1997 Ichthyoplankton shipment to Poland.

These samples represent the Spring and Summer 1997 SEAMAP Effort. They were shipped to you for sorting and identification on September 5, 1997. Amerpol projected departure date for samples to Poland is September 17, 1997.

VESSEL/CRUISE	SURVEY TYPE	SAMPLES
Oregon II - 225	Spring Ichthyoplankton	186RN, 95RB
Tommy Munro - 971	Spring Ichthyoplankton	2NN, 2RB
Suncoaster - 971	Spring Ichthyoplankton	18NN, 18RB
Oregon II - 226	Summer Groundfish	47NN, 47RB

RB = Right bongo
RN = Right neuston
NN = Standard 1 X 2m MARMAP neuston fame with 0.947/0.950 micron mesh net.

cc: Dave Donaldson
Dr. Don Hoss
Dr. Bill Richards
Dr. Joanne Shultz
Dr. Ken Stuck
Dr. Steve Turner
Mark Van Hoose
Kim Williams

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Fisheries Science Center
Mississippi Laboratories
Pascagoula Facilities
Pascagoula, MS 39567

September 5, 1997

Original Invoice No 9/97

CONSIGNOR/EXPORTER: Alonzo N. Hamilton, Jr.
NOAA/NMFS
Southeast Fisheries Science Center
Mississippi Laboratories - Pascagoula Facilities
Pascagoula, MS 39567, U.S.A.

CONSIGNEE/IMPORTER: Dr. Leonard Ejsymont
Morski Instytut Rybacki, Oddzial w szczecinie
ul.. Kazimierza Krolewicza 4/E
71-550 SZCZECIN, POLAND

CONSIGNMENT NUMBER: AMERPOL Booking No. CHT09/97009
CONSIGNMENT GROSS WEIGHT: (9 Crates) 2525 lbs./1145.33 kg.

COMMODITY:
Crate 1: 40.5"Lx30.5"Wx25.0"H weight 366 lbs. (166.02 kg), contains jars with samples of sea water plankton in 95% ethanol.
Crate 2: 40.5"Lx30.5"Wx25.0"H weight 372 lbs. (168.74 kg), contains jars with samples of sea water plankton in 95% ethanol.
Crate 3: 40.5"Lx30.5"Wx25.0"H weight 356 lbs. (161.48 kg), contains jars with samples of sea water plankton in 95% ethanol and 2 boxes of caps for vials.
Crate 4: 40.5"Lx30.5"Wx25.0"H weight 296 lbs. (134.27 kg), contains 3 dram vials and caps.
Crate 5: 40.5"Lx30.5"Wx25.0"H weight 206 lbs. (93.44 kg), contains 3 dram vials.
Crate 6: 40.5"Lx30.5"Wx25.0"H weight 233 lbs. (105.69 kg), contains 3 dram vials.
Crate7: 40.5"Lx30.5"Wx25.0"H weight 237 lbs. (107.50 kg), contains 3 dram vials.
Crate 8: 40.5"Lx30.5"Wx25.0"H weight 232 lbs. (105.24 kg), contains 3 dram vials.
Crate 9: 40.5"Lx30.5"Wx25.0"H weight 227 lbs. (102.97 kg), contains 3 dram vials.

CUSTOMS DECLARATION VALUE FOR PLANKTON SAMPLES: 100,00 USD

CUSTOMS DECLARATION VALUE FOR CAPS: 0 USD

CUSTOMS DECLARATION VALUE FOR VIALS: 0 USD

TOTAL VALUE DECLARED: 100,00 USD

DONATION FOR PLANKTON SORTING AND IDENTIFICATION CENTER IN SZCZECIN, POLAND FROM NOAA/NMFS/SEFSC MISSISSIPPI LABORATORIES, PASCAGOULA (MS), U.S.A.

I certify that all the information provided above is true and correct to the best of my knowledge.

CERTIFIED CORRECT,
Camilla Brown
AUTHORIZED SIGNATURE

Crate 1

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22684	OREGON II	225	4109	RN	19	1	POLAND	1
22688	OREGON II	225	4110	RN	19	1	POLAND	1
22690	OREGON II	225	4111	RN	19	1	POLAND	1
22694	OREGON II	225	4112	RN	19	1	POLAND	1
22996	OREGON II	225	4113	RN	19	1	POLAND	1
22700	OREGON II	225	4114	RN	19	1	POLAND	1
22704	OREGON II	225	4116	RN	19	1	POLAND	1
22708	OREGON II	225	4117	RN	19	1	POLAND	1
22710	OREGON II	225	4118	RN	19	1	POLAND	1
22714	OREGON II	225	4119	RN	19	1	POLAND	1
22716	OREGON II	225	4120	RN	19	1	POLAND	1
22720	OREGON II	225	4121	RN	19	1	POLAND	1
22722	OREGON II	225	4122	RN	19	1	POLAND	1
22726	OREGON II	225	4123	RN	19	1	POLAND	1
22728	OREGON II	225	4124	RN	19	1	POLAND	1
22732	OREGON II	225	4125	RN	19	1	POLAND	1
22740	OREGON II	225	4128	RN	19	1	POLAND	1
22744	OREGON II	225	4129	RN	19	1	POLAND	1
22746	OREGON II	225	4130	RN	19	1	POLAND	1
22748	OREGON II	225	4131	RN	19	1	POLAND	1
22752	OREGON II	225	4132	RN	19	1	POLAND	1
22754	OREGON II	225	4133	RN	19	1	POLAND	1
22758	OREGON II	225	4134	RN	19	1	POLAND	1
22760	OREGON II	225	4135	RN	19	1	POLAND	1
22672	OREGON II	225	4105	RN	22	1	POLAND	1
22868	OREGON II	225	4171	RN	22	1	POLAND	1
22702	OREGON II	225	4115	RN	22	1	POLAND	1
22652	OREGON II	225	4098	RN	22	1	POLAND	1
22798	OREGON II	225	4147	RN	22	1	POLAND	1
22798	OREGON II	225	4147	RN	22	1	POLAND	1
22738	OREGON II	225	4127	RN	22	1	POLAND	1
22734	OREGON II	225	4126	RN	22	1	POLAND	1

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22977	OREGON II	226	4019	NN	62	3	POLAND	1
22980	OREGON II	226	4031	NN	62	3	POLAND	1
22983	OREGON II	226	4044	NN	62	3	POLAND	1
22986	OREGON II	226	4045	NN	62	3	POLAND	1
22989	OREGON II	226	4052	NN	62	3	POLAND	1
22992	OREGON II	226	4053	NN	62	3	POLAND	1
22995	OREGON II	226	4064	NN	62	3	POLAND	1
23035	OREGON II	226	4144	RB	63	3	POLAND	1
23035	OREGON II	226	4144	RB	63	3	POLAND	1
22498	OREGON II	226	4042	RB	63	3	POLAND	1
22361	OREGON II	226	4014	RB	63	3	POLAND	1
22364	OREGON II	226	4015	RB	63	3	POLAND	1
22998	OREGON II	226	4071	NN	63	3	POLAND	1
23001	OREGON II	226	4076	NN	63	3	POLAND	1
23007	OREGON II	226	4087	NN	63	3	POLAND	1

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22676	OREGON II	225	4106	RN	22	1	POLAND	1
22676	OREGON II	225	4106	RN	22	1	POLAND	1
22676	OREGON II	225	4106	RN	22	1	POLAND	1
22676	OREGON II	225	4106	RN	22	1	POLAND	1
22382	OREGON II	225	4001	RN	23	2	POLAND	1
22616	OREGON II	225	4085	RN	23	1	POLAND	1
22616	OREGON II	225	4085	RN	23	1	POLAND	1
22616	OREGON II	225	4085	RN	23	1	POLAND	1
22566	OREGON II	225	4068	RN	23	2	POLAND	1
22566	OREGON II	225	4068	RN	23	2	POLAND	1
22428	OREGON II	225	4018	RN	23	2	POLAND	1
22408	OREGON II	225	4011	RN	23	2	POLAND	1
22626	OREGON II	225	4088	RN	23	1	POLAND	1
22466	OREGON II	225	4031	RN	23	2	POLAND	1
22568	OREGON II	225	4069	RN	23	2	POLAND	1
22422	OREGON II	225	4016	RN	23	2	POLAND	1
22842	OREGON II	225	4162	RN	24	1	POLAND	1
22818	OREGON II	225	4154	RN	24	1	POLAND	1
22836	OREGON II	225	4160	RN	24	1	POLAND	1
22860	OREGON II	225	4168	RN	24	1	POLAND	1
22806	OREGON II	225	4150	RN	24	1	POLAND	1
22806	OREGON II	225	4150	RN	24	1	POLAND	1
22840	OREGON II	225	4161	RN	24	1	POLAND	1
22840	OREGON II	225	4161	RN	24	1	POLAND	1
22506	OREGON II	225	4045	RN	24	2	POLAND	1
22506	OREGON II	225	4045	RN	24	2	POLAND	1
22506	OREGON II	225	4045	RN	24	2	POLAND	1
22506	OREGON II	225	4045	RN	24	2	POLAND	1
23079	OREGON II	226	4211	NN	60	3	POLAND	1
23073	OREGON II	226	4204	NN	60	3	POLAND	1
23103	OREGON II	226	4107	NN	60	3	POLAND	1
23004	OREGON II	226	4082	NN	60	3	POLAND	1
23079	OREGON II	226	4211	NN	60	3	POLAND	1
23088	OREGON II	226	4229	NN	60	3	POLAND	1
23055	OREGON II	226	4169	NN	60	3	POLAND	1
23058	OREGON II	226	4174	NN	60	3	POLAND	1
23097	OREGON II	226	4254	NN	60	3	POLAND	1
23034	OREGON II	226	4142	NN	60	3	POLAND	1
23070	OREGON II	226	4203	NN	60	3	POLAND	1
23010	OREGON II	226	4098	NN	60	3	POLAND	1
23046	OREGON II	226	4157	NN	61	3	POLAND	1
23016	OREGON II	226	4114	NN	61	3	POLAND	1
23091	OREGON II	226	4238	NN	61	3	POLAND	1
23061	OREGON II	226	4187	NN	61	3	POLAND	1
23025	OREGON II	226	4132	NN	61	3	POLAND	1
23022	OREGON II	226	4130	NN	61	3	POLAND	1
23037	OREGON II	226	4144	NN	61	3	POLAND	1
23040	OREGON II	226	4145	NN	61	3	POLAND	1
23043	OREGON II	226	4153	NN	61	3	POLAND	1
23031	OREGON II	226	4138	NN	61	3	POLAND	1
23019	OREGON II	226	4124	NN	61	3	POLAND	1
23028	OREGON II	226	4136	NN	61	3	POLAND	1
22971	OREGON II	226	4011	NN	62	3	POLAND	1
22968	OREGON II	226	4003	NN	62	3	POLAND	1
22965	OREGON II	226	4001	NN	62	3	POLAND	1
22965	OREGON II	226	4001	NN	62	3	POLAND	1
22971	OREGON II	226	4012	NN	62	3	POLAND	1

Crate 2

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22464	OREGON II	225	4031	RB	2	2	POLAND	2
22470	OREGON II	225	4033	RB	2	2	POLAND	2
22476	OREGON II	225	4035	RB	2	2	POLAND	2
22482	OREGON II	225	4037	RB	2	2	POLAND	2
22488	OREGON II	225	4039	RB	2	2	POLAND	2
22494	OREGON II	225	4041	RB	2	2	POLAND	2
22500	OREGON II	225	4043	RB	2	2	POLAND	2
22510	OREGON II	225	4047	RB	2	2	POLAND	2
22522	OREGON II	225	4051	RB	2	2	POLAND	2
22528	OREGON II	225	4053	RB	2	2	POLAND	2
22534	OREGON II	225	4055	RB	2	2	POLAND	2
22540	OREGON II	225	4059	RB	2	2	POLAND	2
22516	OREGON II	225	4049	RB	4	2	POLAND	2
22618	OREGON II	225	4086	RB	4	1	POLAND	2
22938	OREGON II	225	4205	RB	4	1	POLAND	2
22636	OREGON II	225	4092	RB	4	1	POLAND	2
22624	OREGON II	225	4088	RB	4	1	POLAND	2
22630	OREGON II	225	4090	RB	4	1	POLAND	2
22870	OREGON II	225	4172	RB	4	1	POLAND	2
22934	OREGON II	225	4202	RB	4	2	POLAND	2
22922	OREGON II	225	4195	RB	4	2	POLAND	2
22926	OREGON II	225	4196	RB	4	2	POLAND	2
22930	OREGON II	225	4201	RB	4	2	POLAND	2
22648	OREGON II	225	4097	RB	5	1	POLAND	2
22656	OREGON II	225	4100	RB	5	1	POLAND	2
22626	OREGON II	225	4102	RB	5	1	POLAND	2
22668	OREGON II	225	4104	RB	5	1	POLAND	2
22674	OREGON II	225	4106	RB	5	1	POLAND	2
22680	OREGON II	225	4108	RB	5	1	POLAND	2
22686	OREGON II	225	4110	RB	5	1	POLAND	2
22692	OREGON II	225	4112	RB	5	1	POLAND	2
22698	OREGON II	225	4114	RB	5	1	POLAND	2
22706	OREGON II	225	4117	RB	5	1	POLAND	2
22712	OREGON II	225	4119	RB	5	1	POLAND	2
22718	OREGON II	225	4121	RB	5	1	POLAND	2
22796	OREGON II	225	4147	RB	7	1	POLAND	2
22802	OREGON II	225	4149	RB	7	1	POLAND	2
22808	OREGON II	225	4151	RB	7	1	POLAND	2
22814	OREGON II	225	4153	RB	7	1	POLAND	2
22820	OREGON II	225	4155	RB	7	1	POLAND	2

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22826	OREGON II	225	4157	RB	7	1	POLAND	2
22832	OREGON II	225	4159	RB	7	1	POLAND	2
22838	OREGON II	225	4161	RB	7	1	POLAND	2
22844	OREGON II	225	4163	RB	7	1	POLAND	2
22850	OREGON II	225	4165	RB	7	1	POLAND	2
22856	OREGON II	225	4167	RB	7	1	POLAND	2
22864	OREGON II	225	4170	RB	7	1	POLAND	2
22874	OREGON II	225	4173	RB	8	1	POLAND	2
22878	OREGON II	225	4175	RB	8	1	POLAND	2
22882	OREGON II	225	4177	RB	8	1	POLAND	2
22886	OREGON II	225	4178	RB	8	2	POLAND	2
22890	OREGON II	225	4180	RB	8	2	POLAND	2
22894	OREGON II	225	4181	RB	8	2	POLAND	2
22898	OREGON II	225	4184	RB	8	2	POLAND	2
22902	OREGON II	225	4185	RB	8	2	POLAND	2
22906	OREGON II	225	4188	RB	8	2	POLAND	2
22910	OREGON II	225	4189	RB	8	2	POLAND	2
22914	OREGON II	225	4191	RB	8	2	POLAND	2
22918	OREGON II	225	4192	RB	8	2	POLAND	2
22384	OREGON II	225	4002	RN	9	2	POLAND	2
22388	OREGON II	225	4003	RN	9	2	POLAND	2
22390	OREGON II	225	4004	RN	9	2	POLAND	2
22392	OREGON II	225	4006	RN	9	2	POLAND	2
22396	OREGON II	225	4007	RN	9	2	POLAND	2
22398	OREGON II	225	4008	RN	9	2	POLAND	2
22402	OREGON II	225	4009	RN	9	2	POLAND	2
22404	OREGON II	225	4010	RN	9	2	POLAND	2
22410	OREGON II	225	4012	RN	9	2	POLAND	2
22414	OREGON II	225	4013	RN	9	2	POLAND	2
22416	OREGON II	225	4014	RN	9	2	POLAND	2
22420	OREGON II	225	4015	RN	9	2	POLAND	2
22462	OREGON II	225	4030	RN	11	2	POLAND	2
22468	OREGON II	225	4032	RN	11	2	POLAND	2
22472	OREGON II	225	4033	RN	11	2	POLAND	2
22474	OREGON II	225	4034	RN	11	2	POLAND	2
22478	OREGON II	225	4035	RN	11	2	POLAND	2
22480	OREGON II	225	4036	RN	11	2	POLAND	2
22484	OREGON II	225	4037	RN	11	2	POLAND	2
22486	OREGON II	225	4038	RN	11	2	POLAND	2
22490	OREGON II	225	4039	RN	11	2	POLAND	2
22492	OREGON II	225	4040	RN	11	2	POLAND	2
22496	OREGON II	225	4041	RN	11	2	POLAND	2
22502	OREGON II	225	4043	RN	11	2	POLAND	2
22508	OREGON II	225	4046	RN	11	2	POLAND	2
22580	OREGON II	225	4073	RN	14	2	POLAND	2
22584	OREGON II	225	4074	RN	14	2	POLAND	2
22586	OREGON II	225	4075	RN	14	2	POLAND	2
22590	OREGON II	225	4076	RN	14	2	POLAND	2
22592	OREGON II	225	4077	RN	14	2	POLAND	2
22596	OREGON II	225	4078	RN	14	2	POLAND	2
22598	OREGON II	225	4079	RN	14	2	POLAND	2
22602	OREGON II	225	4080	RN	14	2	POLAND	2
22604	OREGON II	225	4081	RN	14	2	POLAND	2
22608	OREGON II	225	4082	RN	14	1	POLAND	2
22610	OREGON II	225	4083	RN	14	1	POLAND	2
22614	OREGON II	225	4084	RN	14	1	POLAND	2
22518	OREGON II	225	4049	RN	15	1	POLAND	2

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22620	OREGON II	225	4086	RN	15	1	POLAND	2
22622	OREGON II	225	4087	RN	15	1	POLAND	2
22628	OREGON II	225	4089	RN	15	1	POLAND	2
22632	OREGON II	225	4090	RN	15	1	POLAND	2
22634	OREGON II	225	4091	RN	15	1	POLAND	2
22638	OREGON II	225	4092	RN	15	1	POLAND	2
22924	OREGON II	225	4195	RN	15	2	POLAND	2
22928	OREGON II	225	4196	RN	15	2	POLAND	2
22932	OREGON II	225	4201	RN	15	2	POLAND	2
22936	OREGON II	225	4202	RN	15	2	POLAND	2
22940	OREGON II	225	4205	RN	15	2	POLAND	2
22642	OREGON II	225	4094	RN	16	1	POLAND	2
22644	OREGON II	225	4095	RN	16	1	POLAND	2
22646	OREGON II	225	4096	RN	16	1	POLAND	2
22650	OREGON II	225	4097	RN	16	1	POLAND	2
22654	OREGON II	225	4099	RN	16	1	POLAND	2
22658	OREGON II	225	4100	RN	16	1	POLAND	2
22660	OREGON II	225	4101	RN	16	1	POLAND	2
22664	OREGON II	225	4102	RN	16	1	POLAND	2
22666	OREGON II	225	4103	RN	16	1	POLAND	2
22670	OREGON II	225	4104	RN	16	1	POLAND	2
22678	OREGON II	225	4107	RN	16	1	POLAND	2
22682	OREGON II	225	4108	RN	16	1	POLAND	2
22876	OREGON II	225	4173	RN	17	1	POLAND	2
22880	OREGON II	225	4175	RN	17	1	POLAND	2
22884	OREGON II	225	4177	RN	17	1	POLAND	2
22888	OREGON II	225	4178	RN	17	2	POLAND	2
22892	OREGON II	225	4180	RN	17	2	POLAND	2
22896	OREGON II	225	4181	RN	17	2	POLAND	2
22900	OREGON II	225	4184	RN	17	2	POLAND	2
22904	OREGON II	225	4185	RN	17	2	POLAND	2
22908	OREGON II	225	4188	RN	17	2	POLAND	2
22912	OREGON II	225	4189	RN	17	2	POLAND	2
22916	OREGON II	225	4191	RN	17	2	POLAND	2
22920	OREGON II	225	4192	RN	17	2	POLAND	2
22764	OREGON II	225	4136	RN	20	1	POLAND	2
22766	OREGON II	225	4137	RN	20	1	POLAND	2
22770	OREGON II	225	4138	RN	20	1	POLAND	2
22772	OREGON II	225	4139	RN	20	1	POLAND	2
22776	OREGON II	225	4140	RN	20	1	POLAND	2
22778	OREGON II	225	4141	RN	20	1	POLAND	2
22782	OREGON II	225	4142	RN	20	1	POLAND	2
22784	OREGON II	225	4143	RN	20	1	POLAND	2
22788	OREGON II	225	4144	RN	20	1	POLAND	2
22790	OREGON II	225	4145	RN	20	1	POLAND	2
22794	OREGON II	225	4146	RN	20	1	POLAND	2
22800	OREGON II	225	4148	RN	20	1	POLAND	2
22640	OREGON II	225	4093	RN	21	1	POLAND	2
22854	OREGON II	225	4166	RN	21	1	POLAND	2
22858	OREGON II	225	4167	RN	21	1	POLAND	2
22862	OREGON II	225	4169	RN	21	1	POLAND	2
22866	OREGON II	225	4170	RN	21	1	POLAND	2
22872	OREGON II	225	4172	RN	21	1	POLAND	2
22376	TOMMY MUNRO	971	17014	RB	21	3	POLAND	2
22379	TOMMY MUNRO	971	17015	RB	21	3	POLAND	2
22378	TOMMY MUNRO	971	17014	NN	21	3	POLAND	2
22378	TOMMY MUNRO	971	17014	NN	21	3	POLAND	2

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22381	TOMMY MUNRO	971	17015	NN	21	3	POLAND	2
22381	TOMMY MUNRO	971	17015	NN	21	3	POLAND	2
23002	OREGON II	226	4082	RB	55	3	POLAND	2
22999	OREGON II	226	4076	RB	55	3	POLAND	2
22996	OREGON II	226	4071	RB	55	3	POLAND	2
22993	OREGON II	226	4064	RB	55	3	POLAND	2
23068	OREGON II	226	4203	RB	55	3	POLAND	2
23005	OREGON II	226	4087	RB	55	3	POLAND	2
23008	OREGON II	226	4098	RB	55	3	POLAND	2
23089	OREGON II	226	4238	RB	55	3	POLAND	2
23092	OREGON II	226	4245	RB	55	3	POLAND	2
23092	OREGON II	226	4245	RB	55	3	POLAND	2
23011	OREGON II	226	4107	RB	55	3	POLAND	2
23098	OREGON II	226	4255	RB	55	3	POLAND	2
23041	OREGON II	226	4153	RB	57	3	POLAND	2
23023	OREGON II	226	4132	RB	57	3	POLAND	2
23083	OREGON II	226	4225	RB	57	3	POLAND	2
23086	OREGON II	226	4229	RB	57	3	POLAND	2
23038	OREGON II	226	4145	RB	57	3	POLAND	2
23020	OREGON II	226	4130	RB	57	3	POLAND	2
23074	OREGON II	226	4208	RB	57	3	POLAND	2
23101	OREGON II	226	4256	RB	57	3	POLAND	2
23095	OREGON II	226	4254	RB	57	3	POLAND	2
23077	OREGON II	226	4211	RB	57	3	POLAND	2
23080	OREGON II	226	4215	RB	57	3	POLAND	2
23017	OREGON II	226	4124	RB	57	3	POLAND	2
23067	OREGON II	226	4189	NN	59	3	POLAND	2
23103	OREGON II	226	4256	NN	59	3	POLAND	2
23100	OREGON II	226	4255	NN	59	3	POLAND	2
23076	OREGON II	226	4208	NN	59	3	POLAND	2
23094	OREGON II	226	4245	NN	59	3	POLAND	2
23052	OREGON II	226	4166	NN	59	3	POLAND	2
23049	OREGON II	226	4159	NN	59	3	POLAND	2
23082	OREGON II	226	4215	NN	59	3	POLAND	2
23064	OREGON II	226	4188	NN	59	3	POLAND	2
23076	OREGON II	226	4208	NN	59	3	POLAND	2
23085	OREGON II	226	4225	NN	59	3	POLAND	2

Crate 3

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22386	OREGON II	225	4003	RB	1	2	POLAND	3
22394	OREGON II	225	4007	RB	1	2	POLAND	3
22400	OREGON II	225	4009	RB	1	2	POLAND	3
22406	OREGON II	225	4011	RB	1	2	POLAND	3
22412	OREGON II	225	4013	RB	1	2	POLAND	3
22418	OREGON II	225	4015	RB	1	2	POLAND	3
22424	OREGON II	225	4017	RB	1	2	POLAND	3
22430	OREGON II	225	4019	RB	1	2	POLAND	3
22438	OREGON II	225	4022	RB	1	2	POLAND	3
22444	OREGON II	225	4024	RB	1	2	POLAND	3
22450	OREGON II	225	4026	RB	1	2	POLAND	3
22458	OREGON II	225	4029	RB	1	2	POLAND	3
22546	OREGON II	225	4061	RB	3	2	POLAND	3
22554	OREGON II	225	4065	RB	3	2	POLAND	3
22560	OREGON II	225	4067	RB	3	2	POLAND	3
22564	OREGON II	225	4068	RB	3	2	POLAND	3
22570	OREGON II	225	4070	RB	3	2	POLAND	3
22576	OREGON II	225	4072	RB	3	2	POLAND	3

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22966	OREGON II	226	4003	RB	58	3	POLAND	3
22969	OREGON II	226	4011	RB	58	3	POLAND	3
22972	OREGON II	226	4012	RB	58	3	POLAND	3
22975	OREGON II	226	4019	RB	58	3	POLAND	3
22978	OREGON II	226	4031	RB	58	3	POLAND	3
22981	OREGON II	226	4044	RB	58	3	POLAND	3
22981	OREGON II	226	4044	RB	58	3	POLAND	3
22987	OREGON II	226	4052	RB	58	3	POLAND	3
22990	OREGON II	226	4053	RB	58	3	POLAND	3
22984	OREGON II	226	4045	RB	58	3	POLAND	3
23014	OREGON II	226	4114	RB	58	3	POLAND	3

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22582	OREGON II	225	4074	RB	3	2	POLAND	3
22588	OREGON II	225	4076	RB	3	2	POLAND	3
22594	OREGON II	225	4078	RB	3	2	POLAND	3
22600	OREGON II	225	4080	RB	3	2	POLAND	3
22606	OREGON II	225	4082	RB	3	1	POLAND	3
22612	OREGON II	225	4084	RB	3	1	POLAND	3
22724	OREGON II	225	4123	RB	6	1	POLAND	3
22730	OREGON II	225	4125	RB	6	1	POLAND	3
22736	OREGON II	225	4127	RB	6	1	POLAND	3
22742	OREGON II	225	4129	RB	6	1	POLAND	3
22750	OREGON II	225	4132	RB	6	1	POLAND	3
22756	OREGON II	225	4134	RB	6	1	POLAND	3
22762	OREGON II	225	4136	RB	6	1	POLAND	3
22768	OREGON II	225	4138	RB	6	1	POLAND	3
22774	OREGON II	225	4140	RB	6	1	POLAND	3
22780	OREGON II	225	4142	RB	6	1	POLAND	3
22786	OREGON II	225	4144	RB	6	1	POLAND	3
22792	OREGON II	225	4146	RB	6	1	POLAND	3
22426	OREGON II	225	4017	RN	10	2	POLAND	3
22432	OREGON II	225	4019	RN	10	2	POLAND	3
22434	OREGON II	225	4020	RN	10	2	POLAND	3
22436	OREGON II	225	4021	RN	10	2	POLAND	3
22440	OREGON II	225	4022	RN	10	2	POLAND	3
22442	OREGON II	225	4023	RN	10	2	POLAND	3
22446	OREGON II	225	4024	RN	10	2	POLAND	3
22448	OREGON II	225	4025	RN	10	2	POLAND	3
22452	OREGON II	225	4026	RN	10	2	POLAND	3
22454	OREGON II	225	4027	RN	10	2	POLAND	3
22456	OREGON II	225	4028	RN	10	2	POLAND	3
22460	OREGON II	225	4029	RN	10	2	POLAND	3
22512	OREGON II	225	4047	RN	12	2	POLAND	3
22514	OREGON II	225	4048	RN	12	2	POLAND	3
22520	OREGON II	225	4050	RN	12	2	POLAND	3
22524	OREGON II	225	4051	RN	12	2	POLAND	3
22526	OREGON II	225	4052	RN	12	2	POLAND	3
22530	OREGON II	225	4053	RN	12	2	POLAND	3
22532	OREGON II	225	4054	RN	12	2	POLAND	3
22536	OREGON II	225	4056	RN	12	2	POLAND	3
22411	OREGON II	225	4058	RN	12	2	POLAND	3
22550	OREGON II	225	4062	RN	12	2	POLAND	3
22552	OREGON II	225	4063	RN	12	2	POLAND	3
22502	OREGON II	225	4044	RN	13	2	POLAND	3
22526	OREGON II	225	4052	RN	13	2	POLAND	3
22538	OREGON II	225	4057	RN	13	2	POLAND	3
22542	OREGON II	225	4059	RN	13	2	POLAND	3
22544	OREGON II	225	4060	RN	13	2	POLAND	3
22548	OREGON II	225	4061	RN	13	2	POLAND	3
22556	OREGON II	225	4065	RN	13	2	POLAND	3
22558	OREGON II	225	4066	RN	13	2	POLAND	3
22562	OREGON II	225	4067	RN	13	2	POLAND	3
22572	OREGON II	225	4070	RN	13	2	POLAND	3
22574	OREGON II	225	4071	RN	13	2	POLAND	3
22578	OREGON II	225	4072	RN	13	2	POLAND	3
22804	OREGON II	225	4149	RN	18	1	POLAND	3
22810	OREGON II	225	4151	RN	18	1	POLAND	3
22812	OREGON II	225	4152	RN	18	1	POLAND	3
22816	OREGON II	225	4153	RN	18	1	POLAND	3

SEAMAPNO	VESSEL	CRUISE	STATIONNO	GEAR	BOXNO	PRIORITY	DEPOSITION	CRATE
22822	OREGON II	225	4155	RN	18	1	POLAND	3
22824	OREGON II	225	4156	RN	18	1	POLAND	3
22828	OREGON II	225	4157	RN	18	1	POLAND	3
22830	OREGON II	225	4158	RN	18	1	POLAND	3
22834	OREGON II	225	4159	RN	18	1	POLAND	3
22846	OREGON II	225	4163	RN	18	1	POLAND	3
22848	OREGON II	225	4164	RN	18	1	POLAND	3
22852	OREGON II	225	4165	RN	18	1	POLAND	3
22322	SUNCOASTER	971	26001	RB	50	2	POLAND	3
22325	SUNCOASTER	971	26002	RB	50	2	POLAND	3
22328	SUNCOASTER	971	26003	RB	50	2	POLAND	3
22331	SUNCOASTER	971	26004	RB	50	2	POLAND	3
22334	SUNCOASTER	971	26005	RB	50	2	POLAND	3
22337	SUNCOASTER	971	26006	RB	50	2	POLAND	3
22340	SUNCOASTER	971	26007	RB	50	2	POLAND	3
22343	SUNCOASTER	971	26008	RB	50	2	POLAND	3
22346	SUNCOASTER	971	26009	RB	50	2	POLAND	3
22349	SUNCOASTER	971	26010	RB	50	2	POLAND	3
22352	SUNCOASTER	971	26011	RB	50	2	POLAND	3
22355	SUNCOASTER	971	26012	RB	50	2	POLAND	3
22360	SUNCOASTER	971	26013	NN	51	2	POLAND	3
22363	SUNCOASTER	971	26014	NN	51	2	POLAND	3
22366	SUNCOASTER	971	26015	NN	51	2	POLAND	3
22369	SUNCOASTER	971	26016	NN	51	2	POLAND	3
22372	SUNCOASTER	971	26017	NN	51	2	POLAND	3
22372	SUNCOASTER	971	26017	NN	51	2	POLAND	3
22372	SUNCOASTER	971	26017	NN	51	2	POLAND	3
22375	SUNCOASTER	971	26018	NN	51	2	POLAND	3
22358	SUNCOASTER	971	26013	RB	51	2	POLAND	3
22367	SUNCOASTER	971	26016	RB	51	2	POLAND	3
22370	SUNCOASTER	971	26017	RB	51	2	POLAND	3
22373	SUNCOASTER	971	26018	RB	51	2	POLAND	3
22324	SUNCOASTER	971	26001	NN	52	2	POLAND	3
22327	SUNCOASTER	971	26002	NN	52	2	POLAND	3
22330	SUNCOASTER	971	26003	NN	52	2	POLAND	3
22333	SUNCOASTER	971	26004	NN	52	2	POLAND	3
22336	SUNCOASTER	971	26005	NN	52	2	POLAND	3
22339	SUNCOASTER	971	26006	NN	52	2	POLAND	3
22342	SUNCOASTER	971	26007	NN	52	2	POLAND	3
22345	SUNCOASTER	971	26008	NN	52	2	POLAND	3
22348	SUNCOASTER	971	26009	NN	52	2	POLAND	3
22351	SUNCOASTER	971	26010	NN	52	2	POLAND	3
22354	SUNCOASTER	971	26011	NN	52	2	POLAND	3
22357	SUNCOASTER	971	26012	NN	52	2	POLAND	3
23065	OREGON II	226	4189	RB	56	3	POLAND	3
23056	OREGON II	226	4174	RB	56	3	POLAND	3
23071	OREGON II	226	4204	RB	56	3	POLAND	3
23044	OREGON II	226	4157	RB	56	3	POLAND	3
23053	OREGON II	226	4169	RB	56	3	POLAND	3
23032	OREGON II	226	4142	RB	56	3	POLAND	3
23062	OREGON II	226	4188	RB	56	3	POLAND	3
23050	OREGON II	226	4166	RB	56	3	POLAND	3
23047	OREGON II	226	4159	RB	56	3	POLAND	3
23059	OREGON II	226	4187	RB	56	3	POLAND	3
23029	OREGON II	226	4138	RB	56	3	POLAND	3
23026	OREGON II	226	4136	RB	56	3	POLAND	3
22963	OREGON II	226	4001	RB	58	3	POLAND	3

Crate 4

Table Records (CRATE4.DBF)

DEPOSITION	CRATE	COMMENT
POLAND	4	3 dram vials for sorted sample

Crate 5

Table Records (CRATE5.DBF)

DEPOSITION	CRATE	COMMENT
POLAND	5	3 dram vials for sorted sample

Crate 6

Table Records (CRATE6.DBF)

DEPOSITION	CRATE	COMMENT
POLAND	6	3 dram vials for sorted sample

Crate 7

Table Records (CRATE7.DBF)

DEPOSITION	CRATE	COMMENT
POLAND	7	3 dram vials for sorted sample

Crate 8

Table Records (CRATE8.DBF)

DEPOSITION	CRATE	COMMENT
PLOAND	8	3 dram vials for sorted sample

Crate 9

Table Records (CRATE9.DBF)

DEPOSITION	CRATE	COMMENT
POLAND	9	3 dram vials for sorted sample

APPROVED BY:

COMMITTEE CHAIRMAN

JOINT BLUE CRAB TECHNICAL TASK FORCE
TCC CRAB SUBCOMMITTEE MEETING
MINUTES
Monday, October 13, 1997
Gulf Shores, Alabama

Chairman V. Guillory called the meeting to order at 8:40 a.m. The following members and others were in attendance:

Members
Bruce Buckson, FDEP/DLE, Tallahassee, FL
Vince Guillory, LDWF, Bourg, LA
Steve Heath, ADCNR/MRD, Dauphin Island, AL
Charles Moss, TAEX, Lake Jackson, TX (*proxy for Ed Holder*)
Harriet Perry, GCRL, Ocean Springs, MS
Phil Steele, FDEP/FMRI, St. Petersburg, FL
Tom Wagner, TPWD, Rockport, TX

Others
Rick Leard, GMFMC, Tampa, FL
Wendall Lorio, MSU, Stennis Space Center, MS
Butch Pellegrin, NMFS, Pascagoula, MS
Mike Ray, TPWD, Austin, TX

Staff
Larry B. Simpson, Executive Director, Ocean Springs, MS
Ron Lukens, Assistant Director, Ocean Springs, MS
Dave Donaldson, Program Coordinator, Ocean Springs, MS
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Jeff Rester, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Program Coordinator, Ocean Springs, MS

Adoption of Agenda

H. Perry moved to move agenda item #7, Review of Progress from Stock Assessment Work Group Meeting, up the first item of discussion after approval of meeting minutes. T. Wagner seconded the motion which passed by consensus.

Approval of Minutes

The minutes of the meeting held March 17, 1997, in Biloxi, Mississippi, were reviewed, and H. Perry made note that the first paragraph on page nine reads as if only three heavy metal contaminants were explored. Actually 36 heavy metal contaminants were examined including those listed. The last sentence is awkward using "consumption" twice in the same sentence and should be rewritten. T. Wagner moved to make the appropriate corrections as noted by Ms. Perry. P. Steele seconded the motion, and the minutes were approved as corrected.

The minutes of the meeting held April 23, 1997, in Fort Walton Beach, Florida, were reviewed. T. Wagner moved to accept the minutes as written. H. Perry seconded the motion, and the minutes were approved as presented.

