PROGRAM

mes H. Summersgill, Commission Chairman, Presiding)

Thursday (October 19)

8:30 - 9:30 AM

GISTRATION—LOBBY

9:30 AM

LL TO ORDER—GENERAL SESSION
(BALLROOM)

VOCATION
Reverend Haywood Scott, Pastor
First Southern Methodist Church, Montgomery

LL CALL

LCOME ADDRESS
(Introduced by Director Claude Kelley)
Ala. Dept. of Conservation

SOURCES OF THE SEA
H. E. (Skip) Crowther, Dir. of U.S. Bur. of Commercial Fisheries, Washington, D. C.

E DEVELOPMENT OF A TAXONOMIC
DE AND SYSTEM FOR THE ELECTRONIC
TA PROCESSING OF BIOLOGICAL
FORMATION
J. Y. Christmas, Charles Eleuterius, Gulf Coast Research Lab., Ocean Springs, Miss.

Y FRONT OPTIMISM
R. T. Whiteleather, Deputy Reg. Dir., Bur. of Commercial Fisheries, Reg. 2, St. Petersburg Beach, Fla.

11:00 AM

CESS—COFFEE BREAK — *Fifteen Minutes*

11:15 AM

PPLY AND PRICE FORECAST FOR SHRIMP
Dr. Lawrence W. Van Meir, Asst. Dir. of Economics, Bur. of Commercial Fisheries, Washington, D. C.

OGRESS REPORT MISSISSIPPI
STUARINE SEDIMENTALOGICAL STUDY
Dr. Walter Siler, Geologist Gulf Coast Research Lab., Ocean Springs, Miss.

PROGRESS REPORT OF ESTUARINE COMMITTEE
Chairman, Dr. Ted B. Ford, Chief, Div. of Oysters, Water Bottom & Seafood, La. Wild Life & Fisheries, New Orleans, La.

12:00 NOON

RECESS FOR LUNCH

1:30 PM

PANEL DISCUSSION—U. S. COAST GUARD DEMARCATION LINE
Presiding: Dr. Lyle St. Amant, Asst. Dir. Wild Life & Fisheries, New Orleans, La.
Panel—Represenatives of:
U. S. Coast Guard
Directors of Trade Associations
State Government

3:15 PM

RECESS—COFFEE BREAK — *Fifteen Minutes*

3:30 PM

CORPS ENGINEERS AND THE ESTUARINE ENVIRONMENT
George W. Allen, U. S. Corps of Engineers Mobile, Ala.

4:10 PM

REPORT ON—88-309—PROJECTS
I. B. Byrd, Fed. Aid. Coordinator
Bur. of Commercial Fisheries, Reg. 2, St. Petersburg, Fla.

4:30 PM

MEETING OF RESOLUTION COMMITTEE

Friday (October 20)

8:00-10:00 AM

COMMISSION EXECUTIVE BREAKFAST

10:00 - 12:00 Noon

GENERAL SESSION

10:30 AM

ALABAMA FISHERIES WORKSHOP FOR THE DISABLED
Ralph Richards, Exec. Vice Pres. Ala. Fisheries, Ass'n., Mobile, Ala.

11:00 AM

REPORT OF THE SEDIMENTALOGICAL STUDY OF MOBILE BAY FOR ALABAMA DEPARTMENT OF CONSERVATION

John Ryan, Dept. of Geology
Florida State University, Tallahassee, Fla.