Review of Progress from Stock Assessment Work Group Meeting

V. Guillory reported that the Stock Assessment Work Group has met three times, and work is progressing very well. P. Prejean has compiled fishery-independent data from Louisiana, Mississippi, and Alabama into one SAS data set. This compilation is one of the largest blue crab data sets in existence. B. Pellegrin has taken the lead on the stock assessment and presented his findings to the group. Mr. Pellegrin stated that he will also present to the TCC and welcomed comments from the group on how he could improve the presentation. Attachment A provides an overview of progress to date. The entire group commended P. Prejean and B. Pellegrin for their efforts for a quality blue crab stock assessment. By consensus, the group agreed a letter should be written to S. Nichols thanking him for allowing B. Pellegrin to be a part of this endeavor and commending Mr. Pellegrin for all the hard work done thus far on the Gulf blue crab stock assessment.

To have an overall Gulf outlook, data is still needed from Florida and Texas. P. Steele will provide the Florida SAS data set to B. Pellegrin. The group asked T. Wagner if Texas will be able to provide data for their state. T. Wagner noted the concerns that Texas has with their data being combined with other data sets. The group assured him that Texas data is not going to be combined into the north-central data set. Florida and Texas data will be looked at separately, but it is needed to get an overall Gulf perspective. T. Wagner noted that B. Pellegrin may have to work directly with Mark Fisher from their agency to get the needed data.

State Reports

Texas - T. Wagner distributed a portion of the recently published NOAA document, *Distribution and Abundance of Fishes and Invertebrates in Gulf of Mexico Estuaries — Volume II: Species Life History Summaries*. This document contains good general summaries of blue crab and stone crab life history. Mr. Wagner reported on the recently implemented Texas Crab License Management Program. This program is to promote efficiency and economic stability in the crabbing industry and to conserve economically important crab resources. The program includes policy such as: persons in Texas seeking to renew a license must have held the license during the preceding license year. A person may not hold or directly or indirectly control more than three licenses. The license may be suspended or revoked if the license holder is shown to have been convicted of one or more flagrant offenses.

Mr. Wagner reported the TPWD was granted authority to create a Limited Entry Plan for the Texas inshore shrimp fishery. This plan allows restriction of the number of licenses sold and creates a license buyback program for individuals who choose not to participate in the fishery. This historic program paves the way for Texas to create a healthy and stable shrimp fishery that is more economically viable and sustainable by reducing the number of fishermen in the fishery.

Louisiana - V. Guillory reported that seven bills were introduced during the legislative session. Five of the seven were department sponsored. Unfortunately, only one of these seven passed the legislature. The escape ring legislation passed with several amendments which included: two rings per trap; ring size equals 2 5/16"; seasonal closure options when the rings may be blocked from March 1 through June 30 and again

trap as having a horizontal throat. Buoys were also better defined to clarify what size and shape a float must be. The new rules go into effect January 1, 1998.

Effort, Biological & Fleet Information on *Chaecon fenneri* Fishery

H. Perry presented information on both the red and golden crabs in the Gulf of Mexico. Distribution, population densities, environmental parameters, and population estimates were all reviewed (Attachment C). At its October 1996 meeting, the Commission failed to pass the Crab Subcommittee motion to request the Gulf of Mexico Fishery Management Council reconsider their decision regarding management of the geryonid fishery in the Gulf of Mexico. Geryonid crabs are deepwater species, slow growing, and late in reaching maturity. In the Gulf of Mexico, 84% of the catch is female; in the Atlantic Ocean, 2% of the catch is female. No juveniles have ever been collected. This is a biologically unique situation; male crabs are estimated to enter the fishery at 16 years of age. The subcommittee feels that excessive fishing mortality will jeopardize the biological integrity of these species.

P. Steele moved that this issue be brought back before the Commission for reconsideration. By unanimous consensus, the subcommittee agreed to take this issue to the TCC and (upon their approval) back to the Commission for reconsideration. H. Perry will be reporting to the TCC as Chairman Guillory's proxy. She agreed to walk this issue through the Commission Business Meeting if passed by the TCC.

Juvenile Blue Crab Mortality Symposium

The subcommittee discussed meeting logistics and all agreed that the symposium should take place in the Gulf of Mexico region within a larger meeting such as NSA, Benthic Ecologists, or ERFs. P. Steele volunteered to provide a list of meetings through Spring 1999 that may be a good host for the symposium. Commission funding should be sought to print the *Proceedings*. By consensus, the subcommittee agreed to request permission from the TCC to proceed with this activity.

Blue Crab FMP

Sociological RFP - S. VanderKooy reported that the request for proposals was distributed to state agencies, universities, and individuals on August 13. The deadline has passed, and there have been no responses. P. Steele recommended and the subcommittee agreed to resend the RFP to a broader audience. Recommendations for distribution included web sites including the Commission home page, Fish Folk, H.D. Water, and Fisheries. The new deadline for responses should be December 30, 1997. The deadline for section completion should be September 1998.

Section Progress and Needs - New sections were distributed. All task force representatives need to read and edit each section and provide their comments to the section author. Citations should be routed to V. Guillory. The group agreed to include a table of state violation cases in section 5. B. Buckson will ascertain from the Law Enforcement Committee if there are any problems with presenting this information. Section 6 needs state input. The following time line was established:

January 30, 1998	Comments back to section authors
March 16, 1998	Progress/Review/Needs Meeting mail revised drafts to TTF prior to the meeting

May 5, 1998	Editorial Review Meeting mail revised drafts to TTF prior to the meeting
September 15, 1998	Final drafts due
October 15, 1998	Approval process begins

S. VanderKooy will mail copies of AFS *Transactions* format to the entire TTF. All distributed publications will be placed in the repository.

Election of Chairman

The floor was opened for nominations. H. Perry moved to elect V. Guillory as chair. P. Steele seconded the motion, and Mr. Guillory was reelected chairman by unanimous acclamation.

There being no further business, the meeting adjourned at 4:53 p.m.

GULF OF MEXICO BLUE CRAB STOCK ASSESSMENT

The Hoenig (1987) length-based method was used to determine total mortality of blue crabs using trawl data from fishery independent assessment and monitoring programs. This approach uses mean carapace width in conjunction with several parameters calculated from a von Bertalanffy (1938) growth model. This approach was used in the Chesapeake Bay blue crab stock assessment (Rugulo et al., 1997).

von Bertalanffy Growth Model

The von Bertalanffy (1938) growth model was used::

$$Cw_t = CW_{max} * (1-\exp -K * (t-t_o)),$$

where: CW_t = carapace width at time t
CW_{max} = maximum carapace width of crabs in Gulf of Mexico
K=growth coefficient
t=time

The following assumptions were made:

1. Maximum age: 6. Tagatz (1968a) estimated that age of blue crabs was 4+ in the St. John's River, Florida, the same latitude as the northern Gulf of Mexico. Phil Steele has documented tag returns of three years; crabs were tagged at one year of age. Since eight years were used as the maximum age in the Chesapeake Bay, a maximum age of 6 was considered plausible.

2. Maximum size: 260 mm CW. This figure was cited for crab size in the Gulf of Mexico in the Chesapeake Bay stock assessment report (Rugulo et al., 1997).

3. Size at age (males):
   a) 46 mm at 6 months [from Tagatz (1968b)],
   b) 143 mm at one year . [Since blue crabs reach harvestable size within a year, a 115 mm crab with a 24% molt increment (Tagatz, 1968b), would yield a 143 mm individual. Agrees with the mean size of 142 mm for one year old blue crabs from Tagatz (1968b).
   c) 179 mm at two years [Assumed one molt at 24% increase]
   d) 260 mm at maximum size at age 6 [see above]

The equation for the fitted model (attachment) is:

258.201 * (1-exp (-0.783418 * (t - 0.190403))

Length-based Mortality Model

The total mortality (Z) of blue crabs was calculated using 16-foot trawl data:

$$Z = \log_e [(e^{-K} \times (CW_{mean} - CW_{max})) + CW_{max} - CW_{rec} / (CW_{mean} - CW_{rec})]$$

where Z = total mortality

K = a von Bertalanffy growth model parameter

CW_{max} = maximum carapace width (260 mm)

CW_{mean} = mean carapace width of crabs $\geq CW_{rec}$

CW_{rec} = carapace width at full recruitment to the gear (40-44 mm size group). The 30-34 mm size group was the most abundant size group, but size at full recruitment is generally defined as the point that marks the descending arm of the length frequency distribution (Wetherell et al. 1987).

Total mortality by year for Alabama, Mississippi, and three zones in Louisiana were calculated (see attachment).

Literature Cited

Hoenig, J. M. 1987. Estimation of growth and mortality parameters for use in length-structured stock production models. Pages 121-128 in D. Pauley and G. R. Morgan, editors. Length-based Methods in Fisheries Research. International Center for Living Aquatic Resource Management, Conference Proceedings.

Rugolo, L., K. Knotts, A. Lange, V. Crecco, M. Terceiro, C. Bonzek, C. Stagg, R. O'Reilly, and D. Vaughan. 1997. Stock assessment of Chesapeake Bay blue crab (Callinectes sapidus). NOAA Chesapeake Bay Stock Assessment Committee, Report.

Tagatz, M. E. 1968a. Biology of the blue crabs, Callinectes sapidus Rathbun, in the St. John's River, Florida. Fish. Bull., 67(1):17-33.

Tagatz, M. E. 1968b. Growth of juvenile blue crabs, Callinectes sapidus Rathbun, in the St. John's River, Florida. Fish. Bull., 67(2):281-288.

von Bertalanffy, L. 1938. A quantitative theory of organic growth. Human Biol., 10:181-213.

Wetherall, J. A., J. J. Polovina, and S. Ralston. 1987. Estimating growth and mortality in steady-state fish stocks from length-frequency data. Pages 53-74 in D. Pauly and G. R. Morgan, editors. Length-based Methods in Fisheries Research. ICLARM Conference Proceedings 13.

Von Bert Growth Model

Nonlinear Regression

Dependent variable: Col_4
Independent variables:
AGE

Function to be estimated: LMAX * (1 - EXP(-K * (AGE - TO)))
Initial parameter estimates:
LMAX = 260.0
K = 1.0
TO = 0.1

Estimation method: Marquardt
Estimation stopped due to convergence of residual sum of squares.
Number of iterations: 5
Number of function calls: 22

Estimation Results

Parameter	Estimate	Asymptotic Standard Error	Asymptotic 95.0% Confidence Interval Lower	Upper
LMAX	258.201	32.9581	-160.571	676.974
K	0.783418	0.396829	-4.25877	5.8256
TO	0.190403	0.266655	-3.19778	3.57858

Analysis of Variance

Source	Sum of Squares	Df	Mean Square
Model	121344.0	3	40448.0
Residual	862.084	1	862.084
Total	122206.0	4	
Total (Corr.)	23610.0	3	

R-Squared = 96.3487 percent
R-Squared (adjusted for d.f.) = 89.046 percent
Standard Error of Est. = 29.3613
Mean absolute error = 13.1271
Durbin-Watson statistic = 3.36743

Residual Analysis

	Estimation	Validation
n	4	
MSE	862.084	
MAE	13.1271	
MAPE	11.7811	
ME	0.000070038	
MPE	-3.31297	

The StatAdvisor

The output shows the results of fitting a nonlinear regression model to describe the relationship between Col_4 and 1 independent variables. The equation of the fitted model is

258.201 * (1 - EXP(-0.783418 * (AGE - 0.190403)))

In performing the fit, the estimation process terminated successully after 5 iterations, at which point the estimated coefficients appeared to converge to the current estimates.

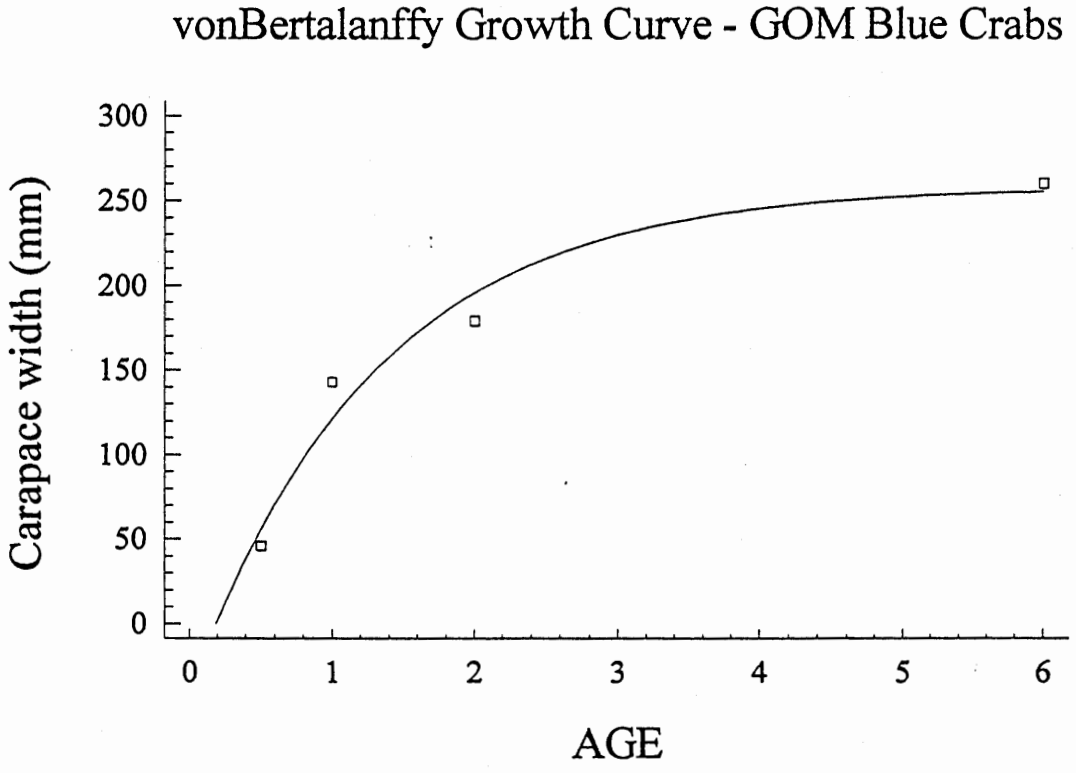
The R-Squared statistic indicates that the model as fitted explains 96.3487% of the variability in Col_4. The adjusted R-Squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 89.046%. The standard error of the estimate shows the standard deviation of the residuals to be 29.3613. This value can be used to construct prediction limits for new observations by selecting the Forecasts option from the text menu. The mean absolute error (MAE) of 13.1271 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to

male

Age	Size
0.5	46
1.0	143
2.0	179
6.0	260

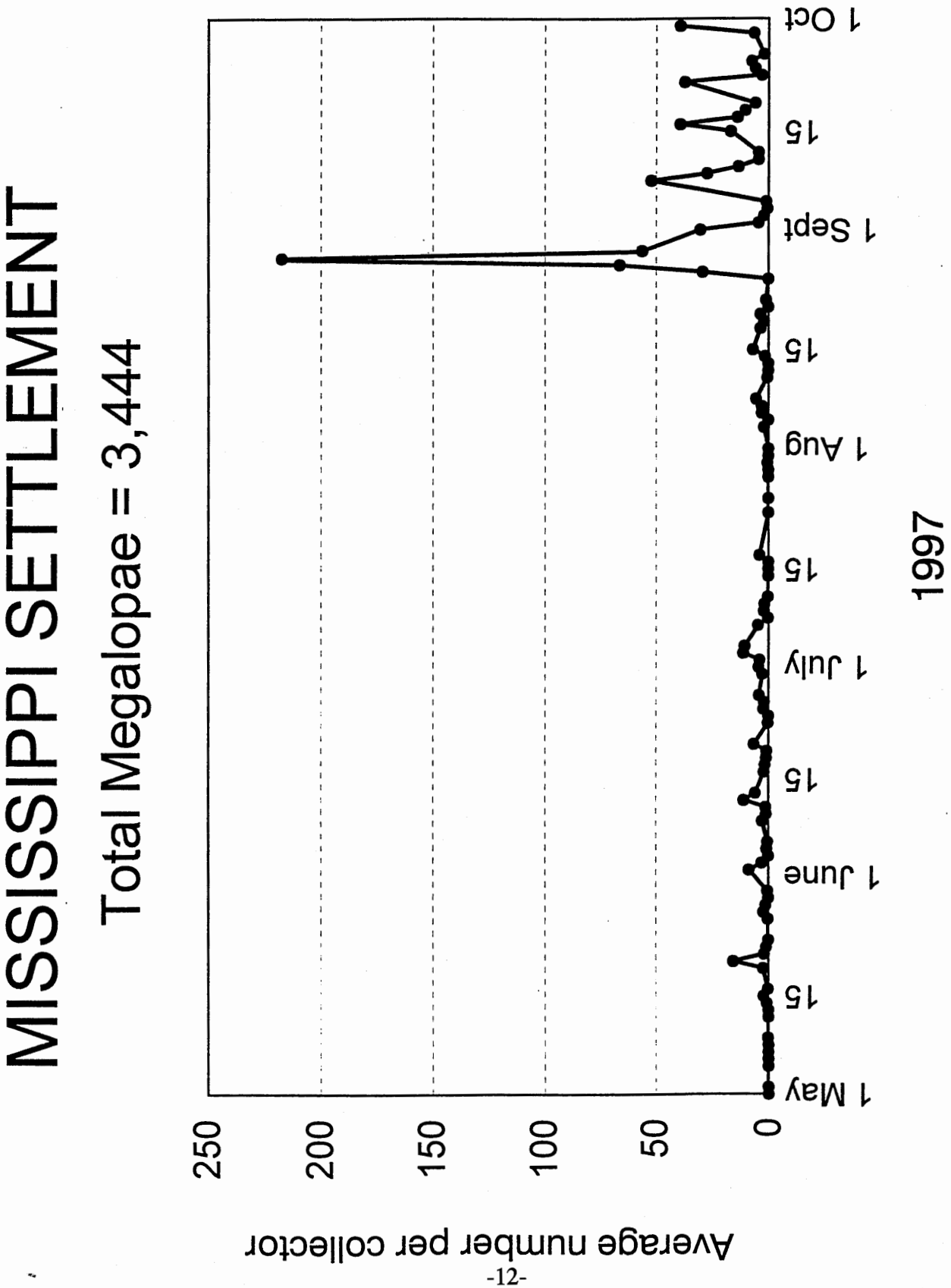
determine if there is any significant correlation based on the order in which they occur in your data file. Because the DW value is greater than 1.4, there is probably not any serious autocorrelation in the residuals.

The output also shows aymptotic 95.0% confidence intervals for each of the unknown parameters. These intervals are approximate and most accurate for large sample sizes. You can determine whether or not an estimate is statistically significant by examining each interval to see whether it contains the value 0.0. Intervals covering 0.0 correspond to coefficients which may well be removed form the model without hurting the fit substantially.


vonBertalanffy Growth Curve - GOM Blue Crabs
Carapace width (mm)
300
250
200
150
100
50
0
0
1
2
3
4
5
6
AGE

Total mortality rates by region by year.

Year	West LA	Central LA	East LA	MISS	ALA.
67	1.26423	0.85964	1.25561	– –	– –
68	1.22985	0.99117	1.22521	– –	– –
69	1.20665	1.06763	1.21787	– –	– –
70	1.21528	0.88072	– –	– –	– –
71	1.19265	0.98938	1.20256	– –	– –
72	1.22539	1.08284	1.27261	– –	– –
73	1.23996	0.99509	1.21080	1.10705	– –
74	1.30126	0.91389	1.18833	1.13159	– –
75	1.26927	0.89736	1.20732	1.10705	– –
76	1.19983	0.73249	1.19877	1.12449	– –
77	1.19194	0.91663	1.26311	1.14292	– –
78	1.25196	1.24915	1.18985	1.13947	– –
79	1.15094	1.08003	1.19234	1.14953	– –
80	1.18125	0.99593	1.17572	1.15976	– –
81	1.17944	0.97508	1.21833	1.23669	– –
82	1.13711	0.93416	1.19119	1.20406	– –
83	1.18483	1.11647	1.18126	1.20468	– –
84	1.20873	0.85443	1.18965	1.20338	– –
85	1.18696	0.99580	1.19024	1.15701	1.19277
86	1.18227	0.96429	1.18141	1.11113	1.17231
87	1.16111	1.12624	1.18398	1.15066	1.17420
88	1.15507	1.24337	1.15707	1.11907	1.15451
89	1.13275	1.13189	1.17914	1.16829	1.17793
90	1.14127	0.88918	1.17700	1.15783	1.17317
91	1.14354	1.17835	1.19876	1.12833	1.18047
92	1.14599	1.06048	1.19106	1.14929	1.19315
93	1.13509	1.28277	1.15960	1.14467	1.16197
94	1.13478	1.47893	1.15251	1.20374	1.14625
95	1.12972	1.56310	1.21059	1.18982	– –
96	1.14224	1.41854	1.17798	1.19502	– –


MISSISSIPPI SETTLEMENT
Total Megalopae = 3,444
Average number per collector
250
200
150
100
50
0
1 May
15
1 June
15
1 July
15
1 Aug
15
1 Sept
15
1 Oct
1997

DATA SUMMARY FOR RED CRABS (*Chaceon quinquedens*) AND GOLDEN CRABS(*Chaceon fenneri*) IN THE GULF OF MEXICO

Prepared by

Harriet M. Perry
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St. Petersburg, FL

Data Sources

Distribution and catch data were taken from MARFIN projects NA86WC-H-06135, NA87WC-H-06142 and NA89WC-H-MF021. All research cruises were conducted aboard the Gulf Coast Research Laboratory's R/V Tommy Munro. Cruises in 1986 and 1987 were conducted by researchers from the GCRL, University of South Florida, and the University of Florida. The 1989 cruises were conducted by personnel from the GCRL and the University of Southern Mississippi. Traps were used to determine the geographic and bathymetric distribution of geryonid crabs in selected areas of the Gulf of Mexico (GOM). Comprehensive trap studies have not been conducted in the western GOM off Texas and in the eastern GOM below Venice, Florida. To date, seven scientific papers have been published detailing results of these cruises.

Distribution

Red Crabs

Northwestern Atlantic Ocean, Gulf of Mexico (GOM). Widely distributed in the GOM in depths greater than 350 fathoms; minimum depth captured, 370 fathoms; maximum depth captured, 1000 fathoms; upper limit of distribution east of the Mississippi River, 370 fathoms; west of the River, 470 fathoms.

Golden Crabs

Bermuda; North Carolina through the Florida Straits and eastern Gulf of Mexico to about 28° N latitude, occasionally northern and western GOM.

Highest Population Densities

Red Crabs

Northcentral GOM, east of the Mississippi River at depths from 677 to 1,043 meters (370 to 570 fathoms).

Golden Crabs

Highest densities occurred north of 26° at depths from 311 to 494 meters (170-270 fathoms).

Population Structure, Eastern GOM, MARFIN Trapping Survey 1
Eastern GOM from Tampa to Mouth of Mississippi River

Red Crabs

75% of all crabs trapped were in samples off Alabama/Mississippi; females outnumbered males at most stations, females increasingly more abundant in samples as latitudes increase above 28°N; 94.6% of all females were captured in northern GOM off Alabama and Mississippi; females with eggs captured in spring, summer and fall; males and females larger in northern GOM; mean size males eastern GOM ~133 mm CW, females ~120 mm CW.

Golden Crabs

99.9% of all crabs were in samples off Florida (27 to 28°); females outnumbered males; proportion of males in catch increased at southernmost station; females with eggs captured in spring and summer; males much larger than females; average size males 157 mm CW, females 124 mm CW.

Population Structure, Northern GOM, MARFIN Trapping Survey 2
Northern and Western GOM from Alabama to Louisiana/Texas Border

Red Crabs

Crabs decreased in abundance west of the Mississippi River, and upper limit of depth distribution shifted to 470 fathoms; 65% of crabs trapped were in samples off Alabama/Mississippi, next highest densities occurred at Louisiana/Texas border; females outnumbered males, but the proportion of males to females generally increased with depth; ~20% of female population with eggs in spring and summer; mean size of males ~128 mm CW, females ~116 mm CW.

Environmental Parameters

Red crabs found at temperatures from ~ 6 to 9°C over soft bottoms of silty clays. Golden crabs found at temperatures from ~ 7 to 11°C in areas characterized by winnowed sands, hard bottom facies, and minor submarine canyons.

Population Estimates/Gulf of Mexico

Red Crabs -3.7 x 10^6 to 10.7 x 10^6 crabs in area between 87.5° and 88.5° W longitude at depths from 370 to 570 fathoms (from MARFIN Trapping Survey 2). Range in population estimates from published data on effective fishing area of a trap in the northern Atlantic red crab fishery.

Golden Crabs - 7.8 million crabs (13.6 million pounds) in area between 26 and 28° at depths from 300 to 500 meters (in situ density estimates, submersible).

LIFE HISTORY CHARACTERISTICS AND IMPLICATIONS FOR MANAGEMENT OF GERYONID CRABS IN THE GULF OF MEXICO

Chaceon fenneri and *C. quinquedens* are slow growing, long-lived crabs found in slope waters of the Northwestern Atlantic and Gulf of Mexico. Data from tag-release studies of red crabs off New England suggest that molt frequency is low with an intermolt period of 6 to 7 years in larger individuals. Male and female red crabs reach maturity at around 85 mm CW. Commercial size for harvest in the New England red crab fishery is set at 114 mm CW. Male and female golden crabs reach maturity at approximately 135 and 95 mm, respectively.

Female red crabs carry their eggs for 9 months with hatching in the late winter/early spring in the GOM. Females carrying eggs make up about 20% of the total population of females in the northcentral GOM in spring, summer and fall. Golden crabs carry their eggs for 6 months with hatching in the late winter/early spring. Females with eggs make up a large proportion of the catch (84%, 28° and 64%, 27°) in late summer. Reproduction in golden crabs is annual.

Recruitment is poorly understood and locations of postlarval settlement areas are unknown. Only two immature crabs (red) have been collected, and no crabs below 50 mm CW occurred in samples. While mesh size would preclude capture of small individuals in crab traps, a variety of small-mesh collecting devices were deployed with the traps in order to study associated fauna. No early juveniles were identified from any samples. Megalopae have never been captured in the wild, and only a few zoeal stages have been collected. Areas of growth and maturation are unknown for geryonid crabs in the GOM. Bathymetric distribution of adult red crabs cannot be explained by any of the environmental factors collected to date. Neither sediment type, temperature, nor competition with other geryonid species explain observed distribution. Distribution of both species may be related to reproductive strategies and mechanisms of larval transport.

Studies to date suggest that highest population densities of red crabs are confined to the northcentral GOM. Potential fishing grounds (based on MARFIN trap data) lie between 87.5° and 88.5° W longitude at depths from 370 to 570 fathoms. Eighty-one percent of crabs captured in this area were of commercial size (≥ 114 mm CW). Females outnumbered males 2 to 1. Based on catch rates, there may be potential for limited fishery development. However, fishery development must take into consideration the preponderance of females in the catch and the incidence of ovigerous females throughout most of the year. Targeting males by fishing greater depths would still impact the female population because, although the proportion of males to females increases with depth, females still outnumber males.

Geryonids, by their size and numbers, are important members of the slope ecosystem, and their role as predators, bioturbators, competitors and hosts must also be considered in evaluating fishery development.

APPROVED BY:

COMMITTEE CHAIRMAN

DATA MANAGEMENT SUBCOMMITTEE
MINUTES
Tuesday, October 14, 1997
Gulf Shores, Alabama

Chairman Skip Lazauski called the meeting to order at 8:40 a.m. The following members and others were present:

Members
Page Campbell, TPWD, Rockport, TX
Michelle Kasprzak, LDWF, Baton Rouge, LA
Joe O'Hop (proxy for F. Kennedy), FMRI, St. Petersburg, FL
Tom Van Devender, MDMR, Biloxi, MS
Skip Lazauski, ADCNR, Gulf Shores, AL
Rick Leard (proxy for S. Atran), GMFMC, Tampa, FL
John Poffenberger, NMFS, Miami, FL

Staff
David Donaldson, SEAMAP Coordinator
Larry Simpson, Executive Director
Ron Lukens, Assistant Director
Steve VanderKooy, IJF Coordinator
Jeff Rester, Habitat Coordinator
Madeleine Travis, Staff Assistant

Others
Mike Ray, TPWD, Austin, TX
Joe Smith, NMFS, Beaufort, NC
Wendell Lorio, MSU, SSC, MS
Patrick McFarland, GSMFC, Port St. Joe, FL

Adoption of Agenda

The agenda was approved with the following modification: Moving Protocols and Guidelines for Aging Using Otoliths and Stock Assessment Training Workshop items before the State/Federal Reports.

Approval of Minutes

The minutes for the meeting held on March 18, 1997 in Biloxi, Mississippi were approved with minor editorial changes.

Protocols and Guidelines for Aging Using Otoliths

S. VanderKooy stated that Mike Murphy from Florida is current developing a process for aging fish using otoliths. The stock assessment team recently met to discuss this topic. They have developed an initial outline which outlines the process and protocols for ageing fish using otoliths. Once a final set of protocols and guidelines have been developed, a series of workshops will be held to describe and explain how to use

these guidelines for ageing fish. The next step is to begin developing the document which should occur later this year.

Stock Assessment Training Workshop

S. VanderKooy stated that Louisiana was exploring the possibility of conduct several state-sponsored training workshops, unfortunately, the funding for these activities was not appropriated. The stock assessment team met and discussed developing a training course through the university systems throughout the Gulf of Mexico. The group would have to develop a curriculum for these courses and they are currently in the process developing the information. R. Lukens stated that there are two phases to this activity. The first is the part that S. VanderKooy discussed, the course work, where personnel actually learns how to conduct stock assessments and the second part will be periodic training session to provide refreshers on the techniques.

State/Federal Reports

Florida - J. O'Hop reported that Florida is currently involved in the Charter boat Pilot Survey being conducted in the Gulf of Mexico. Work seems to be going well. Florida is participating in the NMFS Head boat survey. There are two samplers designated for this work and data collection is working fine. FMRI staff is currently rewriting the editing software for the Florida Trip Ticket program. They are converting the software from dBase into Oracle. The development is moving slowly due to some technical problems. Testing should be completed by December. The conversion is designed to move the data base onto a new computer system, however, this will not include the licensing data base. Hopefully, the ACCSP will provide funds for the conversion of the licensing data base which will fit into the overall data management plan designed by the ACCSP.

Alabama -S. Lazauski reported that Alabama has begun its second year of the inshore creel survey. There are two components of the survey which include on the water interviews and overflights. The survey activities appear to be going smoothly. Alabama personnel are participating in the stock assessment for spotted sea trout and Alabama plans to update the assessment for mullet during the fall. Alabama is currently developing a trip ticket system for the state. This system will be compatible with the system developed by ComFIN. Collection of finfish and shrimp data and TIP data are continuing to be collected. And a mullet trip ticket system has been implemented to track the landings of mullet in Alabama.

Mississippi - T. Van Devender stated that although the inshore oyster reefs have been closed about 30% of the year, Mississippi has had a record harvest of oysters. After the season was closed, the Department conducted a reef rehabilitation project which included placing oyster and clam shells onto a variety of reefs in Mississippi waters. The shrimp season opened in conjunction with Alabama and the harvest was low. The Wallop/Breaux money is continued to be used to fund a variety of projects regarding red drum, cobia, spotted seatrout, striped bass, etc. The Department is continuing its work with the Cooperative Statistics Program. Mississippi has one port agent that collect shrimp information in one coastal county and the NMFS provided two other agents to collect data in the other counties. Mississippi is in its ninth year of collection of recreational data via a creel survey. The tidelands fund is providing funding for a variety of projects. These projects are split between construction of marina, harbors, etc. and research projects. The Mississippi Commission is still exploring the issue of degradable material for construction of gill nets. Mississippi is also involved in the charter boat survey and activities appear to going will. And the

Department is currently involved in developing a crab task force to address some of the issues and problems with the crab fishery.

Louisiana - M. Kasprzak reported that their trip ticket program has finally received funding and Louisiana will be implementing a pilot trip ticket system. The pilot program will be implemented in July 1, 1998. This phase will consist of a small group of fishermen to work out the bugs in the system. Once all the problems have been address, full implementation of the program will occur in January 1, 1999. The trip ticket forms will be scanned into the computer for data entry. Louisiana is also participating in the charter boat pilot survey and data collection activities are going well. Louisiana expects to meet the quota for the wave. Overall, the cooperation is very good.

Texas - P. Campbell reported that there was a red tide event off southern Texas. Approximately 14 million fish have been killed. These fish appear to be mostly small fish, such as shad, menhaden, etc., although there some game fish have been killed. The Department, in conjunction with Texas A&M, has initiated a study to examine the occurrence of viruses in native shrimp in Texas. The collections will be in each bay systems for one year and will collect approximately 2,000 samples to address this issue. The Department has initiated the second buy-back program for the shrimp fishery. Approximately 67 licenses have been purchased. The Department is conducting the second phase of a bycatch reduction device (BRD) comparison study. The TPWD held is Wildlife Expo at the Sea Center and there were approximately 42,000 visitors during this time period.

NMFS - J. Poffenberger reported that NMFS-Southeast Fisheries Science Center has reorganized. The Miami Laboratory is no longer a separate lab facility. The laboratory has been divided into two divisions: protected species and sustainable fisheries. Also, the Panama City Laboratory is no longer a separate lab but is a division under sustainable fisheries. The other division in the SEFSC will be the Office of Management and Information; however, the organization of this division has not yet been determined. The TIP personnel are moving the TIP data set into Oracle format. Also, one of the long-range goals of TIP is to get data processing closer to data collection. One of the methods for accomplishing this will be that when the data are collected, they will be entered by the personnel who collect them. NMFS has been mandated by Congress to develop a vessel registration system (VRS) and fishery information system (FIS). NMFS will be relying on the already-existing regional programs in the Gulf of Mexico, Atlantic and Pacific (RecFIN, ComFIN, ACCSP, PacFIN, etc.) to assist in the implementation of these systems. NMFS is currently seeking an extension for the development of these systems.

GMFMC - R. Leard reported that the currently there are not mandatory logbooks for the king mackerel fishery; however, the NMFS has stated that they will implement a mandatory logbook program for king mackerel. The Council is currently developing an Operations Plan which will outline the research and data needs for the Gulf Council for 1998. T. McIlwain is coordinating this activity in the Gulf of Mexico and J. Merriner will be working on this in the South Atlantic. The Council is considering Reef Fish Amendment 15 which deals with license limitations. These limitations are designed to reduce effort in the reef fish fisheries.

RecFIN/ComFIN Issues

Recap of Fall ComFIN/RecFIN(SE) Meetings - D. Donaldson stated that the ComFIN, FIN and RecFIN(SE) Committees met from September 23-25, 1997 in San Antonio, Texas. During the ComFIN Committee, the group discussed the periodic meetings of port samplers, development of a data collection

document of commercial fisheries in the Southeast, development of the bycatch and market modules, comparison of Louisiana proposed trip ticket and NMFS gulf shrimp programs, presentation of the generic trip ticket system, and development of the 1998 Operations Plan. During the FIN Committee meeting, the group discussed the review of Internet capabilities of participants, further development of the FIN Letterhead, logo, and brochure, discussion of development of technical source document for ComFIN/RecFIN, development of a process for outreach and advisory activities for ComFIN/RecFIN, discussion of the vessel registration system and fishery information system. And during the RecFIN(SE) Committee meeting, the group discussed the development of a data collection document of recreational fisheries in the Southeast, discussion of licensing criteria and justification paper, discussion regarding funding initiatives to establish MRF surveys in the Caribbean, review of the RecFIN(SE) QA/QC document, discussion of metadata criteria and plans for development of metadata database, recommendations regarding duplicative data collection activities in the Southeast, presentation of guidelines for reviewing MRFSS data, and development of 1998 Operations Plan. J. Poffenberger noted that due to some critical review of the data, one of this issues that was identified was improving the statistical validity of the Trip Interview Program. The Subcommittee discussed this topic and believed this was one of the overall goals of the ComFIN. J. O'Hop noted that the statistical validity of the TIP has been discussed in the past and what is the overall goal of the program: to get a representative sample of the commercial fishery or obtain the necessary information for stock assessments.

Discussion of Trip Ticket System for ComFIN - D. Donaldson stated that at the last ComFIN meeting, the Committee discussed the generic trip ticket system was developed by the Gulf of Mexico Geographic Subcommittee and Future Needs Work Group. The ACCSP has a trip ticket program where information to obtain effort will be collected for every trip while the ComFIN will use a system where effort information will be obtained via some type of survey. The charge to the Subcommittee was to come to some consensus regarding the trip ticket program for ComFIN. R. Lukens noted that the group needs to determine if collecting effort via the trip ticket program or via a survey will cause any compatibility and comparability problems since the ComFIN/RecFIN and ACCSP are being designed to be compatible. J. O'Hop stated that in the ACCSP, it has been noted that not all of the participants will be able to collect all the information via a trip ticket. Therefore, some of the data will have to be collected via different methods (logbooks, statistical survey, etc.). D. Donaldson stated that, due to this issue, for the trip ticket program designed for the ComFIN, the data elements to collect effort should be include; however, if a participant is unable to collect some of the elements, then that information will be collect using a different method. After this discussion, the group decided that the trip ticket systems designed by ComFIN and ACCSP are comparable. It was noted the a great deal of care needs to be used when presenting the perceived differences in the ComFIN and ACCSP so that these differences are not misinterpreted as making the two programs incompatible. The group reviewed and compared the data elements for the trip ticket programs for the ComFIN and ACCSP and made minor changes.

Discussion of Charter Boat Pilot Survey - D. Donaldson stated that the Gulf States and the NMFS are participating in charter boat pilot survey in the Gulf of Mexico. He stated that there is a wave meeting scheduled for October 21-23, 1997. He is currently compiling data for the telephone survey and this will give participants a general feel for how the survey is working. All the states now have the telephone data entry program and states need to begin entering the phone data and providing that information to staff as soon as possible. It was noted that there is a deadline from Quantech that the states need to submit the intercept data for each month to Quantech by the end of the month. D. Donaldson stated that he talked with D. Van Voorhees about the possibility of extending the project through the end of December 1998. This would allow for a full year of data collection without any start up problems. Of course, extending the project

will be contingent upon additional funding. Wave 6 will begin in November and the vessel data base has been provided to NMFS-Headquarters so they can produce the draws.

Election of Officers

After some discussion, S. Lazauski was reelected Chairman and J. Shepard was reelected Vice-Chairman.

Other Business

* M. Kasprzak presented the Subcommittee with an issue regarding the collection chlorophyll data in the SEAMAP. The SEAMAP Subcommittee discussed the problems and issues concerning the collection of chlorophyll data. Because of these problems, the SEAMAP Subcommittee has decided to develop criteria for performance standards and quality assurance/quality control for colleting and recording all data, not just chlorophyll, and establish administrative accountability for the content of SEAMAP data sets. Since one of goals of the Data Management Subcommittee is to provide guidance in the collection of data, it was suggested that the Data Management Subcommittee support the actions taken by SEAMAP. After some discussion, **S. Lazauski moved that the Data Management Subcommittee support the action taken by SEAMAP to address the collection of data. The motion was seconded and passed unanimously.** The Chairman of the SEAMAP Subcommittee will be made aware of this support and will be able to inform the TCC of the backing of the Data Management Subcommittee.

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

APPROVED BY:
COMMITTEE CHAIRMAN

S-FFMC MENHADEN ADVISORY COMMITTEE
~~MINUTES~~
~~Tuesday, March 18, 1997~~ Tuesday, October 14, 1997
~~Biloxi, MS~~ Gulf Shores, AL

R. Rader, Chairman, called the meeting to order at 1:00 p.m., with the following in attendance:

Members
Randy Rader, Gulf Protein Inc., Amelia, LA
Pryor Bailey, Zapata Protein (USA), Inc., Moss Point, MS
Dalton Berry, Zapata Protein (USA), Inc., Mandeville, LA
Borden Wallace, Daybrook Fisheries, Inc., Empire, LA
Joe Smith, NMFS, Beaufort, NC 28516 (*proxy for John Merriner*)
Vernon Minton, ADCNR/MRD, Gulf Shores, AL
Vince Guillory, LDWF, Bourg, LA
Corky Perret, MDMR, Biloxi, MS (*proxy for Glade Woods*)
Jerry Mambretti, TPWD, Port Arthur, TX
Behzad Mahmoudi, FDEP/FMRI, St. Petersburg, FL

Others
Joe O'Hop, FDEP/FMRI, St. Petersburg, FL
Rick Leard, GMFMC, Tampa, FL
Wendell Lorio, MSU, Stennis Space Center, MS
Mike Ray, TPWD, Austin, TX

Staff
Larry B. Simpson, Executive Director, Ocean Springs, MS
Ron Lukens, Assistant Director, Ocean Springs, MS
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Dave Donaldson, Program Coordinator, Ocean Springs, MS
Jeff Rester, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS
Madeleine Travis, Staff Assistant, Ocean Springs, MS

Introductions and Opening Comments

L. Simpson introduced two new GSMFC staff members: Steve VanderKooy, IJF Program Coordinator, who replaced Jim Duffy, and Jeff Rester, former student at LSU under Richard Condrey, who will be coordinating the Commission's Habitat Program. Jeff has a duel commitment to both the Commission and the Gulf Council to work on the Essential Fish Habitat amendments to fishery management plans.

The committee roster was reviewed and the "others" category was discussed. Al Jones status was discussed with regard to his membership on the committee. He will be re-evaluated now that he is "semi-retired." L. Simpson will check on Jones' status before the next meeting.

Adoption of Agenda

Concern was brought forth by V. Minton regarding the potential of importation of pfisteria into the Gulf through the East Coast bait industry. J. Smith indicated he would address this issue in agenda item six and discussion was deferred until that time. An inquiry from Pete Barber was also introduced and will be discussed under other business. Discussion of the stock assessment by Doug Vaughan will also be handled under other business. The revised agenda was then accepted.

Approval of Minutes

Chairman Rader asked if there were any changes to the minutes from the March meeting of the MAC in Biloxi. W. Perret moved to accept the minutes with no changes. B. Wallace seconded the motion which passed by consensus.

Review of Menhaden Fact Sheet and Distribution

J. Smith reported on the final version of the *Gulf Menhaden Fact Sheet*. The pamphlet concept was originally proposed and created by the Atlantic Menhaden Advisory Committee to counter the myths and legends surrounding the menhaden industry. An informational slide show has also been put together by the Atlantic as a traveling educational tool. J. Smith indicated that the gulf menhaden fact sheet could be placed in several locations on the gulf including museums and aquariums. The distribution of the pamphlet has begun. Joe indicated that 1,000 copies are already being placed in North Carolina and that additional copies could be placed in other points of interest as well. C. Yocom explained how the pamphlet has been produced in house at the Gulf States office. She explained printing and folding the job is not a burden given the available equipment at the office. L. Simpson indicated that requests for the pamphlet should be made directly to the Commission office. Texas requested an additional 1,000 copies for the Lake Jackson Visitors' Center. It was suggested that the pamphlet be updated annually and reprinted in different colors.

L. Simpson briefly introduced and welcomed a new commissioner, Mr. Patrick McFarland from Port Saint Joe, Florida.

Review of 1997 Gulf of Mexico Menhaden Fishing Season

J. Smith handed out the 1997 menhaden report (Attachment A) and summarized the 1997 fishing season through September. All indications are that this year has already surpassed the 1996 landings by 25% which is a 14% increase over the last five year average. Four of the last five years also included the Dulac plant which is now closed and not contributing to the 1997 landings. With the extended season into October, it is projected that 600,000 metric tons will be the final 1997 landings. April and May were a little slow this year, but June was a peak month and contributed to production greatly. Five plants are currently in operation, four in Louisiana and one in Mississippi. Hurricane Danny in July and a windy September led to a difficult late summer season, but generally things look good. The hypoxic zone is smaller this year and its effects appear to be less severe than previous years; spring windy weather may have contributed to its reduced size.

The age composition for the fishery has age 1 and 2 equally represented at 46% of the raw port sampling data. Age 1 fish dominated in the Moss Point, Empire, and Cameron port samples while Intercoastal City and Morgan City dominated with age 2 menhaden. April's forecast for five plants should

be around 513,000 metric tons which based on this year would be 17% over the 1998 forecast. The 1994-1996 data sets are cleaned and entered on computer and the 1997 data will be entered this winter. The Atlantic Coast's last 12 years catch and effort data have been summarized as a NOAA Technical Report and accepted for publication. This is the plan for the gulf data once the 1997 information has been keyed in.

J. Smith indicated concern over funding for port sampling next year. It had been suggested at the Fall 1996 MAC meeting in New Orleans that the money for 1997 would be available; however, funding was not committed until May 1997, and sampling was postponed until June. The RecFIN/ComFIN budget now includes the Menhaden port sampling as a separate Task 2. L. Simpson explained that this is data gathering which should fall within one data collection initiative or cooperative agreement. To avoid a repeat of the 1997 "band-aid" approach, L. Simpson contacted all the people who sign off on funding for this effort and a commitment to fund the effort was obtained. A. Kemmerer has indicated that port sampling needs to be in the data collection cooperative agreement, and it would continue to get funded. L. Simpson indicated that eventually all data collection (fishery-dependent, fishery-independent, and SEAMAP) should all fall under the data gathering blanket as different tasks but together in one document.

J. Smith handed out additional information on the effects of el Niño on fish and sea bird populations (Attachment B). A large number of phone calls from the feed stuffs industry have generated a need for more information because prices seem to be tied to el Niño events. A website has been offered that gives real-time information related to unusual events caused by the current el Niño. Apparently bad el Niño years are good for gulf menhaden, and it is projected that industry may benefit from the el Niño event in the next few years.

J. Smith also addressed concerns over pfisteria and pfisteria-like organisms (PLO) which have caused additional problems on the Atlantic Coast. Earlier years (1980s) resulted in lesions on younger, peanut, and age 1 fish, but for the first time in 1997, lesions have been showing up on adult menhaden as well. This condition does not appear to be new (reports of lesions occurred in 1973), but it definitely seems to be changing. Very large fish are now being affected, and several rivers have been closed around the Chesapeake region.

V. Minton again raised questions regarding the import of bait from the East Coast. There is concern that pfisteria can be transported from the East Coast to the gulf and visa-versa. A large system of transport exists between the Northeast, Southeast, and the gulf. Rivers with high incident of chicken and hog industry runoff seem to be contributing to algal blooms, but we really don't know enough about these organism to be able to address this. Dr. Pat Tester (NMFS Beaufort Lab) has been presenting very informative talks in North Carolina which dispel many of the media myths over these organisms. It was suggested that she might be asked to speak to the MAC, the TCC, or both at the GSMFC Spring Meeting. Staff will invite Dr. Tester to present at the Spring Meeting.

Menhaden Fishery Status in Florida and the Net Ban

B. Mahmoudi made a short presentation regarding the net-ban on the Florida Menhaden industry. Landings have been declining over the last several years in what is predominantly a bait industry in the panhandle. It was a purse seine fishery occurring two to three miles from shore. The net ban went into effect in July 1995 within the three-mile zone to shore, and production obviously declined almost to zero. It mainly provided bait for the bait and crawfish industry, and about 50% of the catch went to chum. Without a stock assessment for Florida menhaden, we cannot go much beyond this. Tarp nets have now been allowed in state waters as purse-seines so the bait fish industry may begin to recover in the panhandle. It takes more effort,

but it should lead to an increase in bait production until the year 2000. The tarp issue has generated a need for an assessment, but no money exists at this time to do so.

B. Mahmoudi also explained briefly the National Science Foundation (NSF) program called Globex which looks at the effects of climatological events on fisheries. The first five-year cycle was spent working in Alaska and the Northwestern United States. It is possible that the next five-year cycle could bring the program to the Gulf of Mexico. Scientists in Georgia are pushing to get the programs five million dollars per year over five years to the gulf region. Their interest is in looking at bait fish and foraging species as the base for the program, *i.e.,* how does an environmental effect show up in the food chain? There should be an impact visible in the bait fish and small pelagics. The current el Niño event should fit into the NSF program criteria. A workshop will take place in the spring, and B. Mahmoudi has submitted L. Simpson's name to NSF as the representative for the Commission.

Vessel Monitoring Systems

L. Simpson indicated Mr. Gene Proulx was not present to give a talk on the vessel monitoring system to the MAC meeting; however, he would be making his presentation to the Law Enforcement Committee which will meet at 8:30 a.m. on Wednesday morning. L. Simpson briefly summarized the presentation Mr. Proulx made at a recent Gulf of Mexico Fisheries Management Council Meeting. G. Proulx replaced Suzanne Horn as the NMFS Special Agent in Charge. The vessel monitoring system that they set up in the Hawaiian Islands demonstrated its usefulness to help the Pacific longline fishing fleet defend itself against many accusations of wrongdoing, improve public opinion and perception, and prevent foreign or renegade fishing boats from entering closed fishing areas. The small transponder that the NMFS installed on boats utilized cellular phone technology to give real-time position and course information to both enforcement officials and the fishing companies themselves.

Election of Chair

The rotation of the Chair returns to the federal representative. J. Smith was unanimously elected as Chair and J. Merriner will serve as his alternate.

Other Business

L Simpson introduced Pete Barber's inquiry from the Alabama Seafood Association requesting a season extension beyond November for the purpose of bait harvest. Mr. Barber would like to address the MAC to discuss this request. As proposed as a bait industry, it would be a very short season. L. Simpson suggested a quota cap on the season extension in the event Alabama regulations on the season were modified. Perhaps the menhaden plants would be willing to provide the product to him, and he would not be required to fish just freeze the product. This request would require a change in the Alabama regulations to permit another season extension. V. Minton indicated that with cigar minnows at $18.00 per box, the market needs someone to do this even if its only one boat. This is a problem that will continue to develop in the gulf, and we should consider in the future. B. Mahmoudi suggests describing the bait fish fishery in the Gulf of Mexico, because we have no information on the fishery.

Doug Vaughan will do the stock assessment this winter with the 1997 landings and port sampling. State juvenile fish survey data has been requested from V. Guillory and J. Mambretti. This will include all

the data from the last five years which is since last stock assessment was completed for fishery management plan development in 1992.

The next MAC meeting will be the third week of March (March 16-20) in Destin, Florida.

There being no further business, the meeting adjourned at 2:50 p.m.

STATUS OF THE GULF MENHADEN FISHERY

A REPORT TO THE GULF MENHADEN ADVISORY COMMITTEE

GULF SHORES, ALABAMA

JOSEPH W. SMITH AND POPULATION DYNAMICS TEAM

BEAUFORT LABORATORY
SE FISHERIES SCIENCE CENTER
NATIONAL MARINE FISHERIES SERVICE

OCTOBER 1997

INTRODUCTION

This report by the Population Dynamics Team at the Beaufort Laboratory of the National Marine Fisheries Service is presented to the Fall 1997 meeting of the Gulf Menhaden Advisory Committee (GMAC) at the Gulf States Marine Fisheries Commission meeting in Gulf Shores, Alabama, on October 14. In this report, we review the 1997 gulf menhaden fishing season in terms of 1) landings and fleet size, 2) age composition of the port samples, 3) status of the menhaden forecast for 1997, and 4) update of the Captain's Daily Fishing Reports (CDFRs) data bases.

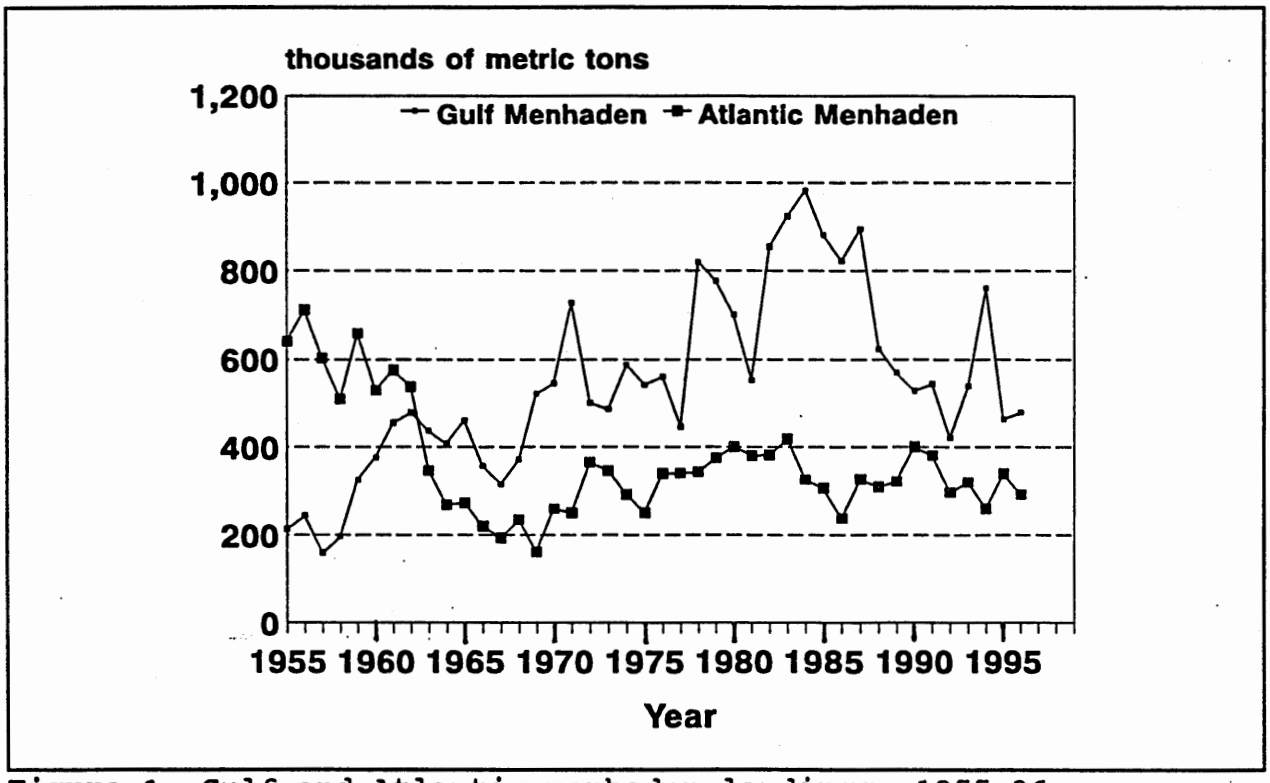


Figure 1 Gulf and Atlantic menhaden landings, 1955-96.

Gulf Menhaden Landings and Vessel Participation in 1997

Preliminary information indicates that landings of gulf menhaden for reduction through September 1997 amounted to 553,604 metric tons (1,822 million "standard" fish). This is up 25 percent over total landings in 1996 (442,967 t) for equivalent time, and up 14 percent from the previous five-year average (486,548 t)(Fig. 1). Landings in 1997 are impressive in light of the fact that only five reduction plants are operating on the Gulf Coast. A sixth factory (at Dulac, LA) was closed after the 1995 fishing season, however, its landings (1992-95) are included in the totals for the previous five-year average.

Landings during October 1993-96 (in 1993 an additional two weeks were added to the traditional 26-week fishing season) averaged 49,463 t (163 million "standard" fish). If landings for October 1997 approach average monthly landings for the previous four years, then 1997 total gulf menhaden landings may reach 600,000 t. Season landings of this magnitude would be 25 percent greater than landings in 1996 (479,400 t), and 13 percent greater than the previous five-year average (533,100 t)(Table 1).

Monthly landings during April (13,700 t) and May (78,100 t) 1997 lagged behind landings for respective months in 1996 (Fig. 2). Catches improved substantially in early June 1997. Monthly landings in 1997 peaked in June (119,300 t), then remained near the 110,000 t level through July (109,200 t), August (111,400 t), and September (116,900 t). Landings during 1996 peaked in September (103,800 t).

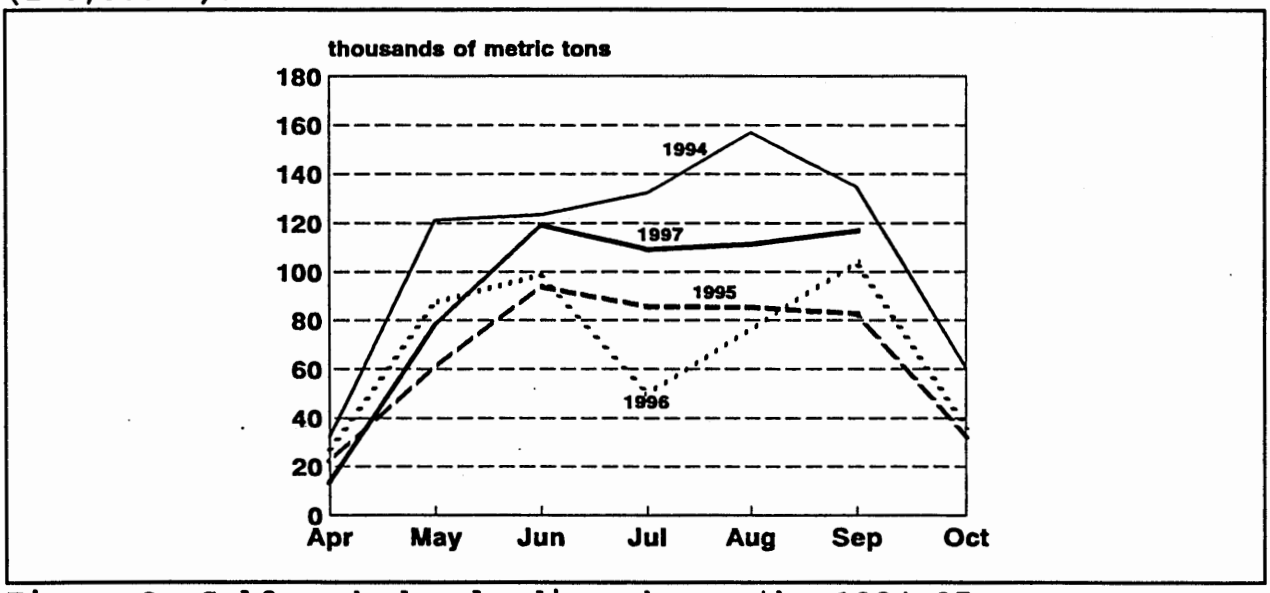


Figure 2 Gulf menhaden landings by month, 1994-97.

As in 1996, five menhaden reduction factories are operating on the Gulf Coast in 1997: Moss Point in Mississippi, and Empire, Morgan City, Intracoastal City, and Cameron in Louisiana. A total of 51 vessels have reported unloading gulf menhaden for reduction in 1997; the same number as in 1996.

Except for a few sporadic events (Hurricane Danny in July, and windy conditions in late June and September), weather patterns in the northern Gulf of Mexico have been generally favorable for purse-seine fishing during the 1997 gulf menhaden season.

Researchers from Louisiana State University again this summer mapped a large zone of oxygen-depleted waters, commonly called "the dead zone" off the coast of Louisiana. This summer's hypoxic zone formed later than previous summers, possibly due to windy conditions in spring. This summer, the zone was also smaller than that mapped during the previous three summers.

Age Composition of the Gulf Menhaden Samples in 1997

Through early October about 5,700 gulf menhaden have been aged from the 1997 port samples (Fig. 3). Coastwide, age-1 (46%) and age-2 (46%) gulf menhaden are equally represented, and both age classes combined comprise 92 percent of the samples. Age-3+ fish (8%) round out the remainder of the samples. Age-1 fish predominate in samples from Moss Point (66%), Empire (74%), and Cameron (54%). Age-2 fish predominate in samples from Morgan City (62%) and Intracoastal City (58%).

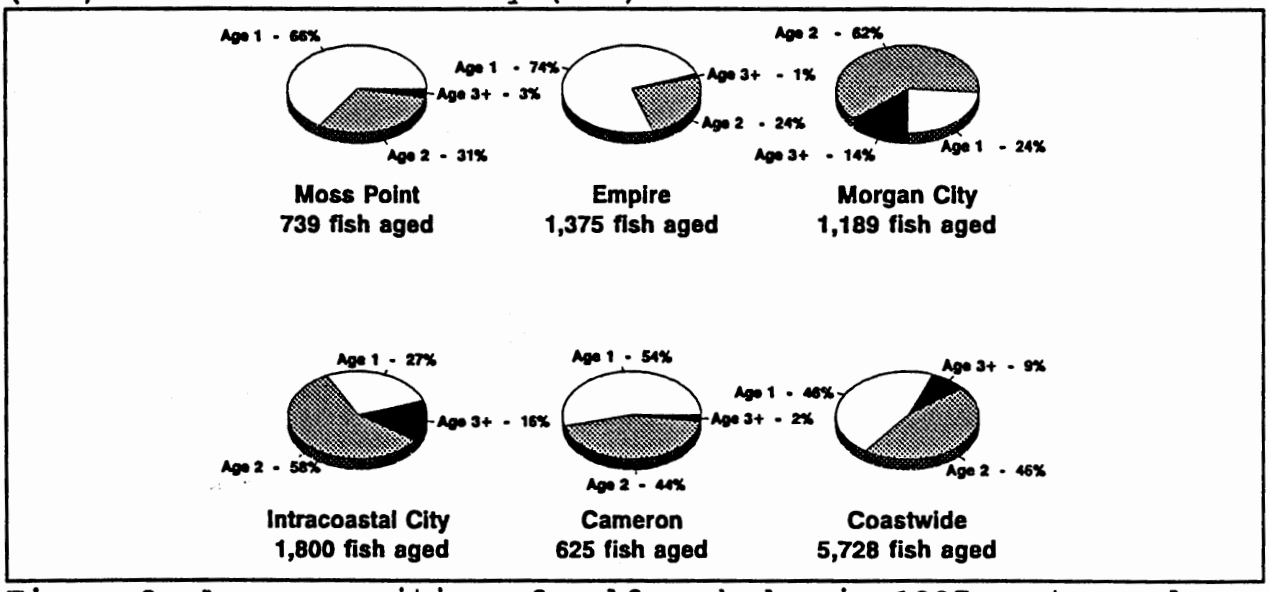


Figure 3 Age composition of gulf menhaden in 1997 port samples.

Status of the 1997 Forecast of Gulf Menhaden Landings

In Spring 1997 we anticipated that nominal fishing effort during the 1997 season could amount to 445,000 vessel ton weeks (with 51 vessels), and we forecasted 1997 gulf menhaden landings of 513,000 t with 80 percent confidence levels of 385,000 and 642,000 t. If landings of gulf menhaden in 1997 reach 600,000 t, this would be about 17 percent greater than our April forecast (513,000 t), but within the 80 percent confidence interval.

STATUS OF THE CAPTAIN'S DAILY FISHING REPORTS

Since January 1992 NMFS personnel have been digitizing Captain's Daily Fishing Reports (CDFRs) into data bases on personal computers. Twelve years of Atlantic menhaden CDFRs (1985-96) for the Virginia and North Carolina fleets have been keyed and edited. The data bases have been extremely helpful in answering management-related questions, such as, number of sets and catch by distance from shore, especially off the Virginia and North Carolina coasts. Gulf menhaden CDFRs for 1994-96 have been key-entered and edited. Limited analyses of catch, number of purse-seine sets, and average catch-per-set within 10x10 minute geographic cells have been made. The 1997 CDFRs from both coasts will be key-entered and edited this winter.

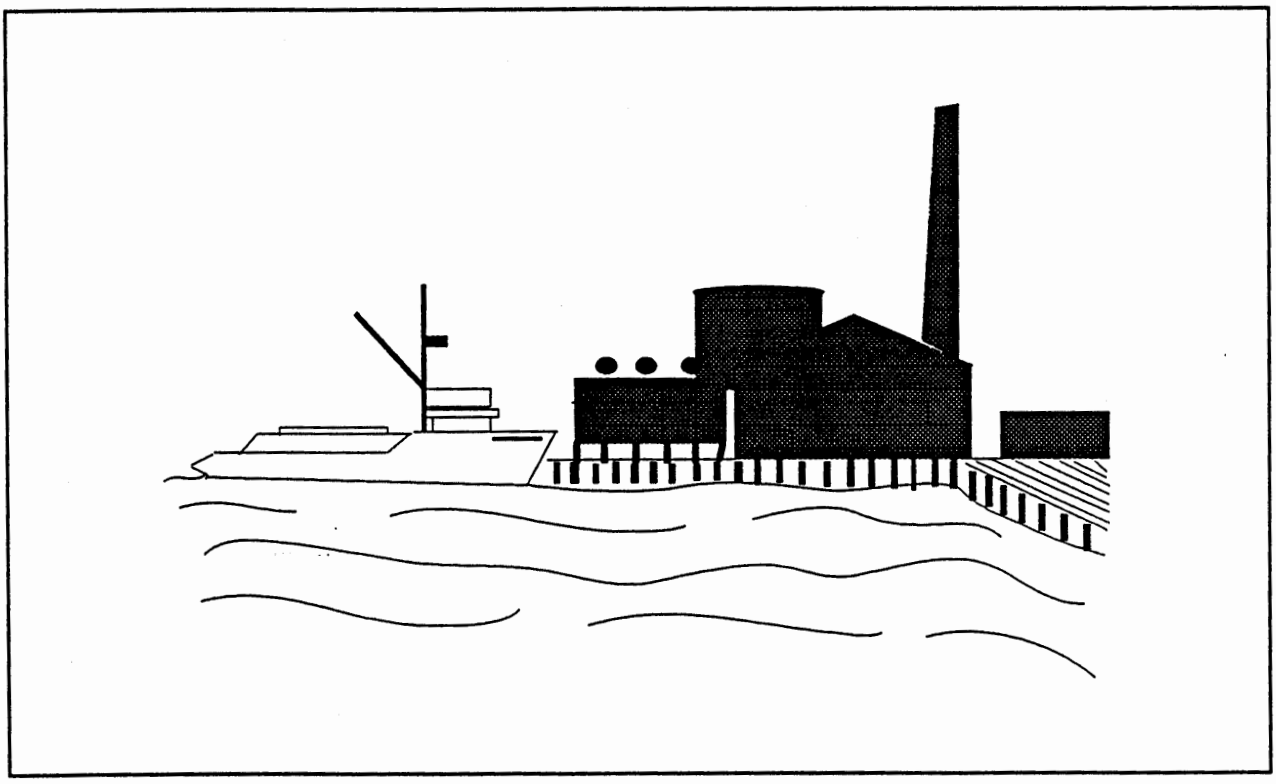


Table 1 Fishing effort and landings in the gulf menhaden purse-seine fishery, 1955-96.

Year	Fishing effort (1000 ves -ton-wks)	Landings (1000 metric t)	Year	Fishing effort (1000 ves -ton-wks)	Landings (1000 metric t)
1955	122.9	213.3	1976	575.8	561.2
1956	155.1	244.0	1977	532.7	447.1
1957	155.2	159.3	1978	574.3	820.0
1958	202.8	196.2	1979	533.9	777.9
1959	205.8	325.9	1980	627.6	701.3
1960	211.7	376.8	1981	623.0	552.6
1961	241.6	455.9	1982	653.8	853.9
1962	289.0	479.0	1983	655.8	923.5
1963	277.3	437.5	1984	645.9	982.8
1964	272.9	407.8	1985	560.6	881.1
1965	335.6	461.2	1986	606.5	822.1
1966	381.3	357.6	1987	604.2	894.2
1967	404.7	316.1	1988	594.1	623.7
1968	382.8	371.9	1989	555.3	569.6
1969	411.0	521.5	1990	563.1	528.3
1970	400.0	545.9	1991	472.3	544.3
1971	472.9	728.5	1992	408.0	421.4
1972	447.5	501.9	1993	455.2	539.2
1973	426.2	486.4	1994	472.0	761.6
1974	485.5	587.4	1995	417.0	463.9
1975	538.0	542.6	1996	451.7	479.4

The Effects of the el Niño-Southern Oscillation on Sea Birds

The effect of ENSO on sea birds is an area of study which has not been extensively researched. All of the information available is preliminatry and limited. Research began on this area because is was noticed that guano, a natural fertilizer consiting of bird feces, production was greatly reduced during el Niño years. This was problamatic to farmers, especially in Peru, and encouraged research on this subject.

It has been observed that during el Niño years many guano producing sea birds desert thier nests, migrate, or die. During the 1982-83 el Niño is is estimated that up to 85% of the sea bird population in Peru was killed. The causes of this migration and mortality are difficult to determine because of the lack of a long-term record and the numerous factors and effects of ENSO. Some of these which may contribute negatively to the sea bird population are, flooding of nesting sites, changing atmospheric circulation patterns, increasing sea surface temperatures, and migration of their primary food source, fish.

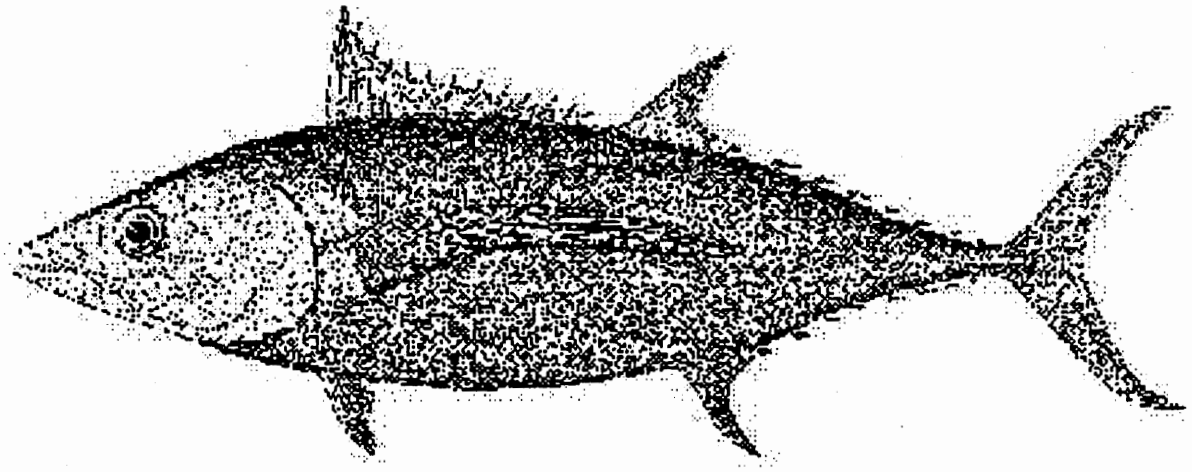
The extent of ENSO's effect on sea birds has also not yet been determined. It appears that these effects are confined to the eastern and central Pacific but that has not been conclusively proven. Research has shown that mild el Niño's may result in conditions that these birds can adjust to while strong el Niño's intensify these conditions, causing bird fatalities. If this is true, el Niño's of the past may be responsible for specifiction of the birds now living in the Eastern Pacific region.

Research on ENSO's effects on sea birds is ongoing but recieving less attention than when first discovered. Because little data was collected during the 1982-83 el Niño on this subject it seems likely that the next strong el Niño may provide answers to some of these questions.

References


Click Here to return to el Niño Home Page.

The Effects of the el Niño-Southern Oscillation on Fish of the Eastern Pacific



The el Niño-Southern Oscillation causes severe effects on the fish population of the coastal regions of the Eastern Pacific. The main causes are elevated sea surface temperatures, a decrease in coastal upwelling due to shifting wind patterns, and a large increase in rainfall. These anomolies result in the death and migration of fish and sea bird populations during el Niño years, which may take as long as two years to recover.

The increasing sea surface temperature (SST) during an el Niño is acompanied by a migration of the thermocline and subsequent deepening of the phytoplankton layer. These consequences of el Niño encourage the fish located in coastal areas to migrate north and south in search of cooler waters and food. Many fish, not able to migrate, die from lack of food or unbearable temperature elevation. Those who are able to move north and south do not fare much better because of the drastic drop in temperature upon entering the waters not affected by ENSO. These fish find themselves in unusually cold waters which many cannot survive.

Another factor contributing to the migration of these fish is the decrease in coastal upwelling due to a decrease in wind magnitude. During an el Niño, the air pressure between the western and eastern Pacific becomes more even, resulting in much calmer winds blowing from east to west. This reduces the amount of water displaced along the coast and subsequently the amount of water from depth which must replace it. This decreases upwelling and as a result the concentration of nutrients reaching the euphotic zone. Lack of nutrients at the surface, in addition to increased SST's, results in a migration of the phytoplantkton layer and makes it difficult for the fish to find sufficient food. This induces their migration poleward.

An increase in rainfall which accompanies ENSO also has an affect on coastal species of fish. This results from an increase in tubidity and a decrease in salinity. The torrential rains produced greatly increase river discharge which brings with it large amounts of sediment and fresh water. These factors have been shown to have some effect on the fish populations, but do not seem to be as important as increased SST and reduction in upwelling.

References

APPROVED BY:

COMMITTEE CHAIRMAN

3/18/98

TECHNICAL COORDINATING COMMITTEE
MINUTES
Wednesday 15, 1997
Gulf Shores, Alabama

Chairman Corky Perret called the meeting to order at 8:30 a.m. The following members and others were present:

Members
Steve Heath, ADCNR, Dauphin Island, AL
Phil Steele (proxy for A. Huff), FLDEP, St. Petersburg, FL
Doug Fruge (proxy for N. Clough), USFWS, Ocean Springs, MS
John Roussel, LDWF, Baton Rouge, LA
Corky Perret, MDMR, Biloxi, MS
Tom Van Devender, MDMR, Biloxi, MS
Mike Ray (proxy for G. McCarty), TPWD, Austin, TX
Terry Cody (proxy for H. Osburn), TPWD, Rockport, TX
Tom McIlwain (proxy for B. Brown), NMFS, Pascagoula, MS
Skip Lazauski, ADCNR, Gulf Shores, AL

Staff
Jeff Rester, Habitat Program Coordinator
Madeleine Travis, Staff Assistant
Larry Simpson, Executive Director
Ron Lukens, Assistant Director
Steve VanderKooy, IJF Coordinator
Dave Donaldson, SEAMAP Coordinator

Others
Dalton Berry, Zapata Protein, Mandeville, LA
Jim Giattina, Gulf of Mexico Program, Stennis Space Center, MS
Borden Wallace, Daybrook Fisheries, Empire, LA
Wendell Lorio, MSU, Stennis Space Center, MS
Jeff Lotz, USM-GCRL, Ocean Springs, MS
Robin Overstreet, USM-GCRL, Ocean Springs, MS
Ken Leber, Mote Marine Lab, Sarasota, FL
Ken Stuck, USM-GCRL, Ocean Springs, MS
Bill Hawkins, USM-GCRL, Ocean Springs, MS
Butch Pellegrin, NMFS, Pascagoula, MS
Scott Nichols, NMFS, Pascagoula, MS
Richard Waller, USM-GCRL, Ocean Springs, MS
Harriet Perry, USM-GCRL, Ocean Springs, MS
Micheal Bailey, NMFS, Silver Springs, MD
Dick Shaeffer, NMFS, Silver Springs, MD
Bill Price, NMFS, Silver Springs, MD
Gary Reinitz, USFWS, Arlington, VA
Dan Furlong, NMFS, St. Petersburg, FL
Patrick McFarland, Commissioner, Port St. Joe, FL
John Dodrill, FDEP, Tallahassee, FL

Adoption of Agenda

The agenda was approved as written.