12:00 Noon

ADJOURNMENT

Special Events

ORGANIZATIONAL MEETING REGIONAL OIL AND GAS ADVISORY COMMITTEE—4:00 PM—WEDNESDAY, OCTOBER 18—SENATE ROOM

ESTUARINE TECHNICAL COORDINATING COMMITTEE—5:00 PM—WEDNESDAY, OCTOBER 18—CAPITAL ROOM

U. S. COAST GUARD INFORMAL ADVISORY COMMITTEE MEETING—1:30 PM—FRIDAY, OCTOBER 20—SENATE ROOM

★

Gulf States Marine Fisheries Commission
J. V. Colson, Director
Room 225—400 Royal Street
New Orleans, Louisiana 70130

Commissioners

Order of listing: Administrator, Legislator, Governor's Appointee

Alabama

Claude D. Kelley
L. W. Brannan, Jr.
Vernon K. Shriner (Vice-Chairman)

Florida

W. Randolph Hodges
J. Lorenzo Walker
Walter O. Sheppard

Louisiana

Dr. Leslie L. Glasgow
Richard P. Guidry
James H. Summersgill (Chairman)

Mississippi

Charles Weems
Ted Millette
(Open)

Texas

J. R. Singleton
Richard H. Cory
Virgil Versaggi

GULF STATES MARINE FISHERIES COMMISSION

Eighteenth Annual Meeting

Montgomery, Alabama

JEFFERSON DAVIS HOTEL

October 19 (Thursday) - 20 (Friday), 1967

Ladies Tour—Montgomery. October 19
Meet in Lobby—1:00 P.M.

Reception—Compliments Southern Industries
Buffet—Compliments of Host State
Davis Room—7:00 P.M.—October 19

THE CAPITOL
STATE OF ALABAMA
MONTGOMERY

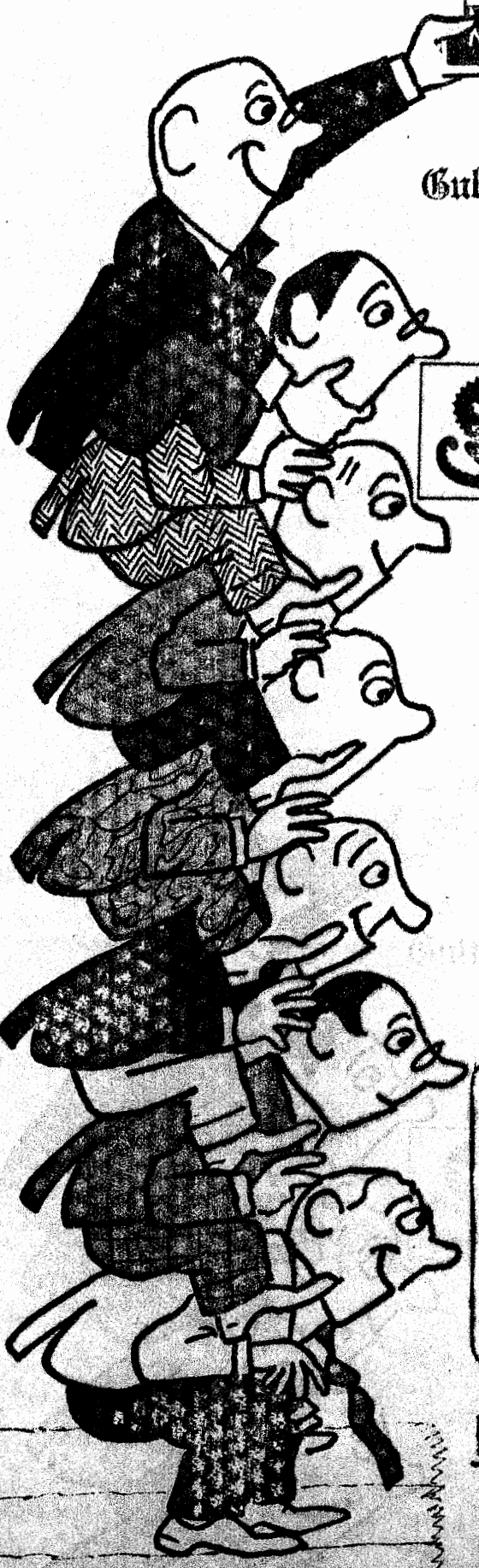
MAKE YOUR HOTEL RESERVATIONS NOW!