Adoption of Minutes

The minutes for the meeting held on March 19, 1997 in Biloxi, Mississippi were approved with minor editorial changes.

State/Federal Reports

Florida - P. Steele stated that the Florida Marine Fisheries Commission passed a rule requiring two bycatch devices in west coast fisheries. Law suits are probable. Currently a limited entry program for the stone crab fishery is being developed. A lobster restoration program administered by the DEP is online now for Tampa Bay and areas south.

Alabama - S. Heath stated there has been approval for an expansion of the artificial reef zone off Alabama. Enforcement has increased concerning the placement and types of material allowed for use in the artificial reef program. Microhabitat studies have been funded to study the attraction of juvenile red snapper to oyster shell reefs. It is thought that the oyster reefs would attract the red snapper and move them out of shrimp trawling areas. Alabama is also participating in the charter boat survey, coordinated by the Commission, which is off to a good start. Disaster relief money for fisheries restoration has been acquired to build inshore fishing reefs out of oyster shells.

Mississippi - T. Van Devender reported that the oyster season ended in June and was a record year with 385,000 sacks being harvested. Disaster relief money was provided and was used to restore oyster reefs with 30,000 cubic yards of clam and oyster shell being planted in the past month. Also, older reefs have been cultivated to expose new material. Shrimp season opened this past June. The Wallop-Breaux money is continuing to fund various projects such as tagging studies on spotted seatrout and cobia and also red tide monitoring. Tidelands money is around $4-5 million this year. This money is derived as "rent" from the casinos along the coast. Studies have been conducted on roe mullet ageing and the effects of trawling on seagrass beds. Some of the tidelands money is being used to create low profile reefs and for monitoring of these reefs. Mississippi also had a state artificial reef plan developed by an outside contractor. The Mississippi Commission of Marine Resources has attempted to define what a degradable net is. Mississippi is also participating in the charter boat survey by the Commission and it is also off to a good start.

Louisiana - J. Roussel reported that 35 fisheries bills were passed in the 1997 legislative session. One bill prohibits the enforcement of federal laws concerning bycatch reduction devices in state waters. One bill instituted a maximum head rope length for shrimp trawls in offshore Louisiana territorial waters. The maximum length will be 130 feet until the year 2000 when it will decrease to 100 feet. Another bill allows a mitigation program to be set up to deal with problems associated with oyster lease holders affected by coastal restoration projects. A bill was passed to require two escape rings in crab traps. The escape rings can be blocked during certain times of the year. Fishermen are now allowed to have a 2 day possession limit of spotted seatrout and red drum. This limit doesn't apply to fishermen on the water. Shrimp season is going well with brown shrimp production being about average and an increase in white shrimp production. The oyster season is going well. Four new platforms have been donated to the artificial reef program. The sulfur mine artificial reef project in state waters is complete. There is an increase in seismic activity in state waters that has led to conflicts with shrimpers because of seismic sensing equipment left on the bottom.

Temperature and salinity data will in the near future be linked with satellites and will allow users with internet access to obtain real time salinity and temperature data via the internet.

Texas - M. Ray stated that a water management bill passed the legislature that requires drought plans and regulates inter-basin transfer of water. Also, a limited entry bill for the crab fishery was passed. No aquaculture bills passed this year. A red tide on the lower and middle coast has been ongoing for the past month with around 14.3 million fish killed. Most of the red tide is located offshore but it is spreading inshore in the Laguna Madre area. A shrimp virus monitoring program for all bays has been instituted. An exotic shrimp (Pacific white shrimp) release occurred in Matagorda Bay at the beginning of October. T. Cody reported on the shrimp license buy back program. The program bought back 37 licenses this year and around 2 percent of the bay and bait shrimp licenses have been bought back through the program since the start of the program. The cost to buy back each license has averaged $3400. A bycatch reduction device study in the shrimp fishery is currently ongoing.

NMFS - T. McIlwain reported that NMFS is working hard to implement the Magnuson-Stevens Act. NMFS is setting up a task force to preform a risk assessment study on shrimp viruses across the Gulf. A management workshop is being planned for January 1998 to develop rules and regulations to deal with shrimp viruses. Shrimp are being sampled during the ground fish survey across the Gulf shelf to look for the presence of shrimp viruses. Scott Nichols gave an update on the red drum tagging program. Dick Shaeffer stated that an executive order was signed by the president to develop a plan to enhance recreational fishing. The goals of the plan are to 1) maintain and rebuild healthy fish stocks that are important to recreational fishing, 2) maintain and rebuild healthy habitat, 3) provide increased access to the public, and 4) try and reach out to nontraditional users of fishery resources.

USFWS - D. Fruge reported that Jaime Clark is the new director for the Fish and Wildlife Service. The new regional director is Sam Hamilton. Included in the briefing materials was the FWS's *Fisheries and Aquatic Resources Strategic Plan for the Southeast Region*. The Service has attempted to define the aquatic resource issues that are of major importance to the agency, and outline the strategies and actions the Service would like to implement over the next seven years in helping to address those issues. The eight issues of concern to the Service are 1)loss of aquatic species diversity and stream fisheries, 2)controlling nonidigenous aquatic nuisance species, 3)Gulf of Mexico hypoxic zone, 4)recreational fisheries, 5)declines in coastal living aquatic resources, 6)depleted striped bass and other anadromous fish populations in the Gulf of Mexico and southeast Atlantic watersheds, 7)fisheries losses in the Lower Mississippi River, and 8)sturgeon and paddlefish declines. Wendell Lorio was introduced and talked about his project to inventory and prioritize Mississippi's coastal wetlands south of Interstate 10. The project will attempt to identify critical habitat for fish and other endangered wildlife.

Status of Freshwater Introduction Projects

L. Simpson stated that the Bonnet Carre freshwater diversion issue is not dead. There is still discussion between Louisiana and Mississippi concerning the opening of the Bonnet Carre. Construction has started on the Davis Pond freshwater diversion project. This freshwater diversion will affect Barataria Bay and it is scheduled to open in the year 2000.

Update of the Red Drum Tagging in the Gulf of Mexico

S. Nichols reported that there is a need for a tagging project to provide information for the population models. So far in 1997, 9818 fish were tagged with the average weight being 17 pounds. Five hundred fifty-

eight fish were sent for ageing. The first set this year resulted in a large fish kill and 1500 fish were killed by the end of the study. This represents about 0.002% of the red drum population in the Gulf. This is lower than the natural mortality of red drum each day. It was determined that low oxygen was killing the fish in the net and several precautions will be taken in the future. The study will target around 500 fish per set and monitor the oxygen levels during the set. The most important precaution will be to keep the net off the bottom. The recapture phase of the study will begin in 1998.

Overview of GCRL Stock Enhancement Program

An overview of the GCRL Stock Enhancement Program was given by B. Hawkins and J. Lotz along with K. Leber. The main goal of the program is to develop technology, protocols, and guidelines for the responsible use of hatchery releases of selected finfish. Marine stock enhancement is a new science with not much work being done before 1989. A key finding is that survival is dependent on several variables. They are size of the fish at release and the habitat where the fish are released. Another main finding of past research has been that in certain stocks there is a clear stocking effect on recruitment while there is no displacement of wild stock.

Discussion of Practices and Permits for Collection of Wild Shrimp

L. Simpson stated that the Gulf of Mexico Fishery Management Council wanted the Commission to gather the states' permitting requirements regarding the capture of wild shrimp for aquaculture purposes. Currently, three of the five Gulf states have responded to the Commission's request for permitting procedures. S. VanderKooy gave a summary on the permitting procedures. No specific regulations exist in Louisiana regarding the mariculture, collection, or transport of wild shrimp during shrimp season. Mississippi has no specific regulations regarding the collection of wild shrimp for research or aquaculture operations during the permitted shrimp season. Texas does not require a special permit for the transport of wild shrimp. Information for Florida and Alabama was not available.

Non-indigenous Species

J. Giattina of the Gulf of Mexico Program, spearheaded by the Environmental Protection Agency, gave an overview of the Program and their activities in the Gulf with respect to the introduction of nonindigenous species. He also discussed a recommendation that the Gulf of Mexico Program consider formally requesting status as a Regional Panel under the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (attachment A). Finally, he asked the TCC for their assistance to help evaluate the feasibility and desirability to request formal recognition as a Gulf of Mexico Regional Panel, with the option of returning for the Commission's endorsement if the Gulf of Mexico Program sees a benefit in moving forward with such a request.

Subcommittee Reports

Anadromous - D. Fruge stated that the subcommittee discussed several items with a major portion of the meeting dealing with striped bass restoration projects. Reports were given on nonpoint source pollution in the Pascagoula River and assessing the watershed's suitability as habitat for striped bass, a Pascagoula River water temperature profile, and Gulf sturgeon telemetry projects in Florida to track Gulf sturgeon. A briefing was provided on the development of a fishery management plan for the Lower Mississippi River. A draft Gulf striped bass public information brochure was distributed to the

subcommittee members for comment. Plans were also discussed for a striped bass workshop to be held in late 1998.

Crab - H. Perry gave a presentation on the geryonid crab fishery in the Gulf of Mexico. It is an open access fishery and the crabs are very long lived. Little is known about the species' life histories. B. Pellegrin gave a presentation on the natural mortality of blue crabs in the Gulf of Mexico. He has some preliminary data concerning the natural mortality of blue crabs but no concrete results yet. **P. Steele moved that the subcommittee wants to express their concern over the open access nature of the red and golden crab fishery in the Gulf of Mexico and recommend that the Gulf of Mexico Fishery Management Council develop a FMP or some other mechanism so that some measure of protection can be afforded these stocks. The motion was seconded and approved unanimously with T. McIlwain abstaining. T. McIlwain moved for the approval of the Commission to hold a symposium on natural mortality of blue crabs either in conjunction with a national meeting or a stand alone meeting with the Gulf states. The motion was seconded and passed unanimously.** Estuarine Research, Benthic Ecology, or the Crustacean Society were the possible national meetings the symposium could be held in conjunction with.

SEAMAP - D. Waller stated that reports were made on the completion of the fall plankton survey. The 1994 and 1995 data atlas was completed with the 1996 atlas coming out in January. The SEAMAP subcommittee will be coordinating with the Gulf of Mexico Program on the "State of the Gulf" report. Requests for SEAMAP data has been increasing, but money is
running low and SEAMAP could face the possibility of cutting back on the plankton sorting.

Data Management - S. Lazauski reported that the RecFIN/ConFIN meeting in September went well. The pilot charter boat survey has started and is going better than expected. The otolith guidelines and protocols draft booklet should be coming out next year. A stock assessment workshop is being planned for beginners and advanced professionals.

Artificial Reef - J. Dondril reported that a subcommittee meeting was held in February with the Atlantic States Marine Fisheries Commission Artificial Reef Subcommittee and a revision of the National Artificial Reef Plan was discussed. It is felt there should be an update of the 1994 document entitled "Artificial Reef Programs in the Gulf of Mexico." They will also be developing an artificial reef bibliography database. Another issue discussed was the private construction rights of artificial reefs.

In other business, there was **a motion by T. Van Devender to support the naming of the new NMFS research vessel stationed in Pascagoula after Gordon Gunter. The motion was seconded and it was passed unanimously.**

With no other business, the meeting adjourned at approximately 3:00 p.m.

TCC mem

Attachment A

FWS/MA: November 3, 1996

NONINDIGENOUS AQUATIC NUISANCE PREVENTION AND CONTROL ACT OF 1990

(P.L. 101-636, 11/29/90, as amended through 10/26/96[1])

An Act

To prevent and control infestations of the coastal inland waters of the United States by the zebra mussel and other nonindigenous aquatic nuisance species, to reauthorize the National Sea Grant College Program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I--AQUATIC NUISANCE PREVENTION AND CONTROL

CONTENTS

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[1] P.L. 102-587, 11/4/92. Subsection (b)(3), P.L. 102-580 made substantially identical amendments. Section 308, Safe Drinking Water Act Amendments of 1996 (P.L. 104-182, 8/6/96) National Invasive Species Act of 1996 (P.L. 104-332, 110 Stat. 4073, 10/26/96)

Subtitle A--General Provisions

SECTION 1001. SHORT TITLE.

This title may be cited as the "Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990".

SEC. 1002. FINDINGS AND PURPOSES.

(a) FINDINGS.--The Congress finds that--

(1) the discharge of untreated water in the ballast tanks of vessels and through other means results in unintentional introductions of nonindigenous species to fresh, brackish, and saltwater environments;

(2) when environmental conditions are favorable, nonindigenous species become established, may compete with or prey upon native species of plants, fish, and wildlife, and may carry diseases or parasites that affect native species, and may disrupt the aquatic environment and economy of affected nearshore areas;

(3) the zebra mussel was unintentionally introduced into the Great Lakes and has infested--

(A) waters south of the Great Lakes, into a good portion of the Mississippi River drainage;

(B) waters west of the Great Lakes, into the Arkansas River in Oklahoma; and

(C) waters east of the Great Lakes, into the Hudson River and Lake Champlain;

(4) the potential economic disruption to communities affected by the zebra mussel due to its colonization of water pipes, boat hulls and other hard surfaces has been estimated at $5,000,000,000 by the year 2000, and the potential disruption to the diversity and abundance of native fish and other species by the zebra mussel and ruffe, round goby and other nonindigenous species could be severe;

(5) the zebra mussel was discovered on Lake Champlain during 1993 and the opportunity exists to act quickly to establish zebra mussel controls before Lake Champlain is further infested and management costs escalate;

(6) in 1992, the zebra mussel was discovered at the northernmost reaches of the Chesapeake Bay watershed;

(7) the zebra mussel poses an imminent risk of invasion in the main waters of the Chesapeake Bay;

(8) since the Chesapeake Bay is the largest recipient of foreign ballast water on the East Coast, there is a risk of further invasions of other nonindigenous species;

(9) the zebra mussel is only one example of thousands of nonindigenous species that have become established in the waters of the United States and may be causing economic and ecological degradation with respect to the natural resources of waters of the United States;

(10) since their introduction in the early 1980's in ballast water discharges, ruffe--

(A) have caused severe declines in populations of other species of fish in Duluth Harbor (in Minnesota and Wisconsin);

(B) have spread to Lake Huron; and

(C) are likely to spread quickly to most other waters in North America if action is not taken promptly to control their spread;

(11) examples of nonindigenous species that, as of the date of enactment of the National Invasive Species Act of 1996, infest coastal waters of the United States and that have the potential for causing adverse

economic and ecological effects include--

(A) the mitten crab (*Eriochier sinensis*) that has become established on the Pacific Coast;

(B) the green crab (*Carcinus maenus*) that has become established in the coastal waters of the Atlantic Ocean;

(C) the brown mussel (*Perna perna*) that has become established along the Gulf of Mexico; and

(D) certain shellfish pathogens;

(12) many aquatic nuisance vegetation species, such as Eurasian watermilfoil, hydrilla, water hyacinth, and water chestnut, have been introduced to waters of the United States from other parts of the world causing or having a potential to cause adverse environmental, ecological, and economic effects;

(13) if preventive management measures are not taken nationwide to prevent and control unintentionally introduced nonindigenous aquatic species in a timely manner, further introductions and infestations of species that are as destructive as, or more destructive than, the zebra mussel or the ruffe infestations may occur;

(14) once introduced into waters of the United States, aquatic nuisance species are unintentionally transported and introduced into inland lakes and rivers by recreational boaters, commercial barge traffic, and a variety of other pathways; and

(15) resolving the problems associated with nonindigenous aquatic nuisance species will require the participation and cooperation of the Federal Government and State governments, and investment in the development of prevention technologies.

(b) PURPOSES.--The purposes of this Act are--

(1) to prevent unintentional introduction and dispersal of nonindigenous species into waters of the United States through ballast water management and other requirements;

(2) to coordinate federally conducted, funded or authorized research, prevention control, information dissemination and other activities regarding the zebra mussel and other aquatic nuisance species;

(3) to develop and carry out environmentally sound control methods to prevent, monitor and control unintentional introductions of nonindigenous species from pathways other than ballast water exchange;

(4) to understand and minimize economic and ecological impacts of nonindigenous aquatic nuisance species that become established, including the zebra mussel; and

(5) to establish a program of research and technology development and assistance to States in the management and removal of zebra mussels.

SEC. 1003. DEFINITIONS.

As used in this Act, the term--

(1) "aquatic nuisance species" means a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural,

aquacultural or recreational activities dependent on such waters;

(2) "Assistant Secretary" means the Assistant Secretary of the Army (Civil Works);

(3) "ballast water" means any water and associated sediments used to manipulate the trim and stability of a vessel;

(4) "Director" means the Director of the United States Fish and Wildlife Service;

(5) "exclusive economic zone" means the Exclusive Economic Zone of the United States established by Proclamation Number 5030, dated March 10, 1983, and the equivalent zone of Canada;

(6) "environmentally sound" methods, efforts, actions or programs means methods, efforts, actions or programs to prevent introductions or control infestations of aquatic nuisance species that minimize adverse impacts to the structure and function of an ecosystem and adverse effects on non-target organisms and ecosystems and emphasize integrated pest management techniques and nonchemical measures;

(7) "Great Lakes" means Lake Ontario, Lake Erie, Lake Huron (including Lake St. Clair), Lake Michigan, Lake Superior, and the connecting channels (Saint Mary's River, Saint Clair River, Detroit River, Niagara River, and Saint Lawrence River to the Canadian Border), and includes all other bodies of water within the drainage basin of such lakes and connecting channels.

(8) "Great Lakes region" means the 8 States that border on the Great Lakes;

(9) "Indian Tribe" means any Indian Tribe, band, nation, or other organized group or community, including any Alaska Native village or regional corporation (as defined in or established pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 *et seq.*)) that is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and

(10) "interstate organization" means an entity--

(A) established by--

(i) an interstate compact that is approved by Congress;

(ii) a Federal statute; or

(iii) a treaty or other international agreement with respect to which the United States is a party; and

(B)(i) that represents 2 or more--

(I) States or political subdivisions thereof; or

(II) Indian tribes; or

(ii) that represents--

(I) 1 or more States or political subdivisions thereof; and

(II) 1 or more Indian tribes; or

(iii) that represents the Federal Government and 1 or more foreign governments (or

any political subdivisions thereof); and

(C) has jurisdiction over, serves as forum for coordinating, or otherwise has a role or responsibility for the management of, any land or other natural resource.

(11) "nonindigenous species" means any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country into another;

(12) "Secretary" means the Secretary of the department in which the Coast Guard is operating;

(13) "Task Force" means the Aquatic Nuisance Species Task Force established under section 1201 of this Act;

(14) "territorial sea" means the belt of the sea measured from the baseline of the United States determined in accordance with international law, as set forth in Presidential Proclamation Number 5928, dated December 27, 1988;

(15) "Under Secretary" means the Under Secretary of Commerce for Oceans and Atmosphere;

(16) "waters of the United States" means the navigable waters and the territorial sea of the United States; and

(17) "unintentional introduction" means an introduction of nonindigenous species that occurs as the result of activities other than the purposeful or intentional introduction of the species involved, such as the transport of nonindigenous species in ballast or in water used to transport fish, mollusks or crustaceans for aquaculture or other purposes.

Subtitle B--Prevention of Unintentional Introductions of Nonindigenous Aquatic Species

SEC. 1101. AQUATIC NUISANCE SPECIES IN THE WATERS OF THE UNITED STATES.

(a) GREAT LAKES GUIDELINES.--

(1) IN GENERAL.--Not later than 6 months after the date of enactment of this Act, the Secretary shall issue voluntary guidelines to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through the exchange of ballast water of vessels prior to entering those waters.

(2) CONTENT OF GUIDELINES.--The guidelines issued under this subsection shall--

(A) ensure to the maximum extent practicable that ballast water containing aquatic nuisance species is not discharged into the Great Lakes;

(B) protect the safety of--

(i) each vessel; and

(ii) the crew and passengers of each vessel;

(C) take into consideration different vessel operating conditions; and

(D) be based on the best scientific information available.

(b) REGULATIONS.--

(1) IN GENERAL.--Not later than 2 years after the date of enactment of this Act, the Secretary, in consultation with the Task Force, shall issue regulations to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through the ballast water of vessels.

(2) CONTENT OF REGULATIONS.--The regulations issued under this subsection shall--

(A) apply to all vessels equipped with ballast water tanks that enter a United States port on the Great Lakes after operating on the waters beyond the exclusive economic zone;

(B) require a vessel to--

(i) carry out exchange of ballast water on the waters beyond the exclusive economic zone prior to entry into any port within the Great Lakes;

(ii) carry out an exchange of ballast water in other waters where the exchange does not pose a threat of infestation or spread of aquatic nuisance species in the Great Lakes and other waters of the United States, as recommended by the Task Force under section 1102(a)(1); or

(iii) use environmentally sound alternative ballast water management methods if the Secretary determines that such alternative methods are as effective as ballast water exchange in preventing and controlling infestations of aquatic nuisance species.

(C) not affect or supersede any requirements or prohibitions pertaining to the discharge of ballast water into waters of the United States under the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*);

(D) provide for sampling procedures to monitor compliance with the requirements of the regulations;

(E) prohibit the operation of a vessel in the Great Lakes if the master of the vessel has not certified to the Secretary or the Secretary's designee by not later than the departure of that vessel from the first lock in the St. Lawrence Seaway that the vessel has complied with the requirements of the regulations;

(F) protect the safety of--

(i) each vessel; and

(ii) the crew and passengers of each vessel;

(G) take into consideration different operating conditions; and

(H) be based on the best scientific information available.

(3) ADDITIONAL REGULATIONS.--In addition to promulgating regulations under paragraph (1), the Secretary, in consultation with the Task Force, shall, not later than November 4, 1994, issue regulations to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through ballast water carried on vessels that enter a United States port on the Hudson River north of the George Washington Bridge.

(4) EDUCATIONAL AND TECHNICAL ASSISTANCE PROGRAMS.--The Secretary may carry out education and technical assistance programs and other measures to encourage compliance with the regulations issued under this subsection.

(c) VOLUNTARY NATIONAL GUIDELINES.--

(1) IN GENERAL.--Not later than 1 year after the date of enactment of the National Invasive Species Act of 1996, and after providing notice and an opportunity for public comment, the Secretary shall issue voluntary guidelines to prevent the introduction and spread of nonindigenous species in waters of the United States by ballast water operations and other operations of vessels equipped with ballast water tanks.

(2) CONTENT OF GUIDELINES.--The voluntary guidelines issued under this subsection shall--

(A) ensure to the maximum extent practicable that aquatic nuisance species are not discharged into the waters of the United States from vessels;

(B) apply to all vessels equipped with ballast water tanks that operate in waters of the United States;

(C) protect the safety of--

(i) each vessel; and

(ii) the crew and passengers of each vessel;

(D) direct a vessel that is carrying ballast water into the waters of the United States after operating beyond the exclusive economic zone to--

(i) carry out the exchange of ballast water of the vessel in waters beyond the exclusive economic zone;

(ii) exchange the ballast water of the vessel in other waters where the exchange does not pose a threat of infestation or spread of nonindigenous species in the waters of the United States, as recommended by the Task Force under section 1102(a)(1); or

(iii) use environmentally sound alternative ballast water management methods, including modification of the vessel ballast tanks and intake systems, if the Secretary determines that such alternative methods are at least as effective as ballast water exchange in preventing and controlling infestations of aquatic nuisance species;

(E) direct vessels to carry out management practices that the Secretary determines to be necessary to reduce the probability of unintentional nonindigenous species transfer resulting from--

(i) ship operations other than ballast discharge; and

(ii) ballasting practices of vessels that enter waters of the United States with no ballast on board;

(F) provide for the keeping of records that shall be submitted to the Secretary, as prescribed by the guidelines, and that shall be maintained on board each vessel and made available for inspection, upon request of the Secretary and in a matter consistent with subsection (i), in order to enable the Secretary to determine compliance with the guidelines, including--

(i) with respect to each ballast water exchange referred to in clause (ii), reporting on the precise location and thoroughness of the exchange; and

(ii) any other information that the Secretary considers necessary to assess the rate of effective compliance with the guidelines;

(G) provide for sampling procedures to monitor compliance with the guidelines;

(H) take into consideration--

(i) vessel types;

(ii) variations in the characteristics of point of origin and receiving water bodies;

(iii) variations in the ecological conditions of waters and coastal areas of the United States; and

(iv) different operating conditions;

(I) be based on the best scientific information available;

(J) not affect or supersede any requirements or prohibitions pertaining to the discharge of ballast water into waters of the United States under the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*); and

(K) provide an exemption from ballast water exchange requirements to passenger vessels with operating ballast water systems that are equipped with treatment systems designed to kill aquatic organisms in ballast water, unless the Secretary determines that such treatment systems are less effective than ballast water exchange at reducing the risk of transfers of invasive species in the ballast water of passenger vessels; and

(L) not apply to crude oil tankers engaged in the coastwise trade.

(3) EDUCATION AND TECHNICAL ASSISTANCE PROGRAMS.--Not later than 1 year after the date of enactment of the National Invasive Species Act of 1996, the Secretary shall carry out education and technical assistance programs and other measures to encourage compliance with the guidelines issued under this subsection

(d) REPORT TO CONGRESS.--Not sooner than 24 months after the date of issuance of guidelines pursuant to subsection (c) and not later than 30 months after such date, and after consultation with interested and affected persons, the Secretary shall prepare and submit to Congress a report containing the information required pursuant to paragraphs (1) and (2) of subsection (e).

(e) PERIODIC REVIEW AND REVISION.--

(1) IN GENERAL.--Not later than 3 years after the date of issuance of guidelines pursuant to subsection (c), and not less frequently than every 3 years thereafter, the Secretary shall, in accordance with criteria developed by the Task Force under paragraph (3)--

(A) assess the compliance by vessels with the voluntary guidelines issued under this section and the regulations promulgated under this Act;

(B) establish the rate of compliance that is based on the assessment under subparagraph (A);

(C) assess the effectiveness of the voluntary guidelines and regulations referred to in subparagraph (A) in reducing the introduction and spread of aquatic nuisance species by vessels; and

(D) as necessary, on the basis of the best scientific information available--

(i) revise the guidelines and regulations referred to in subparagraph (A);

(ii) promulgate additional regulations pursuant to subsection (f)(1); or

(iii) carry out each of clauses (i) and (ii).

(2) SPECIAL REVIEW AND REVISION.--Not later than 90 days after the Task Force makes a request to the Secretary for a special review and revision for coastal and inland waterways designated by the Task Force, the Secretary shall--

(A) conduct a special review of guidelines and regulations applicable to those waterways in accordance with the review procedures under paragraph (1); and

(B) as necessary, in the same manner as provided under paragraph (1)(D)--

(i) revise those guidelines; and

(ii) promulgate additional regulations pursuant to subsection (f)(1); or

(iii) carry out each of clauses (i) and (ii).

(3) CRITERIA FOR EFFECTIVENESS.--Not later than 18 months after the date of enactment of the National Invasive Species Act of 1996, the Task Force shall submit to the Secretary criteria for determining the adequacy and effectiveness of the voluntary guidelines issued under subsection (c).

(f) AUTHORITY OF SECRETARY.--

(1) GENERAL REGULATIONS.--If, on the basis of a periodic review conducted under subsection (e)(1) or a special review conducted under subsection (e)(2), the Secretary determines that--

(A) the rate of effective compliance (as determined by the Secretary) with the guidelines issued pursuant to subsection (c) is inadequate; or

(B) the reporting by vessels pursuant to those guidelines is not adequate for the Secretary to assess the compliance with those guidelines and provide a rate of compliance of vessels, including the assessment of the rate of compliance of vessels under subsection (e)(2),

the Secretary shall promptly promulgate regulations that meet the requirements of paragraph (2).

(2) REQUIREMENTS FOR REGULATIONS.--The regulations promulgated by the Secretary under paragraph (1)--

(A) shall--

(i) not be promulgated sooner than 180 days following the issuance of the report to Congress submitted pursuant to subsection (d);

(ii) make mandatory the requirements included in the voluntary guidelines issued

under subsection (c); and

(iii) provide for the enforcement of the regulations; and

(B) may be regional in scope.

(3) INTERNATIONAL REGULATIONS.--The Secretary shall revise regulations promulgated under this subsection to the extent required to make such regulations consistent with the treatment of a particular matter in any international agreement, agreed to by the United States, governing management of the transfer of nonindigenous aquatic species by vessel.

(g) SANCTIONS.--

(1) CIVIL PENALTIES.--Any person who violates a regulation promulgated under subsection (e) or (f) shall be liable for a civil penalty in an amount not to exceed $25,000. Each day of a continuing violation constitutes a separate violation. A vessel operated in violation of the regulations is liable *in rem* for any civil penalty assessed under this subsection for that violation.

(2) CRIMINAL PENALTIES.--Any person who knowingly violates the regulations promulgated under subsection (e) or (f) is guilty of a class felony.

(3) REVOCATION OF CLEARANCE.--Upon request of the Secretary, the Secretary of the Treasury shall withhold or revoke the clearance of a vessel required by section 4197 of the Revised Statutes (46 U.S.C. App. 91), if the owner or operator of that vessel is in violation of the regulations issued under subsection (b) or (f).

(4) EXCEPTION TO SANCTIONS.--This subsection does not apply to a failure to exchange ballast water if--

(A) the master of a vessel, acting in good faith, decides that the exchange of ballast water will threaten the safety or stability of the vessel, its crew, or its passengers; and

(B) the recordkeeping and reporting requirements of the Act are complied with.

(h) COORDINATION WITH OTHER AGENCIES.--In carrying out the programs under this section, the Secretary is encouraged to use, to the maximum extent practicable, the expertise, facilities, members, or personnel of established agencies and organizations that have routine contact with vessels, including the Animal and Plant Health Inspection Service of the Department of Agriculture, the National Cargo Bureau, port administrations, and ship pilots' associations.

(i) CONSULTATION WITH CANADA, MEXICO, AND OTHER FOREIGN GOVERNMENTS.--In developing the guidelines issued and regulations promulgated under this section, the Secretary is encouraged to consult with the Government of Canada, the Government of Mexico, and any other government of a foreign country that the Secretary, in consultation with the Task Force, determines to be necessary to develop and implement an effective international program for preventing the unintentional introduction and spread of nonindigenous species.

(j) INTERNATIONAL COOPERATION.--The Secretary, in cooperation with the International Maritime Organization of the United Nations and the Commission on Environmental Cooperation established pursuant to the North American Free Trade Agreement, is encouraged to enter into negotiations with the governments of foreign countries to develop and implement an effective international program for preventing the unintentional introduction and spread of nonindigenous species.

(k) SAFETY EXEMPTION.--

(1) MASTER DISCRETION.--The master of a vessel is not required to conduct a ballast water exchange

if the master decides that the exchange would threaten the safety or stability of the vessel, its crew, or its passengers because of adverse weather, vessel architectural design, equipment failure, or any other extraordinary conditions.

(2) OTHER REQUIREMENTS.--

(A) IN GENERAL.--Except as provided in subparagraph (B), a vessel that does not exchange ballast water on the high seas under paragraph (1) shall not be restricted from discharging ballast water in any harbor.

(B) GREAT LAKES.--Subparagraph (A) shall not apply in a case in which a vessel is subject to the regulations issued by the Secretary under subsection (b).

(3) CRUDE OIL TANKER BALLAST FACILITY STUDY.--

(A) Within 60 days of the date of enactment of this Act, the Secretary of the department in which the Coast Guard is operating, in consultation with the Under Secretary of Commerce for Oceans and Atmosphere, affected shoreside ballast water facility operators, affected crude oil tanker operators, and interested parties, shall initiate a study of the effectiveness of existing shoreside ballast water facilities used by crude oil tankers in the coastwise trade off Alaska in preventing the introduction of nonindigenous aquatic species into the waters off Alaska, as well as the cost and feasibility of modifying such facilities to improve such effectiveness.

(B) The study required under subparagraph (A) shall be submitted to the Congress by no later than October 1, 1997.

(l) NON-DISCRIMINATION.--The Secretary shall ensure that vessels registered outside of the United States do not receive more favorable treatment than vessels registered in the United States when the Secretary performs studies, reviews compliance, determines effectiveness, establishes requirements, or performs any other responsibilities under this Act.

SEC. 1102. NATIONAL BALLAST WATER MANAGEMENT INFORMATION.

(a) STUDIES ON INTRODUCTION OF AQUATIC NUISANCE SPECIES BY VESSELS.--

(1) BALLAST EXCHANGE STUDY.--The Task Force, in cooperation with the Secretary, shall conduct a study--

(A) to assess the environmental effects of ballast water exchange on the diversity and abundance of native species in receiving estuarine, marine, and fresh waters of the United States; and

(B) to identify areas within the waters of the United States and the exclusive economic zone, if any, where the exchange of ballast water does not pose a threat of infestation or spread of aquatic nuisance species in the Great Lakes and other waters of the United States.

(2) BIOLOGICAL STUDY.--The Task Force, in cooperation with the Secretary, shall conduct a study to determine whether aquatic nuisance species threaten the ecological characteristics and economic uses of Lake Champlain and other waters of the United States other than the Great Lakes.

(3) SHIPPING STUDY.--The Secretary shall conduct a study to determine the need for controls on vessels entering waters of the United States, other than the Great Lakes, to minimize the risk of unintentional introduction and dispersal of aquatic nuisance species in those waters. The study shall include an examination

of--

(A) the degree to which shipping may be a major pathway of transmission of aquatic nuisance species in those waters;

(B) possible alternatives for controlling introduction of those species through shipping; and

(C) the feasibility of implementing regional versus national control measures.

(b) ECOLOGICAL AND BALLAST DISCHARGE SURVEYS.--

(1) ECOLOGICAL SURVEYS.--

(A) IN GENERAL.--The Task Force, in cooperation with the Secretary, shall conduct ecological surveys of the Chesapeake Bay, San Francisco Bay, Honolulu Harbor and, as necessary, of other estuaries of national significance and other waters that the Task Force determines--

(i) to be highly susceptible to invasion by aquatic nuisance species resulting from ballast water operations and other operations of vessels; and

(ii) to require further study.

(B) REQUIREMENTS FOR SURVEYS.--In conducting the surveys under this paragraph, the Task Force shall, with respect to each such survey--

(i) examine the attributes and patterns of invasions of aquatic nuisance species; and

(ii) provide an estimate of the effectiveness of ballast water management and other vessel management guidelines issued and regulations promulgated under this subtitle in abating invasions of aquatic nuisance species in the waters that are the subject of the survey.

(2) BALLAST DISCHARGE SURVEYS.--

(A) IN GENERAL.--The Secretary, in cooperation with the Task Force, shall conduct surveys of ballast discharge rates and practices in the waters referred to in paragraph (1)(A) on the basis of the criteria under clauses (i) and (ii) of such paragraph.

(B) REQUIREMENTS FOR SURVEYS.--In conducting the surveys under this paragraph, the Secretary shall--

(i) examine the rate of, and trends in, ballast water discharge in the waters that are the subject of the survey; and

(ii) assess the effectiveness of voluntary guidelines issued, and regulations promulgated, under this subtitle in altering ballast discharge practices to reduce the probability of accidental introductions of aquatic nuisance species.

(3) COLUMBIA RIVER.--The Secretary, in cooperation with the Task Force and academic institutions in each of the States affected, shall conduct an ecological and ballast water discharge survey of the Columbia River system consistent with the requirements of paragraphs (1) and (2).

(c) REPORTS.--

(1) BALLAST EXCHANGE.--Not later than 18 months after the date of enactment of this Act and prior to the effective date of the regulations issued under section 1101(b), the Task Force shall submit a report to the Congress that presents the results of the study required under subsection (a)(1) and makes recommendations with respect to such regulations.

(2) BIOLOGICAL AND SHIPPING STUDIES.--Not later than 18 months after the date of enactment of this Act, the Secretary and the Task Force shall each submit to the Congress a report on the results of their respective studies under paragraphs (2) and (3) of subsection (a).

(d) NEGOTIATIONS.--The Secretary, working through the International Maritime Organization, is encouraged to enter into negotiations with the governments of foreign countries concerning the planning and implementation of measures aimed at the prevention and control of unintentional introductions of aquatic nuisance species in coastal waters.

(e) REGIONAL RESEARCH GRANTS.--Out of amounts appropriated to carry out this subsection for a fiscal year, the Under Secretary may--

(1) make available not to exceed $750,000 to fund research on aquatic nuisance species prevention and control in the Chesapeake Bay through grants, to be competitively awarded and subject to peer review, to universities and research institutions;

(2) make available not to exceed $500,000 to fund research on aquatic nuisance species prevention and control in the Gulf of Mexico through grants, to be competitively awarded and subject to peer review, to universities and research institutions;

(3) make available not to exceed $500,000 to fund research on aquatic nuisance species prevention and control for the Pacific Coast through grants, to be competitively awarded and subject to peer review, to universities and research institutions;

(4) make available not to exceed $500,000 to fund research on aquatic nuisance species prevention and control for the Atlantic Coast through grants, to be competitively awarded and subject to peer review, to universities and research institutions; and

(5) make available not to exceed $750,000 to fund research on aquatic nuisance species prevention and control in the San Francisco Bay-Delta Estuary through grants, to be competitively awarded and subject to peer review, to universities and research institutions.

(f) NATIONAL BALLAST INFORMATION CLEARINGHOUSE:--

(1) IN GENERAL.--The Secretary shall develop and maintain, in consultation and cooperation with the Task Force and the Smithsonian Institution (acting through the Smithsonian Environmental Research Center), a clearinghouse of national data concerning--

(A) ballasting practices;

(B) compliance with the guidelines issued pursuant to section 1101(c); and

(C) any other information obtained by the Task Force under subsection (b).

(2) REPORT.--In consultation and cooperation with the Task Force and the Smithsonian Institution (acting through the Smithsonian Environmental Research Center), the Secretary shall prepare and submit to the Task Force and the Congress, on a biannual basis, a report that synthesizes and analyzes the data referred to in paragraph (1) relating to--

(A) ballast water delivery and management; and

(B) invasions of aquatic nuisance species resulting from ballast water.

SEC. 1103. ARMED SERVICES BALLAST WATER PROGRAMS.

(a) DEPARTMENT OF DEFENSE VESSELS.--Subject to operational conditions, the Secretary of Defense, in consultation with the Secretary, the Task Force, and the International Maritime Organization, shall implement a ballast water management program for seagoing vessels of the Department of Defense to minimize the risk of introduction of nonindigenous species from releases of ballast water.

(b) COAST GUARD VESSELS.--Subject to operational conditions, the Secretary, in consultation with the Task Force and the International Maritime Organization, shall implement a ballast water management program for seagoing vessels of the Coast Guard to minimize the risk of introduction of nonindigenous species from releases of ballast water.

SEC. 1104. BALLAST WATER MANAGEMENT DEMONSTRATION PROGRAM.

(a) TECHNOLOGIES AND PRACTICES DEFINED.--For purposes of this section, the term "technologies and practices" means those technologies and practices that--

(1) may be retrofitted--

(A) on existing vessels or incorporated in new vessel designs; and

(B) on existing land-based ballast water treatment facilities;

(2) may be designed into new water treatment facilities;

(3) are operationally practical;

(4) are safe for a vessel and crew;

(5) are environmentally sound;

(6) are cost-effective;

(7) a vessel operator is capable of monitoring; and

(8) are effective against a broad range of aquatic nuisance species.

(b) DEMONSTRATION PROGRAM.--

(1) IN GENERAL.--During an 18-month period beginning on the date that funds are made available by appropriations pursuant to section 1301(e), the Secretary of the Interior and the Secretary of Commerce, with the concurrence of and in cooperation with the Secretary, shall conduct a ballast water management demonstration program to demonstrate technologies and practices to prevent aquatic nonindigenous species from being introduced into and spread through ballast water in the Great Lakes and other waters of the United States.

(2) LOCATION.--The installation and construction of the technologies and practices used in the demonstration program conducted under this subsection shall be performed in the United States.

(3) VESSEL SELECTION.--In demonstrating technologies and practices on vessels under this subsection, the Secretary of the Interior and the Secretary of Commerce, shall--

(A) use only vessels that--

(i) are approved by the secretary;

(ii) have ballast systems conducive to testing aboard-vessel or land-based technologies and practices applicable to a significant number of merchant vessels; and

(iii) are--

(I) publicly or privately owned; and

(II) in active use for trade or other cargo shipment purposes during the demonstration;

(B) select vessels for participation in the program by giving priority consideration--

(i) first, to vessels documented under chapter 121 of title 46, United States Code;

(ii) second, to vessels that are a majority owned by citizens of the United States, as determined by the Secretary; and

(iii) third, to any other vessels that regularly call on ports in the United States; and

(C) seek to use a variety of vessel types, including vessels that--

(i) call on ports in the United States and on the Great Lakes; and

(ii) are operated along the other major coasts of the United States and inland waterways, including San Francisco Bay and Chesapeake Bay.

(4) SELECTION OF TECHNOLOGIES AND PRACTICES.--In selecting technologies and practices for demonstration under this subsection, the Secretary of the Interior and the Secretary of Commerce shall give priority consideration to technologies and practices identified as promising by the National Research Council Marine Board of the National Academy of Sciences in its report on ships' ballast water operations issued in July 1996.

(5) REPORT.--Not later than 3 years after the date of enactment of the National Invasive Species Act of 1996, the Secretary of the Interior and the Secretary of Commerce shall prepare and submit a report to Congress on the demonstration program conducted pursuant to this section. The report shall include findings and recommendations of the Secretary of the Interior and the Secretary of Commerce concerning technologies and practices.

(c) AUTHORITIES; CONSULTATION AND COOPERATION WITH INTERNATIONAL MARITIME ORGANIZATION AND TASK FORCE.

(1) AUTHORITIES.--In conducting the demonstration program under subsection (b), the Secretary of the Interior may--

(A) enter into cooperative agreements with appropriate officials of other agencies of the Federal Government, agencies of States and political subdivisions thereof, and private entities;

(B) accept funds, facilities, equipment, or personnel from other Federal agencies; and

(C) accept donations of property and services.

(2) CONSULTATION AND COOPERATION.--The Secretary of the Interior shall consult and cooperate with the International Maritime Organization and the Task Force in carrying out this section.

Subtitle C--Prevention and Control of Aquatic Nuisance Species Dispersal

SEC. 1201. ESTABLISHMENT OF TASK FORCE.

(a) TASK FORCE.--There is hereby established an "Aquatic Nuisance Species Task Force".

(b) MEMBERSHIP.--Membership of the Task Force shall consist of--

(1) the Director;

(2) the Under Secretary;

(3) the Administrator of the Environmental Protection Agency;

(4) the Commandant of the United States Coast Guard;

(5) the Assistant Secretary;

(6) the Secretary of Agriculture; and

(7) the head of any other Federal agency that the chairpersons designated under subsection (d) deem appropriate.

(c) *EX OFFICIO* MEMBERS.--The chairpersons designated under subsection (d) shall invite representatives of the Great Lakes Commission, the Lake Champlain Basin Program, the Chesapeake Bay Program, the San Francisco Bay-Delta Estuary Program, and State agencies and other governmental entities to participate as *ex officio* members of the Task Force.

(d) CHAIRPERSONS.--The Director and the Under Secretary shall serve as co-chairpersons of the Task Force and shall be jointly responsible, and are authorized to undertake such activities as may be necessary, for carrying out this subtitle in consultation and cooperation with the other members of the Task Force.

(e) MEMORANDUM OF UNDERSTANDING.--Within six months of the date of enactment of this Act, the Director and the Under Secretary shall develop a memorandum of understanding that describes the role of each in jointly carrying out this subtitle.

(f) COORDINATION.--Each Task Force member shall coordinate any action to carry out this subtitle with any such action by other members of the Task Force, and regional, State and local entities.

SEC. 1202. AQUATIC NUISANCE SPECIES PROGRAM.

(a) IN GENERAL.--The Task Force shall develop and implement a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to

disseminate related information.

(b) CONTENT.--The program developed under subsection (a) shall--

(1) identify the goals, priorities, and approaches for aquatic nuisance species prevention, monitoring, control, education and research to be conducted or funded by the Federal Government;

(2) describe the specific prevention, monitoring, control, education and research activities to be conducted by each Task Force member;

(3) coordinate aquatic nuisance species programs and activities of Task Force members and affected State agencies;

(4) describe the role of each Task Force member in implementing the elements of the program as set forth in this subtitle;

(5) include recommendations for funding to implement elements of the program; and

(6) develop a demonstration program of prevention, monitoring, control, education and research for the zebra mussel, to be implemented in the Great Lakes and any other waters infested, or likely to become infested in the near future, by the zebra mussel.

(c) PREVENTION.--

(1) IN GENERAL.--The Task Force shall establish and implement measures, within the program developed under subsection (a), to minimize the risk of introduction of aquatic nuisance species to waters of the United States, including--

(A) identification of pathways by which aquatic organisms are introduced to waters of the United States;

(B) assessment of the risk that an aquatic organism carried by an identified pathway may become an aquatic nuisance species; and

(C) evaluation of whether measures to prevent introductions of aquatic nuisance species are effective and environmentally sound.

(2) IMPLEMENTATION.--Whenever the Task Force determines that there is a substantial risk of unintentional introduction of an aquatic nuisance species by an identified pathway and that the adverse consequences of such an introduction are likely to be substantial, the Task Force shall, acting through the appropriate Federal agency, and after an opportunity for public comment, carry out cooperative, environmentally sound efforts with regional, State and local entities to minimize the risk of such an introduction.

(d) MONITORING.--The Task Force shall establish and implement monitoring measures, within the program developed under subsection (a), to--

(1) detect unintentional introductions of aquatic nuisance species;

(2) determine the dispersal of aquatic nuisance species after introduction; and

(3) provide for the early detection and prevention of infestations of aquatic nuisance species in unaffected drainage basins.

(c) CONTROL.--

(1) IN GENERAL.--The Task Force may develop cooperative efforts, within the program established under subsection (a), to control established aquatic nuisance species to minimize the risk of harm to the environment and the public health and welfare. For purposes of this Act, control efforts include eradication of infestations, reductions of populations, development of means of adapting human activities and public facilities to accommodate infestations, and prevention of the spread of aquatic nuisance species from infested areas. Such control efforts shall be developed in consultation with affected Federal agencies, States, Indian Tribes, local governments, interjurisdictional organizations, and other appropriate entities. Control actions authorized by this section shall be based on the best available scientific information and shall be conducted in an environmentally sound manner.

(2) DECISIONS.--The Task Force or any other affected agency or entity may recommend that the Task Force initiate a control effort. In determining whether a control program is warranted, the Task Force shall evaluate the need for control (including the projected consequences of no control and less than full control); the technical and biological feasibility and cost-effectiveness of alternative control strategies and actions; whether the benefits of control, including costs avoided, exceed the costs of the program; the risk of harm to non-target organisms and ecosystems, public health and welfare; and such other considerations the Task Force determines appropriate. The Task Force shall also determine the nature and extent of control of target aquatic nuisance species that is feasible and desirable.

(3) PROGRAMS.--If the Task Force determines in accordance with paragraph (2) that control of an aquatic nuisance species is warranted, the Task Force shall develop a proposed control program to achieve the target level of control. A notice summarizing the proposed action and soliciting comments shall be published in the Federal Register, in major newspapers in the region affected, and in principal trade publications of the industries affected. Within 180 days of proposing a control program, and after consultation with affected governmental and other appropriate entities and taking into consideration other comments received, the Task Force shall complete development of the proposed control program.

(f) RESEARCH.--

(1) PRIORITIES.--The Task Force shall, within the program developed under subsection (a), conduct research concerning--

(A) the environmental and economic risks and impacts associated with the introduction of aquatic nuisance species into the waters of the United States;

(B) the principal pathways by which aquatic nuisance species are introduced and dispersed;

(C) possible methods for the prevention, monitoring and control of aquatic nuisance species; and

(D) the assessment of the effectiveness of prevention, monitoring and control methods.

(2) PROTOCOL.--Within 90 days of the date of enactment of this Act, the Task Force shall establish and follow a protocol to ensure that research activities carried out under this subtitle do not result in the introduction of aquatic nuisance species to waters of the United States.

(3) GRANTS FOR RESEARCH.--The Task Force shall allocate funds authorized under this Act for competitive research grants to study all aspects of aquatic nuisance species, which shall be administered through the National Sea Grant College Program and the Cooperative Fishery and Wildlife Research Units. Grants shall be conditioned to ensure that any recipient of funds follows the protocol established under paragraph (2) of this subsection.

(g) TECHNICAL ASSISTANCE.--The Task Force shall, within the program developed under subsection (a), provide technical assistance to State and local governments and persons to minimize the environmental, public health, and safety risks associated with aquatic nuisance species, including an early warning system for advance notice of possible infestations and appropriate responses.

(h) EDUCATION.--The Task Force shall, with the program developed under subsection (a), establish and implement educational programs through Sea Grant Marine Advisory Services and any other available resources that it determines to be appropriate to inform the general public, State governments, governments of political subdivisions of States, and industrial and recreational users of aquatic resources in connection with matters concerning the identification of aquatic nuisance species, and control methods for such species, including the prevention of the further distribution of such species.

(i) ZEBRA MUSSEL DEMONSTRATION PROGRAM.--

(1) ZEBRA MUSSEL--

(A) IN GENERAL.--The Task Force shall, within the program developed under subsection (a), undertake a program of prevention, monitoring, control, education and research for the zebra mussel to be implemented in the Great Lakes and any other waters of the United States infested or likely to become infested by the zebra mussel, including--

(i) research and development concerning the species life history, environmental tolerances and impacts on fisheries and other ecosystem components, and the efficacy of control mechanisms and means of avoiding or minimizing impacts;

(ii) tracking the dispersal of the species and establishment of an early warning system to alert likely areas of future infestations;

(iii) development of control plans in coordination with regional, State and local entities; and

(iv) provision of technical assistance to regional, State and local entities to carry out this section.

(B) PUBLIC FACILITY RESEARCH AND DEVELOPMENT.--The Assistant Secretary, in consultation with the Task Force, shall develop a program of research, technology development, and demonstration for the environmentally sound control of zebra mussels in and around public facilities. The Assistant Secretary shall collect and make available, through publications and other appropriate means, information pertaining to such control methods.

(C) VOLUNTARY GUIDELINES.--Not later than 1 year after the date of enactment of this subparagraph, the Task Force shall develop and submit to the Secretary voluntary guidelines for controlling the spread of the zebra mussel and, if appropriate, other aquatic nuisance species through recreational activities, including boating and fishing. Not later than four months after the date of such submission, and after providing notice and an opportunity for public comment, the Secretary shall issue voluntary guidelines that are based on the guidelines developed by the Task Force under this subparagraph.

(2) DISPERSAL CONTAINMENT ANALYSIS.--

(A) RESEARCH.--The Administrator of the Environmental Protection Agency, in cooperation with the National Science Foundation and the Task Force, shall provide research grants on a competitive basis for projects that--

(i) identify environmentally sound methods for controlling the dispersal of aquatic nuisance species, such as the zebra mussel; and

(ii) adhere to research protocols developed pursuant to subsection (f)(2).

(B) AUTHORIZATION OF APPROPRIATIONS.--There are authorized to be appropriated to the Environmental Protection Agency to carry out this paragraph, $500,000.

(3) DISPERSAL BARRIER DEMONSTRATION.--

(A) IN GENERAL.--The Assistant Secretary, in consultation with the Task Force, shall investigate and identify environmentally sound methods for preventing and reducing the dispersal of nonindigenous nuisance aquatic species between the Great Lakes-Saint Lawrence drainage and the Mississippi River drainage through the Chicago River Ship and Sanitary Canal, including any of those methods that could be incorporated into the operation or construction of the lock system of the Chicago River Ship and Sanitary Canal.

(B) REPORT.--Not later than 18 months after the date of enactment of this paragraph, the Assistant Secretary shall issue a report to the Congress that includes recommendations concerning--

(i) which of the methods that are identified under the study conducted under this paragraph are most promising with respect to preventing and reducing the dispersal of aquatic nuisance species; and

(ii) ways to incorporate those methods into ongoing operations of the United States Army Corps of Engineers that are conducted at the Chicago River Ship and Sanitary Canal.

(C) AUTHORIZATION OF APPROPRIATIONS.--There are authorized to be appropriated to the Department of the Army, to carry out this paragraph $750,000.

(4) CONTRIBUTIONS.--To the extent allowable by law, in carrying out the studies under paragraphs (2) and (3), the Administrator of the Environmental Protection Agency and the Secretary of the Army may enter into an agreement with an interested party under which that party provides in kind or monetary contributions for the study.

(5) TECHNICAL ASSISTANCE.--The Great Lakes Environmental Research Laboratory of the National Oceanic and Atmospheric Administration shall provide technical assistance to appropriate entities to assist in the research conducted pursuant to this subsection.

(j) IMPLEMENTATION.--

(1) REGULATIONS.--The Director, the Secretary, and the Under Secretary may issue such rules and regulations as may be necessary to implement this section.

(2) PARTICIPATION OF OTHERS.--The Task Force shall provide opportunities for affected Federal agencies which are not part of the Task Force, State and local government agencies, and regional and other entities with the necessary expertise to participate in control programs. If these other agencies or entities have sufficient authority or jurisdiction and expertise and where this will be more efficient or effective, responsibility for implementing all or a portion of a control program may be delegated to such agencies or entities.

(k) REPORTS.--

(1) Not later than 12 months after the date of enactment of this Act, the Task Force shall submit a

report describing the program developed under subsection (a), including the research protocol required under subsection (f)(2), to the Congress.

(2) On an annual basis after the submission of the report under paragraph (1), the Task Force shall submit a report to the Congress detailing progress in carrying out this section.

SEC. 1203. REGIONAL COORDINATION.

(a) GREAT LAKES PANEL.--

(1) IN GENERAL.--Not later than 30 days following the date of enactment of this Act, the Task Force shall request that the Great Lakes Commission (established under Article IV of the Great Lakes Compact to which the Congress granted consent in the Act of July 24, 1968, P.L. 90-419) convene a panel of Great Lakes region representatives from Federal, State and local agencies and from private environmental and commercial interests to--

(A) identify priorities for the Great Lakes region with respect to aquatic nuisance species;

(B) make recommendations to the Task Force regarding programs to carry out section 1202(i) of this Act;

(C) assist the Task Force in coordinating Federal aquatic nuisance species program activities in the Great Lakes region;

(D) coordinate, where possible, aquatic nuisance species program activities in the Great Lakes region that are not conducted pursuant to this Act;

(E) provide advice to public and private individuals and entities concerning methods of controlling aquatic nuisance species; and

(F) submit annually a report to the Task Force describing activities within the Great Lakes region related to aquatic nuisance species prevention, research, control.

(2) CONSULTATION.--The Task Force shall request that the Great Lakes Fishery Commission provide information to the panel convened under this subsection on technical and policy matters related to the international fishery resources of the Great Lakes.

(3) CANADIAN PARTICIPATION.--The panel convened under this subsection is encourage to invite representatives from the Federal, provincial or territorial governments of Canada to participate as observers.

(b) WESTERN REGIONAL PANEL.--Not later than 30 days after the date of enactment of the National Invasive Species Act of 1996, the Task Force shall request a Western regional panel, comprised of Western region representatives from Federal, State, and local agencies and from private environmental and commercial interests, to--

(1) identify priorities for the Western region with respect to aquatic nuisance species;

(2) make recommendations to the Task Force regarding an education, monitoring (including inspection), prevention, and control program to prevent the spread of the zebra mussel west of the 100th Meridian pursuant to section 1202(i) of this Act;

(3) coordinate, where possible, other aquatic nuisance species program activities in the Western region that are not conducted pursuant to this Act;

(4) develop an emergency response strategy for Federal, State, and local entities for stemming new invasions of aquatic nuisance species in the region;

(5) provide advice to public and private individuals and entities concerning methods of preventing and controlling aquatic nuisance species infestations; and

(6) submit annually a report to the Task Force describing activities within the Western region related to aquatic nuisance species prevention, research, and control.

(c) ADDITIONAL REGIONAL PANELS.--The Task Force shall--

(1) encourage the development and use of regional panels and other similar entities in regions other than the Great Lakes and western regions (including providing financial assistance for the development and use of such entities) to carry out, with respect to those regions, activities that are similar to the activities described in subsection (a) and (b); and

(2) cooperate with regional panels and similar entities that carry out the activities described in paragraph (1).

SEC. 1204. STATE AQUATIC NUISANCE SPECIES MANAGEMENT PLANS.

(a) STATE OR INTERSTATE INVASIVE SPECIES MANAGEMENT PLANS.--

(1) IN GENERAL.--After providing notice and opportunity for public comment, the Governor of each State may prepare and submit, or the Governors of the States and the governments of Indian Tribes involved in an interstate organization, may jointly prepare and submit--

(A) a comprehensive management plan to the Task Force for approval which identifies those areas or activities within the State or within the interstate region involved, other than those related to public facilities, for which technical, enforcement, or financial assistance (or any combination thereof) is needed to eliminate or reduce the environmental, public health, and safety risks associated with aquatic nuisance species, particularly the zebra mussel; and

(B) a public facility management plan to the Assistant Secretary for approval which is limited solely to identifying those public facilities within the State or within the interstate region involved for which technical and financial assistance is needed to reduce infestations of zebra mussels.

(2) CONTENT.--Each plan shall, to the extent possible, identify the management practices and measures that will be undertaken to reduce infestations of aquatic nuisance species. Each plan shall--

(A) identify and describe State and local programs for environmentally sound prevention and control of the target aquatic nuisance species;

(B) identify Federal activities that may be needed for environmentally sound prevention and control of aquatic nuisance species and a description of the manner in which those activities should be coordinated with State and local government activities;

(C) identify any authority that the State (or any State or Indian Tribe involved in the interstate organization) does not have at the time of the development of the plan that may be necessary for the State (or any State or Indian Tribe involved in the interstate organization) to protect public health, property, and the environment from harm by aquatic nuisance species; and

(D) a schedule of implementing the plan, including a schedule of annual objectives, and enabling legislation.

(3) CONSULTATION.--

(A) In developing and implementing a management plan, the State or interstate organization should, to the maximum extent practicable, involve local governments and regional entities, Indian Tribes, and public and private organizations that have expertise in the control of aquatic nuisance species.

(B) Upon the request of a State or the appropriate official of an interstate organization, the Task Force or the Assistant Secretary, as appropriate under paragraph (1), may provide technical assistance in developing and implementing a management plan.

(4) PLAN APPROVAL.--Within 90 days after the submission of a management plan, the Task Force or the Assistant Secretary in consultation with the Task Force, as appropriate under paragraph (1), shall review the proposed plan and approve it if it meets the requirements of this subsection or return the plan to the Governor or the interstate organization with recommended modifications.

(b) GRANT PROGRAM.--

(1) STATE GRANTS.--The Director may, at the recommendation of the Task Force, make grants to States with management plans approved under subsection (a) for the implementation of those plans.

(2) APPLICATION.--An application for a grant under this subsection shall include an identification and description of the best management practices and measures which the State proposes to utilize in implementing an approved management plan with any Federal assistance to be provided under the grant.

(3) FEDERAL SHARE.--

(A) The Federal share of the cost of each comprehensive management plan implemented with Federal assistance under this section in any fiscal year shall not exceed 75 percent of the cost incurred by the State in implementing such management program and the non-Federal share of such costs shall be provided from non-Federal sources.

(B) The Federal share of the cost of each public facility management plan implemented with Federal assistance under this section in any fiscal year shall not exceed 50 percent of the cost incurred by the State in implementing such management program and the non-Federal share of such costs shall be provided from non-Federal sources.

(4) ADMINISTRATIVE COSTS.--For the purposes of this section, administrative costs for activities and programs carried out with a grant in any fiscal year shall not exceed 5 percent of the amount of the grant in that year.

(5) IN-KIND CONTRIBUTIONS.--In addition to cash outlays and payments, in-kind contributions of property or personnel services by non-Federal interests for activities under this section may be used for the non-Federal share of the cost of those activities.

(c) ENFORCEMENT ASSISTANCE.--Upon request of a State or Indian tribe, the Director or the Under Secretary, to the extent allowable by law and in a manner consistent with section 141 of title 14, United States Code, may provide assistance to a State or Indian tribe in enforcing an approved State or interstate invasive species management plan.

SEC. 1205. RELATIONSHIP TO OTHER LAWS.

All actions taken by Federal agencies in implementing the provisions of section 1202 shall be consistent with all applicable Federal, State, and local environmental laws. Nothing in this title shall affect the authority of any State or political subdivision thereof to adopt or enforce control measures for aquatic nuisance species, or diminish or affect the jurisdiction of any State over species of fish and wildlife. Compliance with the control and eradication measures of any State or political subdivision thereof regarding aquatic nuisance species shall not relieve any person of the obligation to comply with the provisions of this subtitle.

SEC. 1206. INTERNATIONAL COOPERATION.

(a) ADVICE.--The Task Force shall provide timely advice to the Secretary of State concerning aquatic nuisance species that infest waters shared with other countries.

(b) NEGOTIATIONS.--The Secretary of State, in consultation with the Task Force, is encouraged to initiate negotiations with the governments of foreign countries concerning the planning and implementation of prevention, monitoring, research, education, and control programs related to aquatic nuisance species infesting shared water resources.

SEC. 1207. INTENTIONAL INTRODUCTIONS POLICY REVIEW.

Within one year of the date of enactment of this Act, the Task Force shall, in consultation with State fish and wildlife agencies, other regional, State and local entities, potentially affected industries and other interested parties, identify and evaluate approaches for reducing the risk of adverse consequences associated with intentional introduction of aquatic organisms and submit a report of their findings, conclusions and recommendations to the Congress.

SEC. 1208. INJURIOUS SPECIES.

Section 42(a) of title 18, United States Code is amended by inserting "of the zebra mussel of the species *Dreissena polymorpha*;" after "*Pteropus*;".

SEC. 1209. BROWN TREE SNAKE CONTROL PROGRAM.

The Task Force shall, within the program developed under subsection (a), undertake a comprehensive, environmentally sound program in coordination with regional, territorial, State and local entities to control the brown tree snake (*Boiga irregularis*) in Guam and other areas where the species is established outside of its historic range.

Subtitle D--Authorizations of Appropriation

SEC. 1301. AUTHORIZATIONS.

(a) PREVENTION OF UNINTENTIONAL INTRODUCTIONS.--There are authorized to be appropriated to develop and implement the provisions of subtitle B--

(1) $500,000 until the end of fiscal year 1992 to the Secretary to carry out sections 1101 and 1102(a)(3);

(2) $2,000,000 until the end of fiscal year 1992 to the Director and Under Secretary to carry out the studies under sections 1102(a)(1) and 1102(a)(2);

(3) To the Secretary to carry out section 1101--

(A) $2,000,000 for each of fiscal years 1997 and 1998; and

(B) $3,000,000 for each of fiscal years 1999 through 2002;

(4) for each of fiscal years 1997 through 2002, to carry out paragraphs (1) and (2) of section 1102(b)-

(A) $1,000,000 to the Department of the Interior, to be used by the Director; and

(B) $1,000,000 to the Secretary; and

(5) for each of fiscal years 1997 through 2002--

(A) $3,000,000, which shall be made available from funds otherwise to be appropriated if such funds are so authorized, to the Under Secretary to carry out section 1102(e); and

(B) $500,000 to the Secretary to carry out section 1102(f).

(b) TASK FORCE AND AQUATIC NUISANCE SPECIES PROGRAM.--There are authorized to be appropriated for each of fiscal years 1997 through 2002 to develop and implement the provisions of subtitle C--

(1) $6,000,000 to the Department of the Interior, to be used by the Director to carry out sections 1202 and 1209;

(2) $1,000,000 to the Department of Commerce, to be used by the Under Secretary to carry out section 1202;

(3) $1,625,000, which shall be made available from funds otherwise to be appropriated if such funds are so authorized, to fund aquatic nuisance species prevention and control research under section 1202(i) at the Great Lakes Environmental Research Laboratory of the National Oceanic and Atmospheric Administration, of which $500,000 shall be made available for grants, to be competitively awarded and subject to peer review, for research related to Lake Champlain;

(4) $5,000,000 for competitive grants for university research on aquatic nuisance species under section 1202(f)(3) as follows:

(A) $2,800,000, which shall be made available from funds otherwise to be appropriated if such funds are so authorized, to fund grants under section 205 of the National Sea Grant College Program Act (33 U.S.C. 1124) ;

(B) $1,200,000 to fund grants to colleges for the benefit of agriculture and the mechanics arts referred to in the first section of the Act of August 30, 1890 (26 Stat. 417, Chapter 841; 7 U.S.C. 322); and

(C) $1,000,000 to fund grants through the Cooperative Fisheries and Wildlife Research Unit Program of the United States Fish and Wildlife Service;

(5) $3,000,000 to the Department of the Army, to be used by the Assistant Secretary to carry out section 1202(i)(1)(B); and

(6) $300,000 to the Department of the Interior, to be used by the Director to fund regional panels and other similar entities under section 1203, of which $100,000 shall be used to fund activities of the Great Lakes Commission;

(c) GRANTS FOR STATE MANAGEMENT PROGRAMS.--There are authorized to be appropriated for each of fiscal years 1997 through 2002, $4,000,000 to the Department of the Interior, to be used by the Director for making grants

Appropriations Authorized by Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, As Amended

($000)

Purpose			Fiscal Year						
Section	Subject	Agency	1997	1998	1999	2000	2001	2002	Totals
Section 1301									
1101	BW management req.	USCG	$ 2,000	$ 2,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$16,000
1102(b)(1)	Ecological surveys	FWS	1,000	1,000	1,000	1,000	1,000	1,000	6,000
1102(b)(2)	Ballast discharge surveys	USCG	1,000	1,000	1,000	1,000	1,000	1,000	6,000
1102(e)	Regional research grants	NOAA	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)	(18,000)
1102(f)	Nat'l. Ballast Info. Clrhse.	USCG	500	500	500	500	500	500	3,000
1104	BW mgt. demonstration prog.	DoI/DoC	<----------$2,500---------->			---	---	---	2,500
1202/1209	ANS Program/BTS control	FWS	6,000	6,000	6,000	6,000	6,000	6,000	36,000
1202	ANS Program	NOAA	1,000	1,000	1,000	1,000	1,000	1,000	6,000
1202(f)(3)	Grants for research	NOAA/Sea Grant	(2,800)	(2,800)	(2,800)	(2,800)	(2,800)	(2,800)	(16,800)
		USDA/Land Grnt.	1,200	1,200	1,200	1,200	1,200	1,200	7,200
		FWS-Coop Units	1,000	1,000	1,000	1,000	1,000	1,000	6,000
1202(i)	ANS research at GLERL	NOAA	(1,625)	(1,625)	(1,625)	(1,625)	(1,625)	(1,625)	(9,750)
	[Grants for L. Champlain res.		500	500	500	500	500	500	3,000]
1202(i)(1)(B)	Pub. facil. zebra mussel R&D	USACoE	3,000	3,000	3,000	3,000	3,000	3,000	18,000
1203	Regional panels	FWS	300	300	300	300	300	300	1,500
	[Great Lakes Commission		100	100	100	100	100	100	600]
1204	State mgt. program grants	FWS	4,000	4,000	4,000	4,000	4,000	4,000	24,000
---	Narragansett Bay research	FWS	<----------$1,000---------->						1,000
Section 1202(i)									
1202(i)(2)	Dispersal containment anal.	EPA	<----------500---------->						500
1202(i)(3)	Dispersal barrier demonstration	USACoE	<----------750---------->		---	---	---	---	750

under section 1204, of which $1,500,000 shall be used by the Director, in consultation with the Assistant Secretary, for management of aquatic nuisance vegetation species.

(d) INTENTIONAL INTRODUCTIONS POLICY REVIEW.--There are authorized to be appropriated for fiscal year 1991, $500,000 to the Director and the Under Secretary to conduct the intentional introduction policy review under section 1207.

(e) BALLAST WATER MANAGEMENT DEMONSTRATION PROGRAM.--There are authorized to be appropriated $2,500,000 to carry out section 1104.

(f) RESEARCH.--There are authorized to be appropriated to the Director $1,000,000 to carry out research on the prevention, monitoring, and control of aquatic nuisance species in Narragansett Bay, Rhode Island. The funds shall be made available for use by the Department of Environmental Management of the State of Rhode Island.

SEC. 3. STATUTORY CONSTRUCTION.

Nothing in this Act or the amendments made by this Act is intended to affect the authorities and responsibilities of the Great Lakes Fishery Commission established under article II of the Convention on Great Lakes Fisheries between the United States of America and Canada, signed at Washington on September 10, 1954 (hereafter in this section referred to as the "Convention"), including the authorities and responsibilities of the Great Lakes Fishery Commission--

(1) for developing and implementing a comprehensive program for eradicating or minimizing populations of sea lamprey in the Great Lakes watershed; and

(2) carrying out the duties of the Commission specified in the Convention (including any amendment thereto) and the Great Lakes Fishery Act of 1956 (16 U.S.C. 931 *et seq.*).

APPROVED BY:

COMMITTEE CHAIRMAN

LAW ENFORCEMENT COMMITTEE (LEC)
& JOINT GSMFC LEC & GULF COUNCIL
LAW ENFORCEMENT ADVISORY PANEL
MEETING MINUTES
October 15, 1997
Gulf Shores, Alabama

Jerry Waller, Chairman, called the meeting to order at 8:40 a.m. The following were in attendance:

Members
Tom Atkin, USCG, New Orleans, LA
Terry Bakker, MDWFP, Biloxi, MS
Bruce Buckson, FDEP, Tallahassee, FL
Dennis Johnston, TPWD, Austin, TX
Jeff Mayne, LDWF, Baton Rouge, LA
Gene Proulx, DOC/NOAA/NMFS, St. Petersburg, FL
Jerry Waller, ADCNR/MRD, Dauphin Island, AL

Others
Pryor G. Bailey, Zapata Protein (USA), Inc., Moss Point, MS
Dalton Berry, Zapata Protein (USA), Inc., Hammond, LA
Page Campbell, TPWD, Rockport, TX
Allan J. Coker, NMFS, Niceville, FL
Ronald Dearmin, NMFS, Carriere, MS
Gene Dismukes, AL Governor's Office, Lowndesboro, AL
Dave Eddie, USCG, New Orleans, LA
Bill Ferguson, USFWS, Lake Charles, LA
Sharon Henson, SE Outdoor Press, Gulf Shores, AL
Tracy Herring, Pensacola, FL
John T. Jenkins, ADCNR/MRD, Dauphin Island, AL
Boyd Kennedy, TPWD, Austin, TX
Rick Leard, GMFMC, Tampa, FL
Vincent Lepoma, MDWFP, Biloxi, MS
Luis Fueyo MacDonald, PROFEPA, Mexico
Joe McClure, TPWD, Austin, TX
Gene Moore, USFWS, Slidell, LA
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Matt Pennise, Pensacola, FL
Corky Perret, MDMR, Biloxi, MS
Eduardo Pino, USCG, Miami, FL
Randy Rader, Gulf Protein, Inc., Amelia, LA
Karen Atrim Raine, NOAA General Counsel, St. Petersburg, FL
John Roussel, LDWF, Baton Rouge, LA

Staff
Larry B. Simpson, Executive Director, Ocean Springs, MS
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Opening Remarks

Chairman Waller asked the table to introduce themselves and then requested G. Proulx to introduce the committee's guest, Luis MacDonald. Mr. Proulx introduced Mr. MacDonald, the director general of inspection and surveillance for the Mexican resource agency PROFEPA. Mr. MacDonald has worked with several members of the committee on enforcement issues and has extended the hand of cooperative fisheries enforcement between the United States and Mexico.

Adoption of Agenda

J. Waller moved to add an ISSC report from Terry Bakker. The group may also want to discuss the upcoming USFDA meeting in Washington under other business. The agenda was adopted with these changes.

Approval of Minutes

There being no changes or additions, the minutes of the meeting held June 19-20, 1997, in Key West, Florida, were approved as presented.

United States/Mexico Enforcement Cooperation

L. MacDonald reported that their agency (PROFEPA) is committing an enormous amount of energy and manpower to natural resources enforcement. They currently have 18 officers in Mexico City and a total of 145 officers in the country. They plan to hire an additional 300 officers in the near future.

PROFEPA is currently working in a cooperative nature with the NMFS on three cases. One involves the abalone fishery in the Pacific, and the other two cases involve the Gulf of Mexico snapper and lobster fisheries.

D. Johnston noted that the state of Texas has had three meetings with PROFEPA to begin and encourage future dialog on fisheries law enforcement. Problems with imports coming into the United States from Mexico were discussed as well as other general fishing and netting enforcement difficulties.

L. MacDonald reported that new Mexican regulations for snapper including season and minimum size will go into effect in early 1998. Problems exist with the importation of illegal red snappers from Mexico both as out-of-season and undersized fish. Enforcement officials from both Mexico and the United States have difficulties determining where these fish have originated during closed seasons. Several members of the committee noted that any attempt to unify regulations between our countries would greatly assist enforcement in their efforts to reduce illegal fishing and questionable importation activities. J. Mayne moved to request the Commission contact the Council regarding this federally-regulated fishery asking them to write a letter to Mexican officials recommending proposed snapper regulations on size and season be consistent with those in the United States. T. Bakker seconded the motion which passed unanimously.