18th ANNUAL

Gulf States Marine Fisheries Commission

MEETING

THE Jefferson Davis HOTEL MONTGOMERY ALABAMA



OCTOBER 19 - (THURSDAY) - 20 - (FRIDAY) 1967

SPECIAL EVENTS

* ORGANIZATIONAL MEETING REGIONAL OIL AND GAS ADVISORY COMMITTEE - 4:00 P.M. - OCTOBER 18 WE

* ESTUARINE TECHNICAL COORDINATING COMMITTEE 5:00 P.M. - OCTOBER 18 WEDNESDAY

* PANEL DISCUSSION - U.S. DEMARCATION LINE 1:30 P.M. - OCTOBER 19 THURSDAY

* U.S. COAST GUARD INFORMAL ADVISORY COMMITTEE MEETING - 1:30 P.M. - OCTOBER 20 FRIDAY

LADIES TOUR

TOUR: THE CAPITOL, GOVERNORS MANSION, HISTORICAL LOCATIONS - SHOPPING TOUR

MEET IN LOBBY: 1:00 P.M. - OCTOBER 19, THURS.

RECEPTION & BUFFET

DAVIS ROOM

TIME: 7:00 P.M. THURSDAY, OCTOBER 19TH.

TENTATIVE PROGRAM

(James H. Summersgill, Commission Chairman, Presiding)

THURSDAY (October 19)

8:30 AM	REGISTRATION (LOBBY)	
9:30 AM	GENERAL SESSION - CALL TO ORDER	
	INVOCATION:	Reverend Haywood Scott, Pastor First Southern Methodist Church
	ROLL CALL	
	WELCOME ADDRESS:	Introduced by Director Claude Kelley
10:10 AM	RESOURCES OF THE SEA	H.E. (Skip) Crowther, Dir. of U.S. Bureau of Commercial Fisheries, Washington, D.C.
10:30 AM	THE DEVELOPMENT OF A TAXONOMIC CODE AND A SYSTEM FOR THE ELECTRONIC DATA PROCESSING OF BIOLOGICAL INFORMATION	J.Y. Christmas - Charles Eleuterius - Gulf Coast Research Lab., Ocean Springs, Miss.
10:40 AM	BAY FRONT OPTIMISM	R.T. Whiteleather, Deputy Regional Dir., Bureau of Commercial Fisheries Reg. 2, St. Petersburg Beach, Fla.
11:00 AM	RECESS - COFFEE BREAK	Fifteen Minutes
11:15 AM	SUPPLY AND PRICE FORECAST FOR SHRIMP	Dr. Lawrence W. Van Meir, Asst. Dir. of Economics, Bureau of Commercial Fisheries, Washington, D.C.
	PROGRESS REPORT MISSISSIPPI: ESTUARINE SEDIMENTALOGICAL STUDY	Dr. Walter Siler, Geogolist, Gulf Coast Research Lab., Ocean Springs, Miss.
	PROGRESS REPORT OF ESTUARINE COMMITTEE	Chairman, Dr. Ted B. Ford, Chief, Div. of Oysters, Water Bottom & Seafood, La. Wild Life & Fisheries, New Orleans, La.
12:00 Noon	RECESS FOR LUNCH	

AFTERNOON SESSION

1:30 PM	PANEL DISCUSSION - U.S. COAST GUARD DEMARCATION LINE	Panel Members U.S. Coast Guard Dist. Commander Director of Trade Association Chairman, Dr. Lyle St. Amant, Asst. Dir., La. Wild Life & Fisheries
3:15	RECESS - COFFEE BREAK	

3:30 PM	CORPS ENGINEERS AND THE ESTUARINE ENVIRONMENT	George W. Allen, U.S. Corps of Engineers, Mobile, Ala.
4:10 PM	REPORT ON - 88-309- PROJECTS	I. B. Byrd, Federal Aid Coordinator, Bureau of Commercial Fisheries, Reg. 2, St. Petersburg Beach, Fla.
4:30 PM	MEETING OF RESOLUTION COMMITTEE - Director's Room	