L. MacDonald reported on another program which attempts to clarify what fisheries products are legally imported from Mexico. The documentation program will help strengthen legal documents necessary to export to the United States. Beginning in early 1998, all legal product entering the United States will contain legal verification documents containing security features including a nonreproducible, holographic stamp. If the product documentation does not have this stamp, the product was not verified by Mexican officials. Border checks will be made on the eastern shore in Tamaulipas and on the western shore in

Nogales. This importation documentation will serve to establish which product is legally entering the United States. The original documentation will not follow the product to its final destination, so the importing state must be diligent in checking original documentation upon initial entrance to the country. G. Proulx moved to request formal Commission endorsement of MacDonald's program for strengthened import documentation. The motion was seconded by J. Mayne and passed unanimously.

G. Proulx noted that the NMFS has current Mexican fisheries laws translated to English. He noted that contact has been established directly with PROFEPA and suggested that the states contact MacDonald's office directly.

J. Waller recommended the committee invite L. MacDonald to be a member of the Law Enforcement Committee. J. Mayne moved to do so, and T. Bakker seconded the motion. Mr. MacDonald was voted a member by unanimously acclamation and asked to attend as often as possible.

United States Coast Guard Report

T. Atkin noted that he had been assigned to the committee upon Mark Johnson's retirement. LCDR Atkin reported that Eighth District cutters, aircraft, and small boats conduct patrols in support of Operation Diamond Leader throughout the year. Operation Diamond Leader refers to all laws and regulations (fisheries or otherwise); it is difficult to pinpoint just how much time they devote strictly to fisheries enforcement. Points of emphasis for fisheries include enforcement of the red snapper closed commercial season, and enhanced operations will be conducted by group units in response to suspected red snapper poaching activities. Turtle excluder device (TED) enforcement, enforcement of shark regulations (finning prohibitions) and any closed periods will be part of routine patrols. Enforcement of the bycatch reduction device (BRD) will be scheduled upon implementation. Enforcement strategy will be drawn from experiences on the East Coast. The Coast Guard will continue the increased presence along the Texas/Mexico border. Cooperation with the Mexican Navy will continue to improve with greater enforceability of border incursions and Lacey Act fisheries violations. J. Waller noted the Coast Guard and state of Alabama had recently conducted a joint operation which resulted in 21 fisheries violation cases being made in state courts.

United States Coast Guard Gulf Region Fisheries Training Center

D. Eddie presented an overview of USCG boarding officer courses. The major objective of the Coast Guard in the area of fisheries is to provide at-sea enforcement necessary to reach the national goals for living marine resource management and conservation. The Coast Guard is tasked with enforcing the provisions set forth in six major laws or acts including the Magnuson Fisheries Conservation and Management Act; the Marine Mammal Protection Act; the Endangered Species Act; the Lacey Act; the Atlantic Tuna Convention Act; and the Marine Protection, Research, and Sanctuaries Act. The purposes of these laws or acts are to restore the wealth of living marine resources by setting the standard for management of the oceans' renewable resources. Strategic initiatives are implemented through these laws or acts to rebuild United States fisheries by reducing over fishing and maintaining productive fisheries; protecting and conserving marine mammals, sea turtles, and other endangered or threatened species; protecting and restoring coastal and estuarine fishery habitats; and improving seafood safety. The training center educates their boarding officers on all six laws and acts. The training center curriculum also includes Jonathan's Gulf of Mexico regulations, fishing vessel identification, permits, hard and soft TEDs, traps, hook and line, species identification, enforcement options, and case package preparation. All agencies are invited to contact the training center to arrange participation of state agency personnel in their courses.

Louisiana Oyster Tag Investigation

Bill Ferguson, special agent with the U.S. Fish and Wildlife Service in Lake Charles, Louisiana, reported on an ongoing oyster tag investigation. This investigation began last year during the holiday season when consumers became ill from eating oysters. Problems with oyster tracking, improper completions of tags, and using ink that smears are problematic to the tag system. Unnecessary closures of large areas could be reduced if tag information were more location specific rather than general. Bulk tagging should not be allowed; every sack should be required to have a tag. SA Ferguson noted that the retention burden should not be too great on the industry since tags can be destroyed after 90 days. In the event of a health risk, 90 days is a sufficient retention time.

ISSC Report

ISSC Patrol Committee Chairman T. Bakker presented a report on the July meeting where work centered on the Patrol Evaluation Pilot Project. Lt. Colonel Bakker reported that progress was made during the meeting due to the cooperative nature exhibited by all participants. Positive steps are now being taken to ensure the success of the Patrol Evaluation Pilot Project. J. Waller and T. Bakker both invited any comments on the project from LEC members. T. Bakker also reported that the recently completed ISSC video on protecting America's shellfish harvest is an excellent and very professional educational tool. Several members asked where the states' copies were, and Bakker informed them that Ken Moore from the ISSC should mail copies for their use. Discussion began on whether the LEC could produce similar videos on violations affecting other fisheries such as shrimp and finfish. D. Johnston volunteered to investigate this possibility. His first step will be to call Ken Moore and inquire about the cost of production.

Other Business

J. Waller reported that at the Southeastern Conference of Wildlife and Fisheries Agencies meeting, a group of southeastern states were considering the formation of a compact for the purposes of reducing hunting violations throughout those states. If a violator from one state enters another to obtain a hunting license, he could be denied that state's license based upon his violation from the other state. Major Waller asked how this might be applied to fisheries' violators. J. Mayne stated that Louisiana refuses to issue licenses to individuals who have had certain offenses. The committee agreed to research reciprocal agreements regarding license denial Gulf-wide for flagrant fisheries violators. Each state representative will check with their attorneys' general on the legalities, and will review and identify common violations for license censure for each state. B. Buckson noted that Florida has a broad-range license denial. All agreed that this effort is well worth pursuing.

The entire committee congratulated Jeff Mayne, who was awarded Louisiana's enforcement officer of the year.

Election of Chairman

J. Waller opened the floor for nominations for Chairman of the Law Enforcement Committee. T. Bakker moved to nominate J. Waller. J. Mayne seconded the nomination, and Jerry Waller was elected chairman by unanimous acclamation.

Joint Session with GMFMC Law Enforcement Advisory Panel

NMFS Enforcement Report & Use of Satellite Transponders

G. Proulx presented details of a report on a vessel monitoring system that has been used by the NMFS in the Western Pacific around the Hawaiian Islands. He noted that large areas were closed to the use of long lines to protect endangered and threatened species of seals. He also stated that the Western Pacific Fishery Management Council had requested that a vessel monitoring system be instituted to monitor long line vessels to prohibit their entry into the closed areas. Mr. Proulx described the procedure that was followed to install satellite transponder units on vessels and track their movements. He also stated that the industry readily accepted the use of these devices and developed various other uses of the system, including communications with home bases and monitoring of fleet fishing areas, among others.

In describing the program, Mr. Proulx noted that it started as a three-year pilot project that will end in December 1997; however, funding is being solicited for its continuation. He stated that the system monitors each vessel by reporting its position 24 times each day or once each hour at minimum, and it can predict when gear is set and retrieved. Location data are kept confidential, except in cases of violations, and the number of cases to date has been very small.

Rick Leard stated that the Council has requested that the Law Enforcement Advisory Panel (LEAP) provide comment on the potential for the use of vessel monitoring transponders in the Gulf, particularly in the reef fish trap fishery. He noted that the Council has also received testimony on the potential for management using marine reserves and would like comments on the effectiveness of transponders to enforce such measures if adopted in the future. The LEAP noted that the use of vessel transponders as an enforcement technique needed to be tested in the Gulf and proven to be effective. B. Buckson commented, and the LEAP agreed that transponders would be helpful in monitoring fish trap vessels, but their use alone would not resolve the enforcement problems with this fishery. A pilot project to evaluate transponders is discussed under the Florida state report.

State Reports

Florida - B. Buckson described the historical problems between shrimpers and stone crabbers in Florida and the use of lines and seasons to prevent gear conflicts. He noted that in recent years the problem has resurfaced, and Florida had recently been working with the shrimp and stone crab industry to initiate a pilot project using transponders and vessel locators. He stated that the initial test system will be conducted with volunteers off the Crystal River area of Florida, and it will use equipment similar to that which is used to monitor armored cars. In other matters, he noted that the "tarp" fishery was effectively eliminated by the Legislature, because with the exception of seven licensees in a pilot bait fish program in the Panhandle, no nets (with or without tarp) can exceed 500 square feet. The Florida Legislature also defined all monofilament nets as gill nets (except cast nets). Thus, they are illegal. The legislature also added civil penalties to license suspensions. Blue crab traps are prohibited in certain areas, and where they are used the opening or throat design must be horizontal rather than vertical. Stone crabbing workshops on limited entry may lead to a tag program similar to that in effect for spiny lobster.

Alabama - J. Waller reported that Alabama's artificial reef program continued to receive complaints regarding improperly placed and illegal materials. He also noted that the roe season for mullet has started which will heighten enforcement efforts. He advised that Alabama had recently established a purse seine fishery for bait that could affect Florida and Mississippi. He stated that they were currently defining gear and species that would be included in the fishery.

Mississippi - T. Bakker stated that oyster season had recently opened. He noted that the 1996-1997 year was highly successful despite problems with red tide. He described continuing problems with gill net regulations and their enforceability. He stated that legislation had been drafted for the upcoming session to address gill nets, seines, trammel nets, and other nets, including licenses and increased penalties for violations.

By consensus, the joint panel requested that each state provide any definitions of gear to the GSMFC.

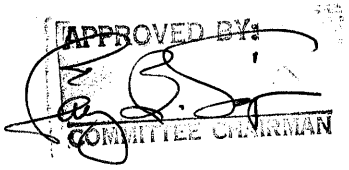
Louisiana - J. Mayne reported that mullet season in Louisiana would open on October 20, 1997 through the end of the year, and he expected approximately 700 permittees to be involved. He also stated that the commercial season for spotted seatrout would be open from November 1997 to May 1998 form hook-and-line gear only, and the fishery was managed by a quota. He noted that Special Investigative Units had been formed to focus on specific violation areas. He also noted that these units would take pressure off local officers. He also reported that new regulations' pamphlets were available.

Texas - D. Johnston reported that the GSMFC's Flounder FMP continued to be developed. He noted that the TPWD now has authority to implement a limited license system for blue crab. He stated that Texas continued to work cooperatively with Mexico to apprehend poachers in their respective jurisdictions. He also stated that Texas was looking at the possible use of vessel transponders to monitor closed areas.

Southeast Penalty Schedule Update

G. Proulx reported that one way the NMFS is addressing the Southeast penalty schedule is through the contracting to states for certain enforcement and prosecutorial services. The 1998 Operations Plan for the enforcement of federal fisheries regulations in the EEZ offshore of the state of South Carolina was distributed. It is hoped that this operations plan will be a model for national resource enforcement and litigation programs in other states. The plan provides a framework for enforcing federal fisheries regulations. Key features of the plan include overt presence of state marine patrol, voluntary compliance by stakeholders, and the ability of state marine patrol officers to prosecute violators under state laws. The plan also calls for the prosecution of violators by the state under concurrent regulatory authority. Mr. Proulx noted that the recommendations by the GSMFC LEC that were sent to head of NMFS Enforcement regarding the Southeast penalty schedule will be reviewed, and a formal response is forthcoming.

There being no further business, the meeting adjourned at 3:35 p.m.



STATE-FEDERAL FISHERIES MANAGEMENT COMMITTEE
MINUTES
Thursday, October 16, 1997
Gulf Shores, Alabama

Chairman Larry Simpson called the meeting to order at 8:30 a.m. The following members and others were present:

Members
Ed Irby, FDEP, Tallahassee, FL
Vernon Minton, ADCNR, MRD, Gulf Shores, AL
Corky Perret, MDMR, Biloxi, MS
John Roussel, LDWF, Baton Rouge, LA
Gene McCarty, TPWD, Austin, TX
Dan Furlong, NMFS, St. Petersburg, FL
Doug Fruge, USFWS, Ocean Springs, MS
Larry Simpson, GSMFC, Ocean Springs, MS

Staff
Ron Lukens, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Steve VanderKooy, GSMFC, Ocean Springs, MS
Cindy Yocom, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS

Others
Tom McIlwain, NMFS, Pascagoula, MS
Terry Cody, TPWD, Rockport, TX
Mike Ray, TPWD, Austin, TX
George Sekul, Gulf Central Seafoods, Biloxi, MS
Don Perkins, Houston, TX
Randy Rader, Gulf Protein, Amelia, LA
Wendell Lorio, MSU, Stennis Space Center, MS
Pryor Bailey, Zapata Protein, Moss Point, MS
Patrick McFarland, Port St. Joe, FL
Walter Penry, Daphne, AL
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Dick Schaefer, NMFS, Silver Spring, MD
Michael Bailey, NMFS, Silver Spring, MD
Bill Price, NMFS, Silver Spring, MD
Luis Fuego MacDonald, PROFEPA, Mexico
Gene Dismukes, Governor's Office, Montgomery, AL
Frank Wakefield, USCG, Mobile, AL

Adoption of Agenda

The agenda was adopted as presented.

Approval of Minutes

The minutes of the meeting held on March 20, 1997 in Biloxi, Mississippi were approved as presented.

Menhaden Advisory Committee Report

Randy Rader, Chairman of the Menhaden Advisory Committee (MAC), reported that five menhaden reduction plants are operating on the gulf coast. In Cameron, Louisiana - 13 vessels, Abbeville, Louisiana - 10 vessels, Moss Point, Mississippi - 8 vessels, Empire, Louisiana - 11 vessels, and Morgan City, Louisiana - 6 vessels. There are two bait operations, one in Morgan City and one in Cameron. Landings for 1996 to date are up approximately 25%, and 14% above the five year average. With the exception of the week of Hurricane Danny and the past two weeks, the weather has been good. The industry is up about 17% above projections by the National Marine Fisheries Service (NMFS) in their spring forecast.

R. Rader reviewed the gulf menhaden pamphlet, which was designed to educate the public on the menhaden industry. This pamphlet was developed by the MAC and the NMFS. Copies of these pamphlets are available through the Gulf States Marine Fisheries Commission (GSMFC).

Joe Smith of the NMFS Beaufort Laboratory was elected as Chairman of the Menhaden Advisory Committee for 1998.

C. Perret moved to accept the Menhaden Advisory Committee Report. The motion was seconded and passed unanimously.

Status of IJF Fishery Management Plans

Steve VanderKooy reported that there are currently three Fishery Management Plans (FMP) under development; blue crab, spotted seatrout, and flounder. The blue crab FMP is a revision of the previous management plan. Preliminary work on a stock assessment for blue crabs in the Gulf of Mexico has begun with the Chesapeake blue crab management plan being used as a model. The spotted seatrout FMP is making progress. The stock assessment is almost complete and is being summarized and additional sections have been written this year. Dr. Bob Ditton of Texas, a sociologist, has been added to the spotted seatrout Technical Task Force (TTF). The flounder TTF will have completed two meetings in 1997. Completion of the flounder FMP should be in 1998, as well as the spotted seatrout FMP, and the revision of the blue crab FMP.

FMP Compliance Report Card

L. Simpson and S. VanderKooy presented the Interjurisdictional Fisheries Management Program implementation of fishery management plans. The changes implemented have been noted on the summary page. These recommendations are made by the states during FMP development and their review assists the states in evaluating their progress in implementation of FMPs. The Committee reviewed these recommendations, and indicated the appropriate changes and corrections to the report card. The revised Implementation of IJF Fishery Management Plan Recommendations by State represents the administrative record for this portion of the meeting and is attached to these minutes as Attachment A.

J. Roussel brought to the attention of the Committee, that in the recent NMFS Report to Congress on the Status of Fisheries of the United States, the GSMFC is credited with only two FMP's. L. Simpson

will contact the appropriate individual at the NMFS and will identify the species under GSMFC FMP's, as well as those under development, and investigate why five FMP's were omitted from the report.

RecFIN/ComFIN Report

D. Donaldson reported on the Fisheries Information Network (FIN), which is the coordinated administration of state/federal programs for the collection and management of fisheries data. It is comprised of two programs, Commercial Fisheries Information Network (ComFIN) and the Southeast Recreational Fisheries Information Network (RecFIN(SE)). Both programs were established by a Memorandum of Understanding (MOU) signed by all participating agencies, which includes all the coastal states from Texas to North Carolina, Puerto Rico, U.S. Virgin Islands, NMFS, U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), Atlantic States Marine Fisheries Commission (ASMFC), GSMFC, and the regional fishery management councils.

The mission of RecFIN(SE) and ComFIN is to cooperatively collect, manage, and disseminate marine commercial and recreational data and information for the conservation and management of fishery resources in the southeast region and also to support a national program. The four major goals of these programs are to develop and maintain data collection programs, to implement the programs, to establish and maintain data management systems, and support the development of a national program.

At a recent FIN meeting held in San Antonio, Texas, it was decided that there would be periodic meetings of port samplers allowing them the opportunity to discuss issues related to collecting data in the field. There will also be a training session on the NMFS SEFHost system. Both RecFIN(SE) and ComFIN are in the process of developing a data collection plan. The annual Operations Plan was also developed. The Charter Boat Pilot Survey is now underway and is being conducted by NMFS, GSMFC, Louisiana, Alabama, Mississippi, and Florida. The main objective is to improve data collection methods for the charter boat mode. This survey involves contacting charter boat captains by telephone on a weekly basis. The charter boat frame is currently being maintained by the GSMFC. At this time only effort data is being collected under this survey. In the Florida panhandle, another methodology is being tested, the logbook panel survey. These surveys will end in August, 1998 and at that time there will be an evaluation comparing the different methodologies to determine the best method of determining the charter boat effort in the Gulf of Mexico.

The RecFIN(SE), the Atlantic Coastal Cooperative Statistics Program (ACCSP), and the Pacific RecFIN work closely together to enable the formation of a national recreational data collection program.

L. Simpson reported on the status of congressional appropriations in the area of data collection. Since the current contract for data collection in the southeast concludes at the end of 1998, it is critical that the states be prepared to enter into a cooperative agreement with the federal government beginning in January, 1999 to provide better data collection.

National Fishing Vessel Registration System/Fisheries Information System

R. Lukens reported that the fishing Vessel Registration System (VRS) and the Fisheries Information System (FIS) are directly related to RecFIN/ComFIN. The development of these two systems by the NMFS was called for under the Magnuson-Stevens Act, Sustainable Fisheries Act. The VRS, as mandated by Congress, will include all commercial fishing vessels and charter fishing vessels. At this time, recreational vessels are not included. The initial vessels to be included are listed in the U.S. Coast Guard data base and state vessel data bases. The sample frame currently being used in the charter boat pilot survey in the Gulf

represents some of the vessels that would be included in the VRS for the states of Louisiana, Mississippi, Alabama, and Florida. The GSMFC proposal is to download the commercial and charter boat data bases from the U.S. Coast Guard and state systems. This VRS data base would be managed by the GSMFC as a separate data base and as a companion to the FIS.

R. Lukens reported that the Fishery Information Network (FIN) has been asked to provide comments on the FIS, which was discussed at the recent FIN meeting held in San Antonio, Texas. This is a NMFS draft and has not yet been approved. It is expected that the *Federal Register* notice should be out in the next three months.

The central data base for FIS would be located in either Miami or St. Petersburg, Florida. The GSMFC and states would connect to the NMFS wide area network (WAN), other partners would be able to access through the web or e-mail communications. The FIS data center for the Gulf would be staffed by GSMFC employees and would include an FIS manager, a data expert, and a unix/data base manager. Hardware purchase and setup would be required. Cooperative agreements with NMFS would be the preferred method, since there are currently cooperative agreements in place that can be used to implement this program. A trip ticket system will need to be implemented in all the states. The GSMFC would continue in an administrative role and, if necessary, would expand to include data collection and management to support the states.

Habitat Program Report

J. Rester, Habitat Program Coordinator, was introduced to the Committee and briefly outlined his duties. At this time he is preparing the Essential Fish Habitat amendments for the Gulf of Mexico Fishery Management Council (GMFMC) under the guidelines of the Magnuson-Stevens Fishery Management Act. The marine section, anything seaward of the beach, is currently being addressed. The GMFMC Habitat Protection Advisory Panels will meet within the next month, and the GSMFC Habitat Subcommittee will meet in the near future.

Sport Fish Restoration Report

R. Lukens reported that the Sport Fish Restoration Program focuses on the areas of anadromous fish restoration, artificial reef activities, fisheries data, and habitat. Next year will be the third year of the study on striped bass genetics. This program has been carried out with the close cooperation of the Florida Game and Freshwater Fish Commission. Doug Fruge of the U.S. Fish and Wildlife Service (USFWS) has been instrumental in securing funding under the recreational Stewardship Program for the study of striped bass in three systems in the Gulf of Mexico. The funding goes directly to the states. The anadromous fish component of the Sport Fish Restoration Program will be used to coordinate this activity. This is a three year project which began July 1, 1997. The striped bass regional data base, which began with the genetics project, will be maintained and updated, as will the coordination of striped bass restoration efforts of state/federal partners. Artificial reef activities currently include work toward establishment of a GIS based regional data base of artificial reefs. There was discussion on the problem of illegal reef materials and their placement and R. Lukens stated that this problem would be addressed under the revision of the National Artificial Reef Plan. **V. Minton moved to have the S-FFMC recommend to the Commission sending a letter of endorsement to the Alabama legislature concerning penalties for placement of illegal materials on artificial reefs without a permit. The motion was seconded and passed unanimously.** R. Lukens reported that in the area of fisheries habitat, the program will provide general coordination of state programs with the USFWS, the NMFS, and the GMFMC. The Data Management Subcommittee will continue to coordinate activities in support of the RecFIN(SE) and ComFIN.

R. Lukens reported on the draft of the revision of the National Artificial Reef Plan. The original plan was written in 1985 and the vast majority of work on artificial reefs has been done since that time. A final first draft is expected to be completed by the end of 1997, and will be submitted to the NMFS for internal review. Lukens explained the problem of having untrained individuals involved in artificial reef development, and their impact on the environment and habitat. One recommendation in the plan calls for state agencies to be the sole source of securing a permit for development of an artificial reef. The issues of liability and litigation were also discussed and will be addressed in the revised plan.

Finalization of State Directors' December Meeting

The State Directors' meeting will be held on December 1, 2, and 3, 1997 at Tara Wildlife Refuge, located outside of Vicksburg, Mississippi.

Status of Emergency Appropriations Program

L. Simpson reported to the Committee on the emergency disaster money appropriated by congress in the amount of $3,500,000 to be used for damage sustained as a result of the opening of the Bonnet Carre Spillway and the recent red tide. A letter to Mr. Terry Garcia of the Department of Commerce, outlining the states' programs and recommendations on the division of the disaster money, was reviewed.

Update on Overview of State Rule Making Authority

S. VanderKooy distributed copies of the updated State Rule Making Overview to the Committee. The update was requested by the GMFMC and any further corrections should be given to S. VanderKooy.

Other Business

L. Simpson reported on a letter from Chuck Wilson requesting the GSMFC to consider organizing a workshop on the subject of standardizing sampling and analyses for ageing otoliths. R. Lukens stated that the Stock Assessment Team is developing a handbook for ageing otoliths. Simpson will investigate further and report.

L. Simpson requested that the states of Alabama, Florida, and Louisiana appoint members to the Recreational/Commercial Advisory Committee in order to have this committee meet at the GSMFC March, 1998 meeting.

Election of Chairman

Larry Simpson was re-elected as Chairman of the State-Federal Fisheries Management Committee.

There being no further business, the meeting was adjourned at 11:40 a.m.

Attachment A

GULF STATES MARINE FISHERIES COMMISSION

Interjurisdictional Fisheries Management Program

Implementation of IJF Fishery Management Plan
Recommendations by State

October 1997

Menhaden

Recommendations	FL	AL	MS	LA	TX
Establish uniform seasons (third Monday in April through November 1)	NI[1]	I	I	I	I
Industry provide data on fleet composition & Captain's Daily Fishing Reports	I	I	I	I	I

[1]bait fishery only, seasons not determined necessary

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed

Spanish Mackerel

Recommendations	FL	AL	MS	LA	TX
Establish fishing year of April 1 - March 31	I	I	NI	I	NA[1]
Establish annual TAC consistent with annual stock assessments conducted by NMFS	I	I	NI	I	NA[1]
Prohibit use of purse seines	I	I	I	I	I
Gill & trammel nets - mesh size of 3½" stretch or larger & maximum length of 1,800'	NA	PI[2]	PI[3]	I	NA
Establish minimum size limit (recreational) of 12" fork length (14" total length)	I	NI	PR	I	I
Establish bag limits (recreational)	I	I	PR	I	I

[1]no commercial fishery
[2]mesh size only
[3]net length yes, mesh size seasonally

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed
NA = not applicable

Blue Crab

Recommendations	FL	AL	MS	LA	TX
Establish fees and permits to identify commercial and/or recreational effort	I	I	I	I	I
Establish minimum carapace width of 5" for hard blue crabs	I	I	I	I	I
Establish a trap identification system	I	PR	I	I	I
Mandate biodegradable escape panels	I	PR	NI[1]	NI[2]	I

[1]Currently under discussion
[2]Proposal failed to pass last session, escape rings passed

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed

Oyster

Recommendations	FL	AL	MS	LA	TX
Increase cultch planting	PR	I[1]	I[1]	I[1]	PR
Develop uniform size limits on reefs that are continuous with two state's boundaries	I	I	I	I	I
Establish uniform criteria for opening and closing reefs in close proximity to state boundaries	NA	NA	NA w/AL PR w/ LA	PR w/ MS NA w/TX	NA[2]
Increase penalties for harvesting and possessing oysters from restricted or prohibited areas	NI	I	I	I	I
Establish uniform gear on reefs that are harvestable by fishermen from two or more states	I w/AL	I w/FL I w/MS	I w/AL PR w/LA	NI w/MS NA[2] w/TX	NA[2] w/LA

[1]generally yes, varies annually due to fluctuations in state funding
[2]such oyster reefs are permanently closed

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed
NA = not applicable

Black Drum

Recommendations	FL	AL	MS	LA	TX
Consider minimum size restrictions	I	I	I	I	I
Consider bag/possession limits	I	I	I	I	I
Allow sale only by licensed commercial fishermen, dealers, & processors	I	I	I	I	I
Landing with heads, tails, & flesh naturally attached	I	NI	PI[1]	I	I
Maintain equivalent of 20% SSB/R ratio	I	I	I	I	I

[1]float plan legalizes cleaning on vessel

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed
NA = not applicable

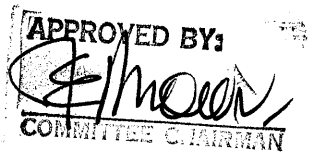
Striped Mullet

Recommendations	FL	AL	MS	LA	TX
Establish target SPR	I	I	I	I	NA
Establish regulations for minimum SPR of 30	I	I	I	I	NA
Establish fishing year	PI	NI	NI	NI	NA
Evaluate effectiveness of commercial quotas / trip limits	PI[1]	NI	NI	NI	NA
Establish minimum length limit for commercial and recreational food fisheries	I	NI	PI[2]	NI	PI
Establish bag and possession limits for recreational and bait fisheries	PI[3]	PI[3]	NI	PI[3]	PI[5]
Allow sale only by licensed commercial fishermen, dealers, & processors	I	I	I	I	I
Landing with heads, tails, & flesh naturally attached	I	PI[6]	PI[4]	I	I

[1]trip limits yes
[2]commercial only, no length limit for recreational
[3]recreational only, no bag limit for bait
[4]float plan legalizes cleaning on vessel
[5]applies to bait fishery only
[6]no cutting of roe on water

Key:

I = implemented
NI = not implemented
PI = partially implemented
PR = proposed
NA = not applicable



COMMISSION BUSINESS MEETING
MINUTES
October 16, 1997
Gulf Shores, Alabama

Chairman Walter Penry called the meeting to order at 1:13 p.m. L. Simpson noted that a quorum was present. He reviewed pertinent rules and regulations regarding the appropriate meeting procedures. He directed the Commissioners to the Briefing Book which contained a copy of the GSMFC Rules and Regulations.

The following Commissioners and/or proxies were present:

Commissioners
Ed Irby, FDEP, Tallahassee, FL
Patrick Mc Farland, Port St. Joe, FL
Vernon Minton, ADCNR/MRD, Gulf Shores, AL (proxy for James Martin)
Walter Penry, AL House of Representatives, Daphne, AL
Chris Nelson, Bon Secour Fisheries, Bon Secour, AL
Gene McCarty, TPWD, Austin, TX (proxy for Andrew Sansom)
L. Don Perkins, GSMFC, Houston, TX
Corky Perret, MDMF, Biloxi, MS (proxy for Glade Woods)
George Sekul, Gulf Central Seafoods, Inc., Biloxi, MS
Fred Miller, GSMFC, Shreveport, LA
John Roussel, LDWF, Baton Rouge, LA (proxy for James Jenkins)

Staff
Larry Simpson, GSMFC, Ocean Springs, MS
Ron Lukens, GSMFC, Ocean Springs, MS
Ginny Herring, GSMFC, Ocean Springs, MS
Dave Donaldson, GSMFC, Ocean Springs, MS
Steve VanderKooy, GSMFC, Ocean Springs, MS
Jeff Rester, GSMFC, Ocean Springs, MS
Nancy Marcellus, GSMFC, Ocean Springs, MS
Madeleine Travis, GSMFC, Ocean Springs, MS
Cynthia Yocom, GSMFC, Ocean Springs, MS
Cheryl Noble, GSMFC, Ocean Springs, MS

Others
Dan Furlong, NMFS, St. Petersburg, FL
Doug Fruge, USFWS, Ocean Springs, MS
Tom McIlwain, NMFS, Pascagoula, MS
Mike Ray, TPWD, Austin, TX
Richard Waller, GCRL, Ocean Springs, MS
Harriet Perry, GCRL, Ocean Springs, MS
Scott Nichols, NMFS, Pascagoula, MS
Gene L. Dismukes, Governor's Office, Montgomery, AL

Adoption of Agenda

The agenda was adopted as presented. **F. Miller moved to approve. V. Minton seconded. The motion passed.**

Approval of Minutes

F. Miller moved to approve the minutes of the March 20-21, 1997 meeting as presented. V. Minton seconded. The motion was passed.

Law Enforcement Committee (LEC)

V. Minton reported on behalf of Jerry Waller, Chairman for the LEC. The LEC met Wednesday, October 15, 1997. Mr. Luis MacDonald, Director General of Inspection and Surveillance for PROFEPA attended the LEC as a guest. He looks forward to continuing cooperative enforcement efforts with the LEC. He presented regulations proposed to go into effect in early 1998 in Mexican waters regarding season and minimum size for their snapper fishery. **On behalf of the LEC, V. Minton moved to request that the GSMFC contact the Council and ask them to write a letter to Mexican officials recommending proposed snapper regulations on size and season be consistent with those in the United States. G. McCarty seconded. The motion passed.** Mr. MacDonald also discussed efforts to improve import documentation for products entering the U.S. from Mexico. Beginning in 1998, products entering the U.S. will contain legal verification documents that will have security features including a holographic stamp. **On behalf of the LEC, V. Minton moved to request that GSMFC formally endorse this type of documentation.** C. Nelson questioned why a formal endorsement was necessary and what purpose would be served. No member of the LEC was present, therefore is was suggested that no action be taken until additional information was available. **V. Minton withdrew his motion.**

The LEC invited Luis MacDonald (Mexican Representative) to join the membership of the committee. **J. Roussel moved to approve the membership addition. E. Irby seconded. The motion passed.**

The LEC received reports from the U.S. Coast Guard Training Center in New Orleans regarding at-sea enforcement required to reach the national goals for living marine resource management and conservation. USFWS reported on an ongoing oyster tag investigation and Terry Bakker reported ISSC activities relating to the Patrol Evaluation Pilot Project. The LEC is reviewing reciprocal agreements among the Gulf States as it relates to the denial of a license for flagrant fisheries violators.

Gene Proulx presented information to the LEC on vessel monitoring systems that aid in compliance and enforcement. He also updated the committee on the Southeast penalty schedule. The LEC elected Jerry Waller chairman for 1997-98. It was noted that LEC member Jeff Mayne had been awarded Louisiana's Enforcement Officer of the Year.

Technical Coordinating Committee (TCC) Report

C. Perret reported that the TCC met on Wednesday, October 15, 1997. The TCC received a report on a Stock Enhancement Program being conducted at GCRL in conjunction with Mote Marine Lab and the University of Hawaii. The main goal of this federally funded program is to develop technology, protocol, and guidelines for the responsible use of hatchery releases.

Jim Giattina of the EPA Gulf of Mexico Program (GMP) presented an overview of GMP activities relating to the introduction of nonindigenous species. He discussed GMP's plans to seek formal status as a Regional Panel under the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990. He asked the TCC to consider formal recognition of the federal panel. The TCC recognizes the need for state input

into this type of panel. J. Giattina indicated that he would like to return to the Commission present a formal recommendation at a later time.

The TCC received reports from the Anadromous Fish Subcommittee, Crab Subcommittee, SEAMAP Subcommittee, Data Management Subcommittee, and Artificial Reef Subcommittee . The Anadromous Fish Subcommittee continues work with striped bass restoration projects and plans for a striped bass workshop to be held in the Fall. The SEAMAP Subcommittee has completed the 1994 and 1995 SEAMAP Atlas. Although request for SEAMAP data has increased, funding is low and there is a possibility that cut backs in plankton sorting may occur. The Data Management Subcommittee is finalizing work on an otolith guidelines and protocols booklet. They are also planning a stock assessment workshop for beginners and advanced professionals. The Artificial Reef Subcommittee continues to work on revisions to the National Artificial Reef Plan. They are discussing updating the 1994 Artificial Reef Program for the Gulf of Mexico, as well as developing an artificial reef bibliography data base.

C. Perret moved on behalf of the Crab Subcommittee, requesting endorsement to hold a symposium on natural mortality of the blue crab, to be held within the next 18 months. G. McCarty suggested that instead of assuming natural mortality, the subcommittee should look at total mortality. **G. McCarty amended the motion to address total mortality of the blue crab be addressed. C. Perret seconded. The motion passed.**

Other action requested by the Crab Subcommittee regarded concerns over red and golden crab fisheries in the Gulf of Mexico. **C. Perret moved on behalf of the subcommittee, that the GSMFC write the GMFMC and/or NMFS recommending that they proceed with the development of appropriate management measures or an FMP for red and golden crab. V. Minton seconded. The motion passed.**

C. Perret stated that the new NOAA vessel the "Relentless" was to be renamed. **On behalf of the TCC, he moved that the GSMFC write the appropriate committee and/or NOAA Admiral and recommend that the vessel be renamed the "Fishing Research Vessel, Gordon Gunter". F. Miller seconded. The motion passed.**

Other TCC action included the election of C. Perret as Chairman and J. Roussel as Vice Chairman for 1997-97.

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

L. Simpson stated that the S-FFMC met just on October 16, 1997. He briefed the Commissioners on theMenhaden Advisory Committee (MAC) report, stating that current indications are that the 1997 season has already surpassed the 1996 landings by 25%. Although it has been a difficult season they project landings of 600,000 metric tons through October. The MAC discussed concerns over *pfiesteria* and *pfiesteria*-like organisms which have caused problems on the Atlantic Coast. They will invite Dr. Pat Tester to the next meeting of the MAC to present information on these organisms.

Other topics addressed in the S-FFMC included the status of IJF FMPs. Two FMPs are currently in progress, spotted seatrout and flounder. The Crab Subcommittee is currently working on a revision to the blue crab FMP. The Spotted Seatrout FMP should be completed by mid to late 1998. The Flounder FMP will also be published in 1998. The Blue Crab Technical Task Force has requested proposals for finalizing the sociology section of the Blue Crab FMP revision. The revision should be complete by the Fall of 1998. Steve VanderKooy is the new IJF Coordinator. The S-FFMC also reviewed the State's FMP compliance

report card and updated the information presented. Progress is being made with FMP implementation within the Gulf States.

The committee received reports on RecFIN/ComFIN Projects and the Habitat Program. R. Lukens presented the 1998 Work Plan for the Sport Fish Restoration Program and discussed the National Artificial Reef Plan revision. In regards to the artificial reef program, the S-FFMB recommended that a letter be sent to the Alabama Legislature, which convenes January 13, 1998, in support of proposed legislation that would increase penalties for misplaced and inappropriate use of materials for artificial reefs in State waters. **V. Minton motion to approve the recommendation. F. Miller seconded.** J. Roussel stated that this was a serious problem in all of the States but he did not think it appropriate that the Commission support specific legislation within a state. **He made a substitute motion to write a letter to the appropriate entity in all of the Gulf States, recognizing significant problems with unauthorized reef development and urge each State to take whatever measures necessary to address the problem. F. Miller seconded. The motion passed.** G. Dismukes, thanked the Commission for their efforts to support responsible development of artificial reefs in State waters.

L. Simpson reported on other business of the S-FFMC which included finalizing the membership of the Commercial and Recreational Fishery Advisory Panels so that a meeting could be set for March 1998. He reported that the State Directors would meet December 1-3, 1997, outside Vicksburg, MS. and the he was again elected Chairman of the S-FFMC for 1997-98.

NMFS/Southeast Regional Office (SERO) Report

D. Furlong reported on behalf of the NMFS/SERO. He discussed the Sustainable Fisheries Act (SFA) amendments which reauthorized the Magnuson-Stevenson Fishery Conservation and Management Act (MSFCMA). There are three new National Standards. National Standard 8, requires that fishery management programs consider the effects on fishing communities; National Standard 9, addresses bycatch reduction; and, National Standard 10 promotes safety of life at sea. NMFS has developed proposed guidelines to reflect the SFA additions and changes, and they now provide more detailed requirements for management and the development of FMPs. D. Furlong reported on revisions to National Standard 1, which requires prevention of overfishing. Under this revision the Councils will be required to reassess each FMP for compliance with the overfishing provisions. In particular, each overfishing definition will be reevaluated based on its ability to ensure MSY on a continuing level. Due to these changes, many fisheries that are not currently classified as overfished may be reassessed as overfished. C. Perret is concerned that some species currently classified as overfished have not been re-examined to determine if they are in fact still overfished, particularly in instances when the fishery has been closed for long periods and no scientific effort is underway to determine the current status.

D. Furlong reported that as of September 28, 1997 all NMFS Regional Offices are approved to have three program divisions: Habitat, Sustainable Fisheries, and Protected Resources. The SERO has had a series of interim directors for Sustainable Fisheries. He responded to several questions. In regards to recreational closure of red snapper, he stated that data to date shows that the quota has not been met; therefore, he does not anticipate a closure of that fishery. The new Special Agent-in-Charge for the SERO is Eugene Proulx. Regarding enforcement issues, D. Furlong stated that the General Counsel agrees with discussions held at the IJF Legal Ad Hoc Committee meeting in March 1997, that the States should be more involved with decisions regarding federal enforcement. In some instances, cooperative efforts between State and Federal enforcement are resulting in a more streamlined system of dealing with violators in the courts.

USFWS Region 4 Office Report

D. Frugè reported on behalf of USFWS Region 4. The new FWS Director is Ms. Jamie Clark, effective August 1, 1997. Mr. Sam Hamilton has been appointed Regional Director for the Region 4, replacing Noreen Clough. In Region 2, Lynn Starnes has replaced Conrad Fjetland as the Geographic Assistant Regional Director for Texas and for the Fisheries Program. Other events in Texas include fisheries surveys being conducted by the Corpus Christi Fishery Resources Office, which also is assisting the Texas Parks and Wildlife Department with a bycatch reduction study.

D. Frugè provided an update on sea turtle nest counts at St. Vincent National Wildlife Refuge in Florida. As of July the count was 59 nests, which is close to the record of 65. Hopefully Hurricane Danny will not affect production from these nests.

D. Frugè distributed copies of the final version of FWS's *Fisheries and Aquatic Resources Strategic Plan for the Southeast Region*. This document defines the aquatic resource issues that are of major importance to FWS. It outlines the strategies and actions the FWS will take over the next seven years to address these issues.

Status of Red Drum Tag and Recapture Project

Scott Nichols, NMFS, Pascagoula Laboratory, reviewed the Red Drum Tag and Recapture Project. This is a repeat of the 1986-87 project. He reported that the marking phase of the project has been completed. Although they had hoped to tag 20,000 fish, they were successful in tagging only 9,818 fish from Mobile Bay to Sabine, Texas. NMFS will start the recapture phase next year. He reported that they experienced problems with fish kills due to the risk involved in using purse seines. Approximately 1,500 fish were killed. Although this does not impact the population, they have taken this problem very seriously and are taking steps to minimize kills. The SEAMAP Red Drum Work Group was enlisted in an oversight role, and after reviewing procedures urged NMFS to continue the project, feeling the information was worth the risk.

V. Minton stated that this project will provide data that one needed by the States to properly manage this fishery. He agreed with S. Nichols, that the kills had not had a serious impact on the fish population. He looks forward to seeing the results of the data. G. McCarty agreed with V. Minton on the impact to the population and to the importance of the data. He urged NMFS to closely adhere to the sampling standards and protocol established for the conduct of this project, so that future kills will be reduced.

FY 1998 NMFS Budget

L. Simpson stated that before the end of the fiscal year, the U.S. Congress passed a continuing resolution that carried out funding at the previous years amounts. There were no new initiatives. They will however, address a new budget before they adjourn for this year. The projected date is November 15. He briefed the Commissioners on the current status of Federal fisheries appropriations reported by the House and Senate Committees.

He noted that in the House Report, $4 million has been set aside for the Saltonstall-Kennedy grant program. These funds have historically funded the foundations. The report also announced the elimination of the NOAA Commissioned Corp by October 1, 1997. Other items of interest in the House report are MARFIN and SEAMAP which are again level funded at $3 million and $1.2 million respectively. He noted that under Fishery Industry Information, the House report includes $13 million as the base amount for the collection of recreational and commercial data. Also under this section is an increase to $3.9 million for

recreational data collection. This report shows an increase to $11.7 million to the Regional Councils. Level funding has been recommended for the State's Interjurisdictional fisheries grants. He pointed out that the increase to the Interstate Fisheries Commissions under IJF will mostly go to the Atlantic States Marine Fisheries Commission for Atlantic Coastal Management Program.

In the narrative portion of the House report, the Committee has designated $2 million to the Gulf and South Atlantic Fisheries Development Foundation funding to be used to conduct a marine recreational fisheries data collection program. The Committee is also concerned with Amendment 9, to the Council's Shrimp FMP which deals with bycatch reduction. They suggest delaying implementation until further analysis is completed. The Committee also provided $3.9 million for RecFIN State programs, to be split between the West Coast, Gulf Coast and Atlantic Coast. Additional RecFin funding was provided to the three Interstate Commissions.

In the Senate report, L. Simpson pointed out some items of interest in the Gulf Region. The NMFS Charleston Laboratory has been transferred to NOAA, due to funding problems. The Senate Committee also recommends $4 million to the S-K program. NMFS resource information programs are recommended to receive the following: PacFIN - $4.7 million; AkFIN - $1.7 million; and $4 million to RecFIN. The RecFIN money is to be split equally to fund RecFIN on the Pacific, Atlantic and Gulf coasts. The Gulf Coast Research Lab will be involved with Hawaii on a stock enhancement project funded at $2.225 million. The Committee recommends the Regional councils be funded at $1.3 million. L. Simpson reported that an error in both reports under the interjurisdictional fisheries grants shows each of the three Interstate commissions receiving $750,000. This is a mistake; $750,000 will be split equally among the Interstate commissions. The Senate report also decreased the Fishermen's Contingency Fund to $953,000. L. Simpson pointed out the following line items recommended by the Senate Committee: MARFIN - $5 million (increase to go to the northeast region); SEAMAP - $1.2 million (level funded); Fisheries Statistics increased; Regional Councils - $13,000 million; and State IJF - $ 3.5 million; Commission's IJF - $8 million (increase to the ASMFC).

These reports will be submitted to the full House and Senate for approval. They will then go to the Conference Committees before they are finalized.

State Director's Reports

Florida - E. Irby reported on activities in the Florida Department of Environmental Protection (FDEP). He stated the E. Conklin was unable to attend due to problems the State is having with *pfiesteria* issues affecting the East Coast. He stated that the FDEP staff feels that the problem is not *pfiesteria*, but some other organism. Because of a variety of toxic algae problems
in the State, and also, the first red tide event in about 12 years, a task force has been set-up to address these problems. The task force is made up of a wide range of government officials, environmentalist, industry representatives and Health Department participants. They had their first meeting on October 15 and are preparing to move quickly to address these problems.

The State continues to deal with net issues. Recent legislation that permitted tarpaulin licenses for seven experimental nets for bait fish (Spanish sardines, red herring, lady fish, blue runner, etc.) has run into some problems in court. The FDEP is now looking into the legal issues involved and investigating the licenses that were issued.

The FDEP has now taken over aquaculture permitting for the State. Substantial progress has been made in streamlining the process. Industry was concerned because they would have to deal with three to five

agencies before getting a permit. FDEP now handles the entire process and essentially walks applicants through the permitting process.

E. Irby reported on FDEP activities in the Keys. The Florida Key Marine Sanctuary Program was started this year and has already handled an emergency situation involving anchoring on a coral reef. Water quality issues continue to be a problem in the Keys, especially in regards to septic tanks and cesspools. Funding in the amount of $4 million has been made available to help solve these problems.

Other activities in Florida include recent legislation establishing a sturgeon aquaculture program. Recent meetings of State Legislators, NMFS, FWS and Congressional Delegates indicate that this issue may be handled at a Federal level. The FDEP has started outreach programs targeting at risk kids. The purpose is to teach children about fishing and resources. Participation has been very good so far.

Alabama - V. Minton reported for Alabama Department of Conservation and Natural Resources (ADCNR). The most significant event that has occurred in Alabama this year was Hurricane Danny in July. Scuba surveys over oyster reefs indicate a 57 percent loss at Cedar Point Reef; almost the entire population was lost east of the Dauphin Island Bridge and almost no change (maybe an increase) west of the Bridge. ADCNR has initiated replanting programs and is planning for additional replanting in the Spring. Another problem from Hurricane Danny was the debris in Mobile Bay. The ADCNR petitioned NMFS for a 30-day TED exemption. This was done in a very timely manner and allowed shrimp fishermen to increase their tow time to 55 minutes. Observation by ADCNR and enforcement indicated compliance from the fishermen, who would have otherwise clogged their nets, making them ineffective.

Last year, two historical reefs in Bon Secour Bay were encircled with concrete rubble and pylons. This year they will be filled with cultch material, which the ADCNR is hopeful will provide a come back for the oyster resources in that area. Plans are underway for another historical reef in Mobile Bay to be restored. Red tide disaster funds will be used for oyster restoration projects.

V. Minton reported on research being done at Auburn University in conjunction with ADCNR to spawn and raise red snapper. He reported that they have 250 to 300 juveniles, 4" to 6" inches in length. This three year research program is intended to develop a commercial production process for the fingerlings. Another study being conducted addresses regards the abundance of crab larvae. Alabama currently permits the harvest of sponge crabs. This is because a study done in prior years indicated more larvae than the habitat could support. This is an important issue to the industry and will be revisited to determine if habitat is a limiting factor.

The offshore artificial reef program has expanded to include a new general permit area. The Dauphin Island Sea Lab is committed to a three year research plan with the University of South Alabama to evaluate different types of modular concrete units for commercially produced designs. Various criteria will be examined during this study. They hope that this type of study will move them out of the materials of opportunity business and into the use of stable, long term materials. C. Nelson stated that the reef building program going on in Alabama waters has been extremely successful and publicly thanked V. Minton and ADCNR for their efforts.

Mississippi - C. Perret reported on activities of the Mississippi Department of Marine Resources (MDMR). Mr. Woods was unable to attend due to a conflict in his schedule. C. Perret reported that Mississippi has been the recipient of disaster funds in the wake of recent Hurricanes Andrew and Opal. They have recently begun cultch/shell planting on oyster reefs in the western part of the State on their primary reefs. They have planted about 30,000 yards at a cost of just under $1 million. C. Perret reported that the

oyster season is schedule to open October 17, 1997, but due to recent rainfall, sampling indicates that the entire area will not be opened as planned.

In regards to finfish issues, C. Perret reported that MDMR is in the process of setting bag limits for amberjack and Spanish mackerel. Bag and size limits for shark should be approved soon, without objections, as requested from NMFS headquarters. C. Perret briefly discussed a recent controversy regarding a Mississippi State record for blue marlin, set during a local fishing tournament.

Louisiana - J. Roussel reported for the Louisiana Department of Wildlife and Fisheries (LDWF), indicating that the Louisiana Legislature has closed the 1997 session, and 35 fisheries bills became law. The LDWF was scheduled to Sunset on July 1, 1997. The Legislature reauthorized the department for 2 years and has scheduled a Sunset for July 1, 1999. Legislation affecting the shrimp industry includes a new law that has set a maximum headrope for shrimp trawls at 130' for 2 years, than reducing it to 100' in the year 2000. Another law prohibits State enforcement agents from enforcing bycatch reduction devices and and Federal regulations with respect to those devices. It also prohibits the LDWF from implementing any bycatch reduction measures, without specific authorization.

J. Roussel reported that legislation affecting the conflicts between holders of oyster leases and coastal restoration projects was passed. A mechanism, administered through the Department of Natural Resources (DNR), provides relief for lease holders. The lease holders now have 4 options when impacted by coastal restoration projects. It is important to note the DNR also is the lead agency for the coastal restoration projects, and they are now in a position to recognize conflicts that exist. The LDWF has also been authorized to be more flexible when renewing oyster leases. J. Roussel hopes that this type of legislation will reduce tensions created by recent conflicts.

Legislation regarding the crab industry includes a mandate for escape rings on crab traps. This law does allow the escape ring to be blocked during designated months. A limited entry bill for crabs, that had industry support was not passed. A major change to recreational fishing would allow a 2 day possession of spotted seatrout and red drum on land.

Two pieces of legislation that did not pass was a bill that would have placed the oyster fishery under the Department of Agriculture and a bill that would establish a point-of-sale program for license issuance. The LDWF is proceeding with planning a point-of-sale program and investigating if legislative action is necessary for implementation.

J. Roussel reported that the Sulfur Mine Artificial Reef off Grand Isle has been completed. Disaster funds from Hurricane Andrew will be used to set-up some additional constant recorders so that users will be able to access information regarding temperature, salinity, and tide for specific areas. LDWF has incorporated three new oil and gas structures into their artificial reef program; they have added another $1.3 million to their trust fund; and placed 4 inshore reefs. There are 9 additional artificial reef projects being planned.

Texas - G. McCarty reported for Texas Parks and Wildlife Department (TPWD). Texas is once again experiencing from a red tide event that extends from around the Aransas Pass area (Mustang Island) all the way down to the Rio Grande into Mexico. At one time it extended into Tampico, MX. The event began the third week in September and although it appeared to break up with a recent cold front, it has regrouped, and Texas is now experiencing a secondary fish kill. The original kill is estimated at 14.5 million fish. Shellfish harvest is closed at this time, the season will open on November 1. There has been no red

tide in the Bays in Aransas, but red tide has been found in the Lower Laguna Madre (shellfish harvest will not be opened in this area).

G. McCarty reported that TPWD implemented a limited entry plan for their bay and bait shrimp fishery two years ago. Last year they began the first round of license buy-backs. They purchased 65 licenses associated with the limited entry at an average cost of $3,200. They are currently taking bids for the second round, closing on November 11. They will purchase whatever they can with funds available.

He reported that the Texas Legislature opened in January and closed the first week of June. Several pieces of legislation affecting fisheries were passed. They approved a Crab License Management Program which give TPWD the authority to create a crab fishing license and to place a moratorium on the sale of that license if necessary. The Department is currently creating rules and setting criteria on licenses which will be presented for approval in January 1998. Other actions more clearly defined the cost of a menhaden license, and gave the TPWD authority to better define a guide fishing license. Additionally, the Department began collecting shrimp samples to evaluate them for diseases.

In regards to artificial reefs, G. McCarty reported that the TPWD has put out 150 Reef Balls that are 5' in diameter. They will monitor them to collect information on use of this material.

C. Nelson asked how far north brown mussels have been located. G. McCarty stated they have been observed in Freeport, TX.

Commission's Cooperative Data Collection Program

Charter Boat Pilot Study - D. Donaldson reported that on September 1, 1997 the Charter Boat Pilot Survey began in cooperation with the Commission, NMFS, Alabama, Mississippi, Florida, and Louisiana. The objective of the survey is to evaluate alternative methods to collect representative charter boat fishery data which could be used to provide more reliable estimates of charter boat effort and catch, to provide more public acceptance of the of the statistics that are generated, and to better manage the fishery resources. He briefed the Commissioners on the methods being used to conduct these surveys. When completed, the results of the pilot survey will be compared with those of the MRFSS for the purpose of determining the best approach for the estimation of marine recreational fishing effort and catch from charter boats.

Menhaden/Head Boat Port Samplers - L. Simpson reported that the Commission has been involved with the Menhaden Port Sampler Program for three years. Basically, the Commission hires Independent Contractors to collect samples and other biological information that goes into the data base at the NMFS Beaufort Laboratory, so that they can monitor the menhaden resources. The cost of this project is approximately $40,000. This program will be administered through the Commission's RecFIN/ComFIN Project in 1998.

L. Simpson stated that the Head Boat Port Sampler Program is very similar the Menhaden program. The Commission hires Independent Contractors and in some instances subcontracts the work to the States.

Report on RecFIN/ComFIN Activities

D. Donaldson provided background information on the Fisheries Information Network (FIN), which is the coordinated administration of State and Federal programs for the collection and management of fisheries data. It is comprised of two programs, Commercial Fisheries Information Network (ComFIN) and the Southeast Recreational Fisheries Information Network (RecFIN)(SE). The four major goals of the

programs are to plan, manage and evaluate marine commercial and recreational data collection programs; to implement the program; to establish and maintain a data management system; and, to support the development and operation of a National program. He briefly discussed recent activities of the Commission's programs and the 1998 operations plan.

Report on Joint Habitat Program with Gulf Council

L. Simpson updated the Commissioners on the joint cooperative funding agreement between the Gulf Council and the Commission to hire a Habitat Coordinator. The agreement is funded 40% by the Commission and 60% by the Council. He introduced the newly hired Habitat Coordinator, Jeff Rester. J. Rester will initially be working full-time on Essential Fish Habitat activities for the Council.

J. Rester stated that he has been working for the Council in preparing the Essential Fish Habitat amendments under the guidelines of the Magnuson-Stevens Fishery Management Act. He is responsible for the marine habitat section, and is currently 50% to 75% complete.

Executive Committee Report

L. Simpson reported that on behalf of the Commission, he purchased the building where the Commission offices are now located. Purchase price was $200,000. The Commission paid $50,000 and established a mortgage loan for the balance. He stated that there were no management problems.

G. Herring reported that the Commission would celebrate its 50th Anniversary meeting in October 1999. A committee has been established that includes V. Minton, C. Nelson, W. Penry, and herself. The meeting may take place in Alabama, at a site to be determined.

G. McCarty stated that the Executive Committee met and reviewed the 1996 Audit report that had been approved by mail ballot. **G. McCarty moved on behalf of the Executive Committee to approve the FY98 budget proposal (attached). The total budget submitted is $961,114. This includes a new position for an accountant; 4% salary increase for all staff except S. VanderKooy and J. Rester, whose increases will be 2% and .5% respectively; and, an additional salary increase for C. Yocom ($1,000), and D. Donaldson ($500). C. Perret seconded. The motion passed.**

Future Meetings

G. Herring reported that the Commission Spring meeting will be held March 16-20, 1998 at the San Destin Hilton in Destin, Florida. The Fall meeting will be held October 12-17, 1998 in Texas. Seven bids have been solicited in the San Antonio area and one in Brownsville, Texas. When all bids are received, G. Herring will contact the Texas Commissioners for final selection.

Publication List

L. Simpson stated that the Publication List has been updated and is provided for your information. Contact the office if you need copies of any pubs.

Election of Officers

G. McCarty nominated Senator Buster Brown for Commission Chairman for 1998. There were no further nominations, Senator Brown was elected by acclamation.

C. Perret nominated George Sekul for Commission Vice Chairman for l998. There were no further nominations, George Sekul was elected by acclamation.

E. Irby nominated Ed Conklin for Commission Second Vice Chairman for l998. There were no further nominations, Ed Conklin was elected by acclamation.

Presentation to Outgoing Chairman

L. Simpson presented G. McCarty with a Commission shirt for his efforts as Vice Chairman. G. McCarty presented Chairman W. Penry with a fly rod from his constituents, and a matching reel from the Commissioners in appreciation for his service as chairman the past year.

The meeting adjourned at 6:00 pm.

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget
January 1, 1998 - December 31, 1998

	FY98 Operating Funds	FY98 Total Grants	FY98 Total Budget
EXPENSES			
SALARIES			
Personnel (designated)	51,445	301,195	352,640
Personnel (not designated)	5,108	8,704	13,812
Contract Labor	0	0	0
Health Insurance	5,292	48,216	53,508
Retirement	3,958	21,206	25,164
Payroll Taxes	4,988	26,045	31,033
MAINTENANCE/OPERATIONS			
Facilities	17,856	4,980	22,836
Office Supplies	2,000	10,647	12,647
Postage	1,400	13,285	14,685
Professional Services	1,500	4,633	6,133
Travel (Staff)	8,000	26,609	34,609
Telephone	4,000	13,120	17,120
Office Equipment	0	0	0
Copying Expenses	3,000	17,100	20,100
Printing	1,500	20,700	22,200
Meeting Costs	10,000	8,950	18,950
Subscriptions/Dues	1,600	403	2,003
Auto Expenses	4,000	9,000	13,000
Insurance	2,943	9,874	12,817
Maintenance	1,570	8,176	9,746
Petty Cash	600	0	600
Taxes (property)	1,433	2,078	3,511
Committee Travel	0	177,132	177,132
Contractual	0	72,890	72,890
Utilities	2,804	4,503	7,307
Janitorial (service/supplies)	3,859	5,888	9,747
TOTAL	$138,856	$815,334	$954,190
INCOME			
STATE CONTRIBUTIONS			
Alabama	22,500		
Florida	22,500		
Louisiana	22,500		
Mississippi	22,500		
Texas	22,500		
TOTAL DUES			112,500
INTEREST	5,500		5,500
REGISTRATION FEES	4,500		4,500
FUNDS FROM RESERVES	0		0
RENT	23,280		23,280
GRANTS			
SEAMAP		80,564	
Interjurisdictional Fisheries		250,000	
Sport Fish Restoration		200,000	
Council		25,000	
Habitat		48,197	
FWS - FY98		13,725	
FWS - FY99		4,575	
RecFIN/ComFIN		185,023	
Striped Bass		8,250	
Menhaden/Headboat		0	
TOTAL GRANTS			815,334
TOTAL	$145,780	$815,334	$961,114

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

OPERATING FUNDS

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	40,400
Assistant Director	3,578
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	3,596
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	0
Bookkeeper	3,871
Personnel (not designated)	5,108
Contract Labor	0
Health Insurance	5,292
Retirement	3,958
FICA Taxes	4,372
Unemployment Taxes	616
MAINTENANCE/OPERATIONS	
Facilities	17,856
Office Supplies	2,000
Postage	1,400
Professional Services	1,500
Travel (Staff)	8,000
Telephone	4,000
Office Equipment	0
Copying Expenses	3,000
Printing	1,500
Meeting Costs	10,000
Subscriptions/Dues	1,600
Auto Expenses	4,000
Insurance	2,943
Maintenance	1,570
Petty Cash	600
Taxes (property)	1,433
Committee Travel	0
Contractual	0
Utilities	2,804
Janitorial (service/supplies)	3,859
TOTAL	$138,856

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

SEAMAP

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	0
Assistant Director	0
IJF Coordinator	0
SM Coordinator	18,783
Habitat Coordinator	0
Executive Assistant	5,221
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	8,738
Staff Assistant	0
FWS Assistant	0
Bookkeeper	4,080
Personnel (not designated)	1,859
Contract Labor	0
Health Insurance	6,781
Retirement	2,707
FICA Taxes	2,960
Unemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	1,500
Postage	2,825
Professional Services	600
Travel (Staff)	0
Telephone	1,600
Office Equipment	0
Copying Expenses	3,400
Printing	4,800
Meeting Costs	800
Subscriptions/Dues	0
Auto Expenses	0
Insurance	633
Maintenance	1,500
Petty Cash	0
Taxes (property)	271
Committee Travel	10,150
Contractual	0
Utilities	588
Janitorial (service/supplies)	768
TOTAL	$80,564

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

INTERJURISDICTIONAL FISHERIES

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	6,712
Assistant Director	0
IJF Coordinator	31,034
SM Coordinator	0
Habitat Coordinator	12,000
Executive Assistant	5,221
Administrative Assistant	0
IJF Staff Assistant	21,198
SM Staff Assistant	3,862
Staff Assistant	0
FWS Assistant	0
Bookkeeper	4,080
Personnel (not designated)	1,836
Contract Labor	0
Health Insurance	13,476
Retirement	6,016
FICA Taxes	6,573
Unemployment Taxes	1,700
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	4,250
Postage	3,000
Professional Services	1,400
Travel (Staff)	9,124
Telephone	3,000
Office Equipment	0
Copying Expenses	4,200
Printing	11,700
Meeting Costs	4,500
Subscriptions/Dues	403
Auto Expenses	2,000
Insurance	3,995
Maintenance	4,500
Petty Cash	0
Taxes (property)	630
Committee Travel	80,440
Contractual	0
Utilities	1,365
Janitorial (service/supplies)	1,785
TOTAL	$250,000

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

SPORT FISH RESTORATION

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	2,014
Assistant Director	33,753
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	5,221
Administrative Assistant	24,257
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	0
Bookkeeper	4,080
Personnel (not designated)	3,343
Contract Labor	0
Health Insurance	11,234
Retirement	5,083
FICA Taxes	5,555
Unemployment Taxes	250
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	2,000
Postage	2,000
Professional Services	1,428
Travel (Staff)	11,500
Telephone	3,400
Office Equipment	0
Copying Expenses	4,500
Printing	3,000
Meeting Costs	1,400
Subscriptions/Dues	0
Auto Expenses	7,000
Insurance	3,894
Maintenance	2,000
Petty Cash	0
Taxes (property)	598
Committee Travel	27,502
Contractual	32,000
Utilities	1,295
Janitorial (service/supplies)	1,693
TOTAL	$200,000

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

COUNCIL

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	12,785
Assistant Director	0
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	5,676
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	0
Bookkeeper	1,156
Personnel (not designated)	0
Contract Labor	0
Health Insurance	1,982
Retirement	1,373
FICA Taxes	1,500
Unemployment Taxes	393
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	0
Postage	0
Professional Services	0
Travel (Staff)	135
Telephone	0
Office Equipment	0
Copying Expenses	0
Printing	0
Meeting Costs	0
Subscriptions/Dues	0
Auto Expenses	0
Insurance	0
Maintenance	0
Petty Cash	0
Taxes (property)	0
Committee Travel	0
Contractual	0
Utilities	0
Janitorial (service/supplies)	0
TOTAL	$25,000

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

HABITAT

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	0
Assistant Director	0
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	18,000
Executive Assistant	3,614
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	5,794
Staff Assistant	0
FWS Assistant	0
Bookkeeper	1,440
Personnel (not designated)	0
Contract Labor	0
Health Insurance	3,620
Retirement	2,019
FICA Taxes	2,207
Unemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	300
Postage	60
Professional Services	255
Travel (Staff)	1,350
Telephone	420
Office Equipment	0
Copying Expenses	0
Printing	0
Meeting Costs	0
Subscriptions/Dues	0
Auto Expenses	0
Insurance	512
Maintenance	0
Petty Cash	0
Taxes (property)	219
Committee Travel	7,290
Contractual	0
Utilities	475
Janitorial (service/supplies)	622
TOTAL	$48,197

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

FWS - FY98

January 1, 1998 - September 30, I998

SALARIES	
Personnel	
Executive Director	0
Assistant Director	0
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	1,064
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	5,160
Bookkeeper	0
Personnel (not designated)	0
Contract Labor	0
Health Insurance	161
Retirement	74
FICA Taxes	476
Unemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	3,735
Office Supplies	448
Postage	0
Professional Services	75
Travel (Staff)	0
Telephone	525
Office Equipment	0
Copying Expenses	1,875
Printing	0
Meeting Costs	0
Subscriptions/Dues	0
Auto Expenses	0
Insurance	0
Maintenance	132
Petty Cash	0
Taxes (property)	0
Committee Travel	0
Contractual	0
Utilities	0
Janitorial (service/supplies)	0
TOTAL	$13,725

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

FWS - FY99

October 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	0
Assistant Director	0
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	354
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	1,720
Bookkeeper	0
Personnel (not designated)	0
Contract Labor	0
Health Insurance	54
Retirement	25
FICA Taxes	159
Unemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	1,245
Office Supplies	149
Postage	0
Professional Services	25
Travel (Staff)	0
Telephone	175
Office Equipment	0
Copying Expenses	625
Printing	0
Meeting Costs	0
Subscriptions/Dues	0
Auto Expenses	0
Insurance	0
Maintenance	44
Petty Cash	0
Taxes (property)	0
Committee Travel	0
Contractual	0
Utilities	0
Janitorial (service/supplies)	0
TOTAL	$4,575

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

RECFIN/COMFIN

January 1, 1998 - December 31, 1998

SALARIES	
Personnel	
Executive Director	2,014
Assistant Director	3,131
IJF Coordinator	0
SM Coordinator	18,784
Habitat Coordinator	0
Executive Assistant	5,221
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	14,545
FWS Assistant	0
Bookkeeper	4,080
Personnel (not designated)	1,666
Contract Labor	0
Health Insurance	9,999
Retirement	3,461
FICA Taxes	3,782
Jnemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	2,000
Postage	5,400
Professional Services	850
Travel (Staff)	4,500
Telephone	4,000
Office Equipment	0
Copying Expenses	2,500
Printing	1,200
Meeting Costs	2,250
Subscriptions/Dues	0
Auto Expenses	0
Insurance	840
Maintenance	0
Petty Cash	0
Taxes (property)	360
Committee Travel	51,750
Contractual	40,890
Utilities	780
Janitorial (service/supplies)	1,020
TOTAL	$185,023

GULF STATES MARINE FISHERIES COMMISSION
FY98 Budget

STRIPED BASS

January 1, 1998 - June 30, 1998

SALARIES	
Personnel	
Executive Director	0
Assistant Director	2,130
IJF Coordinator	0
SM Coordinator	0
Habitat Coordinator	0
Executive Assistant	3,060
Administrative Assistant	0
IJF Staff Assistant	0
SM Staff Assistant	0
Staff Assistant	0
FWS Assistant	0
Bookkeeper	1,213
Personnel (not designated)	0
Contract Labor	0
Health Insurance	909
Retirement	448
FICA Taxes	490
Unemployment Taxes	0
MAINTENANCE/OPERATIONS	
Facilities	0
Office Supplies	0
Postage	0
Professional Services	0
Travel (Staff)	0
Telephone	0
Office Equipment	0
Copying Expenses	0
Printing	0
Meeting Costs	0
Subscriptions/Dues	0
Auto Expenses	0
Insurance	0
Maintenance	0
Petty Cash	0
Taxes (property)	0
Committee Travel	0
Contractual	0
Utilities	0
Janitorial (service/supplies)	0
TOTAL	$8,250

APPROVED BY:
COMMITTEE

FLOUNDER TECHNICAL
TASK FORCE MINUTES
November 17-18, 1997
San Antonio, Texas

Chairman Mike Johnson called the meeting to order at 1:50 p.m. The following were in attendance:

Members
Mike Brainard, MDMR, Biloxi, MS
Rebecca Hensley, TPWD, Corpus Christi, TX
Mike Johnson, FDEP, Marathon, FL
Dennis Johnston, TPWD, Austin, TX
David Ruple, Nature Conservancy, Grand Bay, AL

Staff
Steve VanderKooy, Program Coordinator, Ocean Springs, MS
Cindy Yocom, Staff Assistant, Ocean Springs, MS

Chairman Johnson introduced Steve VanderKooy, the new Interjurisdictional Fisheries Program Coordinator for the Commission. Mr. VanderKooy comes to the Commission from the Gulf Coast Research Laboratory where he was involved in the fishery independent monitoring program. He noted that this task force has an excellent reputation for completing section drafts, and he is looking forward to working with such a motivated group.

Chairman Johnson introduced Jack King's replacement, Mr. Dennis Johnston. Mr. Johnston is the director of aquatic enforcement for the Texas Parks and Wildlife Department based out of Austin. Jack King had already compiled the majority of section 5; Mr. Johnston noted that he will basically be providing updates as new rules are promulgated.

Adoption of Agenda

Dave Ruple moved to accept the agenda as written. Mike Johnson seconded the motion which passed by consensus.

Approval of Minutes

Chairman Johnson asked the group to review the minutes of the previous meeting. Dave Ruple moved to adopt the minutes of the meeting held May 22-23, 1997, in Gulf Shores, Alabama. Rebecca Hensley seconded the motion, and the minutes were approved as written.

Section 9 - Lack of Sociological Expertise

Steve VanderKooy explained to the task force that the development process is well underway, and sociological expertise is still lacking. The Crab task force is basically at the same point in development; however, that group agreed to send out a request for proposals for an anthropological survey. The RFP has been sent out twice. The first request went unanswered. The Crab TTF agreed to post the request again with broader distribution and utilization of several Internet groups. Several requests for more information have been received at this point, and a LaJolla California consulting firm, Impact Assessments, has sent in some examples of their work. Mr. VanderKooy asked the Flounder TTF if they would like to pursue completion of their anthropological section in a similar fashion. The only alternative is to collect existing literature and characterize the information. A task force member would need to take the lead on this section and compile the information.

Several task force members noted that time is critical at this point, since the group has agreed to an October 1998 completion date. To perform a critical anthropological survey would take more time than exists. By consensus, the Flounder TTF agreed that a literature search is the best route at this time. Furthermore, the Flounder TTF agreed to recommend that a complete sociological survey be done for inclusion in the first revision of the fishery management plan.

The Flounder TTF suggested that the GSMFC consider working on the sociological survey within five years after plan completion. If possible, time survey completion to coincide with the beginning of FMP revision. Several members of the task force suggested that the Commission may want to consider having a sociologist on staff.

Steve VanderKooy asked if any of the present group would volunteer to draft the sociological section with the available literature that now exists? He noted that the author should probably begin by reading this section from existing FMPs. The sections are generally short, usually seven to ten pages. Although information is direly lacking, the user groups should be defined. Antidotal information is acceptable for use; and there is some literature available. Chairman Johnson suggested the group ask Chuck Adams if he would be willing to write this section. There is some overlap in the economic section that fits into the sociological description of the fishery. The group agreed with the Chairman, and Steve VanderKooy agreed to contact Chuck Adams. Mr. VanderKooy reminded the group to provide any information they have that might be helpful in the compilation of this section.

Review of Section Progress

A general discussion regarding capitalization and format occurred. The group agreed to use the AFS *Transactions* format. The AFS Guide to Authors will be sent to the entire TTF. The TTF agreed to add an abbreviations section (page) for the FMP. Each section author will provide their section's references with their drafts so that the task will not be so monumental at the end of FMP development.

Dennis Johnston reminded the group that Jack King had volunteered the Texas Graphic's Art Department to work on cover art for the FMP. Mr. Johnston is working with the artist Clemente Small and needs input from the group including photos or videos. Mike Johnson and Rebecca Hensley agreed to send photos and/or videos by January. Although both options are available for the cover, the group agreed that the artist should use his discretion whether the cover should be color or black and white.

Section 4 - Habitat. Dave Ruple distributed a section draft for review. He noted that he used some of the habitat-relevant information from section 3. In his draft, Ruple jotted down some management recommendations for the group's consideration. Steve VanderKooy suggested that Dave Ruple contact Jeff Rester, the Commission's Habitat Coordinator, for his input. Although Mr. Rester will be working on EFH sections for the Gulf of Mexico Fishery Management Council for the next year, he should be able to review the Flounder habitat section and provide input. Mr. Ruple requested habitat information from the other state representatives. Steve VanderKooy will send the Mississippi data base. A discussion ensued on the availability of information on habitat gain/loss. Dave Ruple noted the Gulf of Mexico Program document entitled, "Status and Trends of Emergent and Submergent Vegetative Habitat, Gulf of Mexico USA." The group agreed that this information should be included in the section. The group also agreed that contaminant/toxicity information including bioassay work should also be included.

Section 5 - Management Jurisdiction. Dennis Johnston noted that the current draft was completed April 1997. Commission staff now have the section on disk, and will continue to update as needed. Steve VanderKooy noted that the Magnuson-Stevens and Sustainable Fisheries acts will be added. A discussion occurred regarding the first paragraph and all agreed that this introductory information needs revision. The first sentence should read: "Flounder are somewhat unusual among the more important fish species in the Gulf because they are not highly migratory." The last two sentences should be combined to read: "Individual Gulf States and federal agencies should be contacted for specific and up-to-date laws and regulations which are subject to change at any time."

The group asked whether the research institutions (*i.e.*, Gulf Coast Research Laboratory, Florida Marine Research Institute) that act as the research arm for marine state agencies could be

mentioned. Steve VanderKooy agreed to check whether this information would be an appropriate addition.

Dave Ruple noted that the last paragraph under each state agency includes habitat protection and permitting programs and a federally-approved CZM program. He asked if this information be elaborated to include an explanation of the individual states' programs and agencies responsible. The group agreed to expand this information and will send in their state's information to the GSMFC office. Mr. Ruple also noted that the National Estuarine Reserve Program should be added.

Mike Brainard will provide Mississippi's information for the section. Mississippi's coastal area code has been changed and will be updated where appropriate throughout the section and FMP.

All state representatives will check license fees for updates. Prohibitive gear types will be added for all states.

Section 6 - Description of the Fishery. Mark VanHoose was not able to attend the meeting, but asked that all representatives send comments on the section draft directly to him.

Section 7 - Economic Section. Chuck Adams was not able to attend the meeting but has submitted a revised draft which the TTF reviewed. Shifts in production and value resulting from regulatory changes for each state may need to be included from each state. This information may be extensive and should probably be included in a table format. Mr. Adams would like input from the group and literature (including gray literature). An editorial comment made included the use of exvessel versus ex-vessel. Dollar value for Florida is listed at $1,927 which should be $1.9 billion. In 7.4, the Florida Department of Environmental Regulation is referred to. Change to Florida Department of Environmental Protection.