FRIDAY (October 20)

8:00-10:00 AM	COMMISSION EXECUTIVE SESSION - BREAKFAST - SENATE ROOM	
10:00-12 Noon	GENERAL SESSION	
10:30 AM	ALABAMA FISHERIES WORKSHOP FOR THE DISABLED	Ralph Richards, Exec. Vice Pres. Ala. Fisheries Association
11:00 AM	REPORT OF THE SEDIMENTALOGICAL STUDY OF MOBILE BAY FOR ALABAMA DEPARTMENT OF CONSERVATION	John Ryan, Dept. of Geology, Florida State University, Tallahassee, Fla.
1:30 PM	U.S. COAST GUARD MEETING ADVISORY PANEL	Panel Members U.S. Coast Guard represented by Rear Admiral Ross P. Bullard, U.S.C.G. District Commander Captain E. J. Worrell, U.S.C.G. Acting Chairman, J.V. Colson

JEFFERSON DAVIS HOTEL - CONVENTION RATES

Single Rooms (one person)	$6.50 - $7.50 - $7.75 - $10.00
Double -bed Rooms (two persons)	$9.00 - $10.50 - $11.00 - $12.50.
Twin -bed Rooms	$11.50 - $12.50 -$13.50 - $15.50

ROOM RESERVATION CARD IS ENCLOSED

If travel is to be by Air, kindly indicate name of Airline, Flight Number and scheduled Time of Arrival at destination as we have arranged for the Alabama Department of Conservation cars to meet arrivals for transportation to Hotel.

For further information contact:

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission
Room 225 - 400 Royal Street
New Orleans, La. 70130
Phone - Area Code 504 - 524 - 1765

SOUTHEASTERN FISHERIES ASSOCIATION, INC.

ALABAMA · FLORIDA · GEORGIA · NORTH CAROLINA · SOUTH CAROLINA

EXECUTIVE OFFICES - 224 CENTER BLDG. - PHONE 224-0512 - 330 SO. ADAMS ST. - TALLAHASSEE, FLORIDA

BOB JONES - RESIDENCE PHONE: 877-3722 NEWELL LEE - RESIDENCE PHONE: 224-6285

32301

RESOLUTION

WHEREAS, the United States per capita consumption of fishery products has remained static for many years; and

WHEREAS, the per capita consumption of fishery products must be increased if our domestic fishing industry is to appreciably improve its economic position; and

WHEREAS, domestic fishery production can be greatly expanded if markets are provided; and

WHEREAS, the cooperative marketing program of the Southeastern Fisheries Association, the Florida Board of Conservation, and the U.S. Bureau of Commercial Fisheries has been exceptionally effective in increasing markets for southern seafoods; and

WHEREAS, the Bureau of Commercial Fisheries marketing program remains underfinanced and understaffed and represents less than two percent of the total Bureau budget; and

WHEREAS, the recent relaxation of Friday abstinence rules for Roman Catholics has caused a decline in the demand for seafoods estimated at about 25 percent; and

WHEREAS, this decline in demand adversely affects our entire domestic fishing industry;

BE IT THEREFORE RESOLVED that the SOUTHEASTERN FISHERIES ASSOCIATION approve unanimously -- and hereby instructs -- its Executive Secretary and Officers of the SOUTHEASTERN FISHERIES ASSOCIATION to spearhead a national effort to introduce, support, and actively work for legislation for a greatly expanded national Bureau marketing program.

BE IT FURTHER RESOLVED that, in this national effort, the Executive Secretary of the SOUTHEASTERN FISHERIES ASSOCIATION, will enlist the support of other fishery trade associations, state fisheries administrators, marine fisheries commissions, allied food trades, congressmen, and others interested in the future of our domestic fishing industry, AND that this national legislative effort will continue until it is successful.