9.0 Management Considerations. General discussion regarding the definition of the fishery occurred. Several members of the group asked how do you define this fishery when it is not speciated? Problems in the fishery include:

- Inconsistent regulations among states
- Lack of data
- Lack of speciation of data
- Problems with speciating data (some fish houses refer to every flounder coming out of the Gulf of Mexico as "Gulf" flounder). Fish houses and dealers cannot be expected to speciate data.
- Habitat problems should be addressed separately and should include:
  - Degradation of riverine, estuarine, and freshwater systems critical to the life cycle of flounder.

- Pollution and sewage outflow as they relate to the fishery
- Water quality standards for saltwater have not be developed or implemented in the Gulf States. Water quality standards are in place for freshwater systems only. A potential management recommendation should be that states should develop water quality standards for toxins or pollutants in marine waters.
- Hypoxia and hazardous blooms
- Alterations of natural flow, dredging, impoundments, and hypersalinity affects on the fishery
- Land development, land use changes, agriculture affects on water quality
- Anthropogenic influences - deforestation, marsh impact on building casinos, filling, and redirecting water, seismic activity for the oil industry
- Reorganize this section as well as sections 4, 10 and 11 to address:
  9.5 Essential Fish Habitat
  9.5.1 Natural impacts to Essential Fish Habitat
  9.5.2 Anthropogenic Impacts to Essential Fish Habitat

– Mike Johnson noted another potential management problem is that of the spear fishing component of the fishery that occurs in spawning areas - commercially and recreationally. Refer back to the portion of section 3 that refers to spawning stock areas. Mike Brainard also noted that there are aggregation areas in Mississippi that are also targeted by spear fishing.

Section 10 - Potential Management Measures. This section was originally drafted by Jim, and Steve agreed to flesh out from today's discussion.

Section 11 - Management Recommendations. As the group agrees throughout the development process, specific management recommendations will come from discussions in sections 9 and 10.

Section 12 - Research Priorities. All representatives need to make note of research priorities for the fishery.

Timetable/Next Meeting

The group agreed to follow the timetable established at the May 1997 meeting as follows:

October 31, 1997	Drafts to the GSMFC office - complete document to be mailed out to the task force prior to next review meeting
November 1997	Review meeting - work session on management recommendations, data requirements, review habitat section for first time
January 1998	Drafts to the GSMFC office for distribution prior to next review meeting
February 1998	Review meeting
May 1998	All drafts; all revisions to the GSMFC office
August 1998	Final review meeting - point edit the entire document
October 1998	Draft to TCC for action

New editions should be sent to the GSMFC office by January 23 so that the revised FMP can be assembled and distributed prior to the review meeting scheduled for February 1998. Meeting sites were discussed. The group has met in Louisiana, Alabama, and Texas. Chairman Johnson agreed to check on meeting facilities and prices at several locations in Florida.

Stock Assessment Team Update

Steve VanderKooy reported on the September meeting of the Stock Assessment Team where the flounder stock assessment was widely discussed in various degrees of chagrin. The biological section has been sent to the group to help their understanding of the fishery in general. The fishery is not speciated; therefore, a formal stock assessment cannot be done.

Texas, however, has enough data and will perform a state assessment of their fishery which will include preliminary SPRs and VPAs. The Texas stock assessment will be completed by Dr. Mark Fisher via a subcontract with the GSMFC. This information will be provided to

Bob Muller who will compile available data from the other states. The flounder stock assessment for Texas and summarized description for the remaining states should be compiled by late spring. The Stock Assessment Team is tentatively scheduled to meet in March 1998.

There being no further business, the meeting adjourned Tuesday, November 18, 1997, at 10:30 a.m.

DRAFT

MINUTES

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

TEXAS HABITAT PROTECTION ADVISORY PANEL

HOUSTON, TEXAS

NOVEMBER 18, 1997

ATTENDANCE

Members

Bill Baker	Houston Lighting and Power Company
Bob Spain	Texas Parks and Wildlife Department
Mike Hightower	Texas Sea Grant
Rusty Swafford	National Marine Fisheries Service
C. Elaine Giessel	
L. Don Perkins	
Burt Moritz	
Fred Werner	U.S. Fish and Wildlife Service
Dana Larson	Rigs to Reefs
Deyaun Boudreaux	Texas Shrimp Association
Frank Fisher	Rice University

Staff

Jeff Rester	Gulf States Marine Fisheries Commission
Cheryl Noble	Gulf States Marine Fisheries Commission

Guests

Steven Anderson	Galveston Bay Estuary Program
Jim Lester	Environmental Institute of Houston, University of Houston, Clear Lake
Pete Aparicio	Gulf of Mexico Fishery Management Council
Gary Valentine	United States Department of Agriculture
Eddie Seidensticker	United States Department of Agriculture
Tom Minello	National Marine Fisheries Service
Warren Pulich	Texas Parks and Wildlife Department
Larry McEachron	Texas Parks and Wildlife Department
Jennifer Gray	National Marine Fisheries Service
Pamela Baker	Environmental Defense Fund
Travis Lovelace	Galveston Bay Estuary Program
Thomas Byron	Galveston Bay Estuary Program

Richard Volk	Corpus Christi Bay National Estuary Program
William Jackson	National Marine Fisheries Service
Ron Hill	National Marine Fisheries Service
Paul Indeglia	International Center for the Solution of Environmental Problems
Kathy Bruce	Galveston Bay Foundation
Bob McFarland	

The meeting of the Texas Habitat Protection Advisory Panel was called to order by Chairman Bill Baker at 9:00 a.m. on Tuesday, November 18, 1997 in Houston, Texas.

Adoption of Agenda

The agenda was adopted as written.

Adoption of Minutes

The minutes of the September 18, 1996 meeting in Houston, Texas were approved as written with minor editorial changes.

Status of Defining Essential Fish Habitat Under the Magnuson-Stevens Fishery Conservation Act

Mr. Ron Hill with the Habitat Conservation Office, National Marine Fisheries Service gave a presentation on the newly established guidelines for identifying and protecting Essential Fish Habitat (EFH) under the Sustainable Fisheries Act. The final rules for defining EFH are still awaiting final approval, so the presentation provided the proposed rules for defining EFH.

NMFS is responsible for developing EFH guidelines, providing EFH recommendations and information for each fishery, and recommending conservation and enhancement measures for any federal or state activity that may adversely affect EFH. The Fishery Management Councils will identify EFH and amend Fishery Management Plans (FMP) to include EFH for each species under federal management. The Councils also provide recommendations for activities that adversely affect EFH for each fishery management plan. The federal action agencies are responsible for consulting with NMFS and the Councils on actions that may adversely affect EFH and respond to NMFS or the Councils within 30 days.

The definition of EFH is those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. EFH is identified and described for all life history stages using a multilevel approach for data organization. Four levels exist for identifying EFH. The first level is based on the presence or absence of a species from a particular habitat. Level 2 is based on habitat related densities of a species. Level 3 is based on habitat related growth, reproduction or survival rates by habitat. Level 4 is based on production rates by habitat. EFH should be determined by using the best data available although for most species only level 1 data are available. EFH should also be determined in a risk averse fashion, erring on the side of inclusiveness.

Adverse effects to EFH from both fishing and non-fishing related activities will be identified. The Councils must act to prevent or minimize any adverse effects from fishing if there is evidence that a fishing practice is having an adverse impact on EFH. Research is currently being done by the American Fisheries Society to identify the adverse impacts of different types of fishing gear on EFH.

Fishery Management Plans must identify non-fishing activities that may adversely impact EFH. They must describe the EFH most likely to be impacted by the activities and describe how the activities impact EFH.

Important comments concerning the EFH guidelines submitted to NMFS during the comment period were that NMFS is not an environmental regulatory agency, NMFS has no regulatory authority in state waters, NMFS has no authority over non-fishing activities, and NMFS has no authority to regulate private land use.

Mr. Bill Jackson of the National Marine Fisheries Service talked about the status of the EFH amendment for the Gulf of Mexico. He stated that the draft EFH amendment for the Gulf is complete and the study to identify adverse impacts of fishing gear on EFH should be completed by the AFS by February, 1998. The draft amendment for the Gulf should go out for review in April or May of 1998.

Mrs. Deyaun Boudreaux wanted to make sure that the adverse impacts of shrimping gear types would be evaluated by the type of shrimping method (bay shrimping, midwater trawling, and deepwater trawling).

Mr. Bob Spain wanted to know how NMFS's role will change under the new EFH guidelines when NMFS is concerned about the impacts of a project.

Mr. Hill replied that he is still unsure how NMFS role will change in consultation with other federal regulatory agencies. He thinks that NMFS will have more and better information available to them to deal with habitat related issues.

Red Tide Update

Mr. Larry McEachron of the Texas Parks and Wildlife Department presented an update of the 1997 red tide events along the Texas coast. Red tides are caused by dinoflagellates which are background organisms in coastal and offshore waters. It is presently not understood why blooms occur. Blooms occur in water temperatures of 61^0-81^0 F and salinities of 27-37 ppt. Blooms also need a carbon and an iron source to sustain itself. Currently, there is no way to predict if a red tide event will occur.

The first verified red tide event off Texas occurred in 1935 and 1986 saw the worst red tide event experienced off the Texas coast. The 1986 red tide event occurred along 200 miles of coastline. Red tide has also occurred the past three years (1995 - 1997) in a row.

The 1997 event started off Sargent, Texas in September. The red tide intensified during October and spread into the Laguna Madre and down to Tampico, Mexico. The dinoflagellates were reported in concentrations of up to 100,000 cells per milliliter. The red tide was also very strong around Port Mansfield, Brownsville, and Port Isabel, Texas.

The red tide had dissipated by October 20, 1997. Eighty-one species composed the 14.7 million fish that were killed during the 1997 red tide event. Seven species made up 90% of the total fish killed. Most of the fish killed were highly schooling species. The top two species killed were menhaden and mullet.

Red tide mainly affects fish but thousands of ghost shrimp were killed in the surf zone this past year. Red tide can affect humans who are in close proximity to the beach where a red tide is located. The dinoflagellates will break apart and form an aerosol that when breathed will cause a bad headache, somewhat like a sinus headache.

Mr. Bill Baker asked about the salinity range that stopped growth of the dinoflagellates.

Mr. McEachron responded that salinities below 24 ppt generally prohibit the spread of the bloom. The dinoflagellates can survive in salinities lower than 24 ppt, but they usually do not bloom like they would at higher salinities.

Mr. Bill Jackson asked if Mr. McEachron looked at possible food sources for the red tide blooms.

Mr. McEachron responded that no one in Texas has looked at food sources but that in Florida researchers are extensively looking into sources and causes of red tides.

Monitoring for Shrimp Diseases in Texas Bays

Mr. Larry McEachron of the Texas Parks and Wildlife Department made his second presentation on the new TPWD program monitoring for shrimp viruses in Texas bays and estuaries. He stated that if foreign aquaculture farms suspect the presence of a virus they immediately draw the pond down and ship the shrimp to market. Shrimp viruses can survive freezing temperatures and millions of pounds of possibly infected shrimp are shipped into the U.S. each year.

Money ($ 50,000) was dedicated in 1997 by TPWD for shrimp virus monitoring. A baseline study will be conducted from October, 1997 through September, 1998. The study mainly targeted shrimp less than 80 mm because of the cost involved in processing larger shrimp. The study targeted the nine major bay systems along the Texas coast and the bay systems will be sampled on a monthly basis. The current funding will allow 2,000 shrimp to be analyzed for diseases. Samples for October and November, 1997 have been processed and one sample did have an exotic disease but Mr. McEachron stated that at this time officials were not sure of the identity of the disease. The three exotic diseases that officials are looking for are White Spot, Yellowhead, and Taura Syndrome.

Shrimp Mariculture Disease Update

Dr. Jim Lester of the Environmental Institute of Houston, University of Houston, Clear Lake presented the latest research on shrimp mariculture diseases. In 1992, there were six viruses associated with shrimp mariculture. Shrimp mariculture is expanding globally and many more diseases affect mariculture operations today. Common diseases now are *Baculovirus*, *Vibrio*, Necrotizing Hepato Pancreatitis bacteria, Taura Syndrome, White Spot, Yellowhead, and IHHN. Taura Syndrome, White Spot, and Yellowhead are the diseases that concern shrimp farmers the most.

No new diseases or epidemics occurred in Texas during the 1997 growing season. Taura Syndrome mortality did occur along the middle coast. Wild *Peneaus vannamei* (Pacific white shrimp) were caught in Matagorda Bay. These were thought to be released from a nearby mariculture facility. Most of the exotic shrimp were thought to be captured by shrimpers.

It is thought that shrimp are developing resistence to the viruses. Immuno stimulants are also being sold to increase resistance to disease but the effect of these immuno stimulants is unknown at this time.

Control over shrimp disease is increasing. Certification of disease free shrimp is increasing. There is now more control over the import and export of shrimp. Regulations concerning the discharge of mariculture facilities are being tightened. Shrimp farming has been shut down in coastal India because of fear of pollution and disease.

TWPD recently passed some regulations concerning shrimp farming in Texas' waters. All shrimp for mariculture imported into Texas must be documented disease free prior to importation. There must be disease monitoring at hatcheries. A hatchery will be quarantined (no water discharge) if there is a disease outbreak. Also, monitoring of discharge water for disease organisms must take place monthly.

Mrs. Deyaun Boudreaux wanted to know the location of the shrimp farms on the east coast of Mexico.

Dr. Lester responded that most of the ones he knew of were in Tomalipas, Mexico.

Mrs. C. Elaine Giessel asked if there was any ongoing research into the use of native species in mariculture.

Dr. Lester stated that the use of native species of shrimp in mariculture is on hold for the time being.

Mr. Mike Hightower stated that Texas Sea Grant is funding two researchers from Texas A&M who are using *Peneaus setiferus* (white shrimp) in a mariculture setting.

Mr. Bill Jackson asked if Dr. Lester saw any future in offshore mariculture using abandoned oil

rigs or a new facility.

Dr. Lester said that he saw a future in using finfish but not using shrimp. He stated that too many nutrients would have to be added to the water for the shrimp to grow and it would not be economically feasible to add the amount of nutrients needed to grow shrimp in offshore waters.

Mr. Jackson also asked how many shrimp farms are in Texas.

Dr. Lester responded that nine shrimp farms currently exist in Texas. He also stated that there are approximately 12 in South Carolina and at least one in Florida.

Mr. Paul Indeglia asked what was being done about the effluent discharged from shrimp farms.

Dr. Lester said that settling ponds were being used to control the release of effluent into the outside environment.

Mr. Hightower added that the new TPWD regulations that took effect July 30, 1997 should help control the pollution problem stemming from shrimp farm effluent discharge.

Texas Seagrass Conservation Plan

Dr. Warren Pulich of the Texas Parks and Wildlife Department gave a presentation on the two-year-old TPWD Seagrass Conservation Plan. Seagrass habitat is highly valuable and is scarce in some Texas bays. There are five species of seagrass in Texas bays with shoal grass being the most dominant. The Seagrass Conservation Plan is a coordinated effort between different agencies and institutions. It instills a review and assessment process and makes recommendations for future objectives. The Plan is not regulatory in nature. The Plan's sponsors are TPWD, the Texas General Land Office, the Natural Resource Conservation Commission, the National Estuary Program, USFWS, EPA, NMFS, and the University of Texas Marine Science Institute.

TPWD is considering studying the effects of boat traffic on coastal areas and preforming an inventory of the state wetlands to detail the status and trends of the wetlands.

Most of the seagrass in Texas is south of Matagorda Bay. However, the most impacted seagrass areas are in Galveston Bay. There are approximately 200 acres of seagrass left in Galveston Bay. The upper Laguna Madre contains approximately 25% of the seagrass on the Texas coast. The upper Laguna Madre seagrass beds have been severely impacted by a recent brown tide event that began 1990 and did not dissipate until the summer of 1997. The lower Laguna Madre was gaining seagrass coverage until the mid 1970s, when there was a shift in species composition of seagrasses. The lower Laguna Madre is now in an equilibrium.

There are many stresses to seagrass beds. The first type are the environmental stresses like hurricanes and pulses of freshwater inflow. Another type includes the physical disturbances caused by man. These include dredging and construction, prop scarring from boats, and water

quality degradation from nutrient loading. Nutrient loading leads to an increase in macroalgae which leads to an increase in turbidity which is detrimental to seagrass beds.

The Seagrass Conservation Plan calls for coordination with various groups. A symposium was held in November, 1996 in Corpus Christi at which participants were able to express their ideas and objectives for the plan. Results of this symposium and other meetings led to the strategy for the plan. One of the main objectives of the plan is to get the public involved in the planning stages for restoration and educate the public on the importance of seagrass in a healthy environment. The most difficult part of the plan will be the implementation of the plan. It is important to focus on the short term goals. If conservation is going to take place then it needs to start now. The Seagrass Conservation Plan should be out by the spring of 1998.

Mr. Thomas Byron asked what the five different species of seagrass were.

Dr. Pulich responded that they are shoal grass, turtle grass, manatee grass, clover grass, and widgeon grass. Widgeon grass is not considered to be a true seagrass because it can grow in freshwater.

Mr. Burt Moritz asked about the depth to which seagrasses grow in Texas bays and about the effect of shrimp trawls on seagrass beds.

Dr. Pulich responded that seagrasses will grow to a water depth of 3-4 feet in turbid water (most bays) and seagrasses grow to a depth of 6 feet in the clearer water of the Laguna Madre. He also stated that he felt that trawling did not have a detrimental effect on seagrass beds because shrimpers could not trawl in areas shallow enough for seagrass to grow. Dr. Pulich stated that a more detrimental effect is from shallow draft boats that run through seagrass beds.

Mrs. Deyaun Boudreaux stated that trawling was outlawed in the lower Laguna Madre.

Mr. Pete Aparicio asked about the distribution of the different seagrass species in the Texas bays.

Dr. Pulich stated that shoal and widgeon grass are widely distributed along the coast. Turtle and manatee grass only occur south of Aransas Bay except some occurs in Christmas Bay. The upper Laguna Madre has almost entirely shoal grass.

Galveston Bay Foundation Habitat Conservation Plan

Mrs. Kathy Bruce of the Galveston Bay Foundation (GBF) presented the Habitat Conservation Plan of the Galveston Bay Foundation. The GBF is a non-profit organization concerned with education, conservation, research, and advocacy. The Habitat Conservation Plan is a two year grant funded project. The Galveston Bay Habitat Conservation Plan (HCP), as proposed by the GBF, follows up on the work of the Galveston Bay National Estuary Program, with its goal of restoring 15,000 acres of estuarine habitat in Galveston Bay over the next 10 years. The HCP

will also be part of a national effort to restore 1,000,000 acres of estuarine habitat by the year 2010. The project builds on the planning projects of local, state, federal, and nonprofit entities. With its site-specific assessment and habitat conservation recommendations, the HCP will provide a blueprint for future conservation projects for Galveston Bay. This coordination of effort and knowledge is greatly needed in order to provide for the efficient use of expertise and resources, to take advantage of funding opportunities, and to promote leveraging of opportunities.

The HCP strategy is to build on existing state and regional plans, and the knowledge of scientists and resource managers, to complete a site-specific assessment of estuarine and associated habitats for Galveston Bay. The HCP will also synthesize available and newly acquired data into a computer mapping database, which will be available to all interested parties via the GBF web site on the Internet, and by hard copy report. The HCP will identify conservation and/or restoration strategies for each site and develop a consensus from all concerned public and private parties on priorities among the site-specific conservation strategies. The HCP will attempt to match priority site-specific projects with available funding, and begin the grant application process. Finally, the HCP will build community support for the implementation of these projects through wetlands education programs, special events and printed materials.

GIS mapping is being used to map the Galveston Bay area. Currently, the database is used as an inventory, but in the future it will be used as analysis tool. Over two hundred sites are currently being sampled to provide information for the database. Information gathered at each site includes habitat types, land use at the site and on surrounding land, and whether the site is on public or private land.

The second stage of the Habitat Conservation Plan is to hold a series of public meetings around the Galveston Bay area. This will allow more public involvement in the site selection process.

Mr. Fred Werner asked if the GBF asked for the land owners permission before they selected a site for restoration.

Mrs. Bruce responded that land owners are contacted and asked permission before the site is selected for restoration. For most of the 200 sites already selected the individual land owner was approached and the land owner granted permission for restoration.

Mr. Rusty Swafford asked how often the information on the 200 selected sites and future sites is updated.

Mrs. Bruce stated that there will be continuous updates on the restoration sites and that information to update sites will be gained through public meetings. Funding for the project has also been requested for another two years.

Galveston Bay Estuary Program: Implementing the Galveston Bay Plan With Focus on Habitat Restoration Efforts

Dr. Steven Anderson of the Galveston Bay Estuary Program (GBEP) gave a presentation on the habitat restoration efforts of the Galveston Bay Estuary Program. There are 110,000 jobs associated with Galveston Bay. Also, one-third of the state's commercial fishing income ($200 million annually) and over half the recreational fishing expenditures ($600 million annually) are derived from Galveston Bay. Travel generated dollars spent in the bay's watershed exceeded $4.2 billion in 1994. These statistics show that Galveston Bay is more than just water.

Habitat protection is the top priority of the GBEP. Problems in the past have led to lost or degraded habitat. The goals of the GBEP are to expand and restore the quality of wetland habitats and halt the loss of habitat.

The GBEP is working on a project in Dickinson Bay called the Dickinson Bay Oyster Reef Wetland Restoration Project funded by EPA for $250,000. The erosion rate is high in Dickinson Bay, and the project built a 1,400 foot long oyster reef parallel to the shore for shoreline protection. This project created habitat and also halted the erosion of the shoreline habitat.

One of the problems affecting Galveston Bay and other coastal waters in Texas is that people want to live by the water. But after everyone moves close to the water, the quality of the water becomes degraded because of the increase in the number of people living near the water. One thing that can be done to preserve the wetlands is to have a development plan and show people that preserving wetlands and developing an area can take place. They want to show that wetlands can be preserved if precautions are taken and a plan is in place. Development does not have to be stopped but instead only has to be modified.

Dr. Anderson also talked about the Clear Creek Dredge Material Project. This project was funded by EPA and Houston Power and Light. A wetland area will be built up with the use of dredge material from Clear Creek. Mr. Bill Baker stated that subsidence in this area has turned it into an open mudflat. Mr. Baker stated the goal of this project is to elevate the area enough to have it once again functioning as intertidal marsh. The dredge material will be placed in containment levees around the site in late November 1997.

Mr. Pete Aparicio asked if the dredge material to be used at the site is the same type of sediment currently at the site.

Mr. Baker responded that the dredge material has been tested and that it is the same type of sediment currently located at the site.

Dr. Anderson stated that GBEP is also working on the West Galveston Bay Seagrass Restoration Project. The project calls for planting shoal grass in west Galveston Bay. There is also a smaller scale project that will be planting shoal grass in *Ruppia* beds in west Galveston Bay. It is hoped

that the *Ruppia* will act as a wave barrier and give the shoal grass a better chance of survival. So far, survival of the shoal grass has been around 30 percent.

Dr. Anderson noted that the Galveston Bay Foundation is working on a $25,000 project in a wildlife refuge in east Galveston Bay. This project will build a viewing mound in the refuge for people to observe the surrounding wetlands.

The GBEP is also helping fund projects to create, enhance and restore habitat in Galveston Bay. The GBEP donated $50,000 to TPWD to use for a project on Galveston Island State Park. They are also donating $30,000 to help the USFWS restore bird habitat in the bay.

Corpus Christi National Estuary Program Status as Relating to Habitat Issues

Mr. Richard Volk of the Corpus Christi National Estuary Program (CCNEP) gave a presentation on the Corpus Christi National Estuary Program. The CCNEP is only a few years old and is still developing an implementation plan for the Corpus Christi estuary. The Corpus Christi estuary includes the Aransas and Copano estuaries to the north and the Nueces and Corpus Christi estuaries in the central portion, and Baffin Bay in the upper Laguna Madre estuary to the south. The estuary program study area includes 12 counties and 75 miles of coastline. The estuary program also includes three river basins (San Antonio, Nueces, and the Rio Grande Rivers).

Some 30 technical projects are underway or have been completed in the Corpus Christi estuary. These include analysis of data for water and sediment quality, analysis of point and nonpoint pollution sources, analysis of atmospheric deposition to determine total loadings, analysis of storm water outfall and its toxicity to the marine environment, determination of the important marine fauna, analysis of the habitat types located in the estuary, analysis of both human and natural impacts on bay bottoms, analysis of freshwater inflow into the estuary, and the circulation in the estuary.

Some of the key findings from the reports are that most habitat types in estuary are stable at this time, although tidal mud flats are in decline. Ten thousand hectares have been lost since 1950. Marsh area has increased overall, although there have been losses in certain important areas. Seagrasses have been negatively impacted because of increased turbidity from nutrient loading.

One project has determined total inflow into the estuary. Roughly 31 percent of the inflow comes from the Nueces River and the city of Corpus Christi. Fifty-three percent comes from the Copano basin. There are two reservoirs on the Nueces River, and this has led to a 55 percent reduction in the inflow into the river. Altogether there has been a 19 percent decrease in the annual inflow into the Corpus Christi estuary system.

Mr. Volk stated that Dr. George Ward of the University of Texas has completed a circulation model of the estuary system. The findings show that the replacement time for freshwater in the system is 15 months or more. The most significant alteration of the circulation in the estuary

was the dredging of Turtle Cove at Port Aransas in the 1920s or 1930s. This opened the estuary to the open Gulf. Also the opening of the Intercoastal Waterway improved the circulation of the estuary. Another major finding of the study was that because the bays are not well flushed they would have a greater tendency to concentrate nutrient loadings.

The CCNEP is in the final stages of completing their draft Copano Bay Plan. The plan will be made available to the public in January of 1998. The plan will include 15 management actions.

Mr. Thomas Byron asked what the CCNEP's number one priority was.

Mr. Volk responded that the number one priority was not going to be decided until after the beginning of 1998, after the CCNEP has had time to synthesize all the available information about the estuary.

Mr. Tom Minello asked about the decline in freshwater inflow having an adverse affect on productivity.

Mr. Volk responded that currently there was not enough information available to determine if a decline in freshwater inflow had an adverse affect on productivity.

Other Business

Mr. Baker stated that at the next meeting he would like to see more input on issues that concern members of the advisory panel. He said that there needs to be better communication between the members before the agenda of the meeting has been set.

Mr. Rusty Swafford gave a brief update of the Wild Cow Bayou marsh management area. The Wild Cow Bayou project has been managed by the USFWS as part of a national wildlife refuge. The NMFS has felt that there has been a major loss of habitat for fish because marine transients were not able to utilize the area under the current management practices. NMFS has been pushing for science based management of the area. There is agreement between the USFWS and NMFS that there needs to be better monitoring of the area, especially monitoring the control areas. GIS analysis needs to be incorporated into the monitoring program. More continuous water quality recorders have also been installed. Mr Swafford feels that the Wild Cow Bayou area is still an area for concern and that future updates might be needed.

Mr. Dana Larson was concerned over the status of the old Baytown Tunnel. The tunnel was initially destined to become an artificial reef after its life as a tunnel was over. His concern was over the recent talk that the tunnel will not become an artificial reef and the potential future loss of habitat.

Discussion ensued on whether artificial reefs actually attracted fish or increased fish production. It was felt that the status of the Baytown Tunnel as an artificial reef would make a good agenda

item for the next meeting.

Mrs. Deyaun Boudreaux stated that the Gulf of Mexico Program (GOMP) has produced a fact sheet on the critical habitat in the entire Gulf of Mexico. She felt that it would be interesting to have the GOMP present something at the next meeting.

Mr. Bill Jackson talked about the Chote Canyon Reservior proposed rule change. The Nueces River is dammed and forms Chote Canyon Reservoir. The region surrounding the river is semi-arid and the reservoir is seen as a huge potential source of freshwater. The rule now stands that when the Chote Canyon Reservoir reaches 70 percent of capacity the river authorities stop the flow of freshwater from the reservoir. This has detrimental effects on the down stream estuaries and estuarine organisms because of the high increases in the salinity level. This restriction of freshwater flow reaching the estuaries is now a concern for all of Texas. There could be a dramatic decrease in productivity in the estuaries if there is complete restriction of freshwater inflow. Also, the timing of freshwater inflow into the estuaries could have serious consequences for the organisms that are estuarine dependent. Mr. Jackson recommended that every time the advisory panel meets, they should have an update on the status of freshwater inflow into the estuaries.

Mr. Pete Aparicio also stressed the importance of the freshwater inflow issue in south Texas.

Mr. Burt Moritz suggested that more time be allowed for questions and answers at the end of each presentation.

With no further business the meeting adjourned at 2:50 p.m.

DRAFT

MINUTES

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

FLORIDA/ALABAMA HABITAT PROTECTION ADVISORY PANEL

TAMPA, FLORIDA

NOVEMBER 20, 1997

ATTENDANCE

Members	
Steve Heath	Alabama Department of Conservation and Natural Resources, Marine Resources Division
Bob Jones	Southeast Fisheries Association
Bob McMicheal	FDEP, DMR, Florida Marine Research Institute
Jesus Tupaz	Mississippi-Alabama Sea Grant Consortium
David Anthony	
Andreas Mager, Jr.	National Marine Fisheries Service
Bryan Pridgeon for Warren Olds	U.S. Fish and Wildlife Service
Staff	
Jeff Rester	Gulf States Marine Fisheries Commission
Cheryl Noble	Gulf States Marine Fisheries Commission
Felicia Coleman	FSU, Gulf of Mexico Fishery Management Council
Jon Dodrill	FDEP, DMR, Office of Fisheries Management
Peter Rubec	FDEP, DMR, Florida Marine Research Institute
Ramon Ruiz-Carus	FDEP, DMR, Florida Marine Research Institute
Steve Dornsife	FDEP, DMR, Florida Marine Research Institute
Jerry Brooks	FDEP, Division of Water Facilities
Jennifer Fitzwater	FDEP, Office of General Counsel
David Dale	National Marine Fisheries Service
Jim Hollingsworth	Tampa Tribune
Ron Hill	National Marine Fisheries Service

The meeting of the Florida/Alabama Habitat Protection Advisory Panel was called to order by Chairman Bob Jones at 9:00 a.m. on Thursday, November 20, 1997 in Tampa, Florida.

Adoption of Agenda

The agenda was adopted with the following change. The presentation on the expansion of U.S. 1 in Monroe County was deleted from the agenda.

Adoption of Minutes

The minutes of the December 4, 1996 meeting in Tampa, Florida were approved as read.

Status of Defining Essential Fish Habitat Under the Magnuson-Stevens Fishery Conservation Act

Mr. Ron Hill with the Habitat Conservation Office, National Marine Fisheries Service gave a presentation on the newly established guidelines for identifying and protecting Essential Fish Habitat (EFH) under the Sustainable Fisheries Act. The final rules for defining EFH are still awaiting final approval, so the presentation provided the proposed rules for defining EFH.

NMFS is responsible for developing EFH guidelines, providing EFH recommendations and information for each fishery, and recommending conservation and enhancement measures for any Federal or State activity that may adversely affect EFH. The Fishery Management Councils will identify EFH and amend Fishery Management Plans (FMP) to include EFH for each species under federal management. The Councils also provide recommendations for activities that adversely affect EFH for each fishery management plan. The federal action agencies are responsible for consulting with NMFS and the Councils on actions that may adversely affect EFH and respond to NMFS or the Councils within 30 days.

The definition of EFH is those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. EFH is identified and described for all life history stages using a multilevel approach for data organization. Four levels exist for identifying EFH. The first level is based on the presence or absence of a species from a particular habitat. Level 2 is based on habitat related densities of a species. Level 3 is based on habitat related growth, reproduction or survival rates by habitat. Level 4 is based on production rates by habitat. EFH should be determined by using the best data available although for most species only level 1 data are available. EFH should also be determined in a risk averse fashion, erring on the side of inclusiveness.

Mr. Andy Mager felt it was important to realize that all estuarine, coastal, and offshore waters in the Gulf should be considered EFH. Other members of the panel agreed and felt that estuarine and coastal waters are only as healthy as their watersheds. Mr. Hill agreed with the panel's feelings on the entire Gulf being classified as EFH.

Adverse effects to EFH from both fishing and non-fishing related activities will be identified. The Councils must act to prevent or minimize any adverse effects from fishing if there is evidence that a fishing practice is having an adverse impact on EFH. Research is currently being

done by the American Fisheries Society to quantify the adverse impacts of different types of fishing gear on EFH.

Fishery Management Plans must identify non-fishing activities that may adversely impact EFH. They must describe the EFH most likely to be impacted by the activities and describe how the activities impact EFH.

Important comments concerning the EFH guidelines submitted to NMFS during the comment period were that NMFS is not an environmental regulatory agency, NMFS has no regulatory authority in state waters, NMFS has no authority over non-fishing activities, and NMFS has no authority to regulate private land use.

Update on the Fenholloway River Situation

Mr. Jerry Brooks of the Division of Water Facilities, Florida Department of Environmental Protection gave a presentation on the Buckeye Cellulose Plant located at the head waters of the Fenholloway River. The plant has been discharging effluent into the Fenholloway River since 1954. Currently, there are two mills located at the facility that discharge into the Fenholloway River. The first mill produces a product that is used in clothing and rayon tires. The second mill is a fluff pulp mill that produces a product used in disposable diapers. Mill 1 produces 500 tons of material annually, while mill 2 produces 700 tons of material annually. Both mills share a common discharge. The products produced at both mills cannot be produced without the use of chlorine.

Prior to 1970, there was no treatment to the wastewater being discharged into the river. A 30 acre aeration pond was installed for mill 1 in 1970 and a 120 acre aeration pond was installed for mill 2. In 1989, mill 2 eliminated the use of elemental chlorine in the production process. Dioxin has not been detected in the Fenholloway River since the elimination of elemental chlorine in the production process.

The two mills discharge around 54 million gallons of wastewater each day. These discharges are into the headwaters of the river. Without the discharge, the flow rate of the river is 35 cubic feet per second. With the discharge from the two mills the flow rate is 100 cubic feet per second.

The Fenholloway River is currently classified as a Class 5 river. This classification allows industrial use of the river. It is the only river in Florida that is currently classified as an industrial river. In an effort to reclassify and improve water quality in the Fenholloway River, the discharge from both mills will be pumped down stream via a pipeline. This pipeline will discharge at river mile 1.7. The current discharge is around river mile 26. This would allow more dilution of the discharge and the discharge would not dominate the flow of the Fenholloway River. With the improvements in water quality in the past and the expected future water quality improvements, the Fenholloway will probably be reclassified as a Class 3 river in December, 1997.

Several things are being done by Buckeye to improve water quality of the river and surrounding estuary. Buckeye must reduce the effluent color level by fifty percent. Color has been identified as the primary cause of seagrass destruction in the nearby Gulf waters. It has been estimated that 9.2 square miles of seagrass have been lost or degraded due to the river discharge. If seagrass beds due not recover, Buckeye will be required to further improve its wastewater treatment. Buckeye will also supersaturate its effluent with oxygen. The discharge permit is issued for five years and if water quality improvements are not met, Buckeye will be required to make further improvements.

Artificial Reef Update

Mr. Jon Dodrill of the Office of Fisheries Management and Assistance Services, Florida Department of Environmental Protection gave a presentation on the artificial reef program in Florida. Florida's artificial reef program is unique in that the program is not fully controlled at the state level. The state program is designed to help individual coastal counties build artificial reefs. Grant money has recently become available to monitor the economic, recreational, and biological effectiveness of the artificial reefs off Florida. The two main sources of funding are salt water fishing licenses and the Sportfish Restoration Fund.

The program has averaged 25-30 grants per year to coastal counties with funding averaging 25-30 thousand dollars per grant. This money was mainly used for transportation and deployment of the reefs. In the last year, Florida funded 11 projects on the Gulf coast. The projects totaled 270 thousand dollars. Ten of the eleven projects used materials of opportunity, usually concrete (culverts and bridge material). The other project used fabricated units.

In 1997, legislation was passed in Florida that required new artificial reefs not to impede navigation, not to harm the marine environment, use materials with a life expectancy of more than 20 years, and use materials that will not move significantly or dissociate in minor storms.

Mr Steve Heath of the Marine Resources Division, Alabama Department of Conservation and Natural Resources followed Mr. Dodrill and discussed Alabama's Artificial Reef Program. The Alabama Artificial Reef Program began in the 1950s. No permitting was involved in the artificial reef process at first. In 1987, a large area off the Alabama coast was permitted for artificial reef materials. This permitting also gave the state control over the types of materials used in the reef area. New materials must now be inspected and approved before deployment. Oyster shells will soon be deployed in areas next to artificial reefs and in shallower areas. This will be done in hopes of attracting juvenile red snapper out of areas where shrimp trawling takes place.

FMRI Habitat Mapping

Dr. Peter Rubec of the Florida Marine Research Institute, Florida Department of Environmental Protection gave a presentation on the Florida Marine Spill Analysis System (FMSAS) and the