June 30, 1967

Harmon Leary

H. Heber Bell, Outgoing Chairman of the Board

PRESENTATION TO MEMBERS OF EXECUTIVE COMMITTEES
ASMFC and GSMFC
By: Bob Jones

Gentlemen:

Each of you has been provided a copy of a resolution that was passed unanimously by our association at our last annual convention in Jacksonville, Florida. This resolution calls for our association to spearhead a national effort to get Congress to provide funds for an expanded Bureau marketing program.

I am particularly anxious to enlist the support of the Atlantic States Marine Fisheries Commission and the Gulf States Marine Fisheries Commission in this endeavor. Last year the East Coast and Gulf States accounted for 67 percent of the volume and 62 percent of the value of fishery products produced in this country. This expanded marketing program therefore is of particular importance to the fisheries that these two commissions represent.

Fisheries experts maintain that production of fish in the waters near our shores can be increased at least fivefold without any harm to the resource. Some of you may debate these figures. However, I think we all can agree that fishery production can be substantially expanded -- if markets are provided! In spite of our vast fishery resources, we have not expanded our fishery production during the past 30 years!

In 1936 we produced 4.8 billion pounds. In 1966 we produced 4.3 billion pounds. Our record year was in 1962 when only 5.4 billion pounds were produced. Since 1926, only in four years have we exceeded 5 billion pounds.

Before World War II and until 1959, the United States ranked second only to Japan in world fishery production. We dropped to third place in 1959, behind the expanding fisheries of mainland China, and to fifth place when the fisheries of Peru and the Soviet Union surged ahead in 1960. By 1966, the United States was in real danger of being relegated to sixth place by Norway.

There are many reasons why the domestic fishing industry has not expanded production during the past 30 years. One very important reason is limited demand. For example, the per capita consumption of fishery products in the United States has remained static for many years. Statistics of the Bureau of Commercial Fisheries dating back to 1916 show that U.S. per capita consumption of fishery products was never greater than 12.2 pounds and since 1954 has been less than 11 pounds. On the other hand, fishery per capita consumption in selected countries are as follows:

Denmark	37.3 pounds
Finland	28.0 pounds
Greece	22.5 pounds
Norway	44.5 pounds

Portugal	50.7 pounds
Spain	30.6 pounds
Sweden	47.0 pounds
China	31.3 pounds
Japan	54.7 pounds
Philippines	32.8 pounds

It therefore seems obvious that we must expand the U.S. per capita consumption of fishery products if our domestic fishing industry is to appreciably improve its economic position.

I now would like to briefly discuss the prime reason why we must have a substantially expanded Bureau marketing program. Last November, the National Council of Catholic Bishops relaxed Friday meat abstinence rules for this country's 45 million Roman Catholics. This new rule is wrecking havoc with our fishing industry. I have obtained information from industry and government officials that shows the same thing -- the demand for seafoods has declined about 25 percent as a result of this new ruling for Roman Catholics. Worse still, prices paid to commercial fishermen are declining drastically! Some estimates are that the retail value of fishery products in the United States in 1967 will decline as much as $500 million!

We are arranging for an appropriations bill to be introduced in Congress early in the next session of the legislature. We further are arranging for our Congressmen to ask the Bureau to come up with a planned marketing program as to how these funds will be used. As

soon as I receive this planned program and a copy of the appropriations bill, I will provide copies to your executive secretary. I sincerely hope that you will give this bill your "all-out" support.

My association wants a Bureau program that is fair to all segments of the industry. We feel, for example, that Bureau marketing effort should be in major consuming areas. We plan to request that the Bureau develop a program in which the greatly expanded Bureau marketing staff would be distributed among the regions of the Bureau on the basis of population within those respective regions. For example, if 100 additional home economists and fishery marketing specialists are hired, they would be distributed along the following lines:

Region 1 (Pacific Northwest)	4 professionals
Region 2 (South Atlantic and Gulf)	19 professionals
Region 3 (Middle Atlantic and North Atlantic)	30 professionals
Region 4 (Midwest)	35 professionals
Region 6 (California and Far West)	12 professionals

In addition to the above type of distribution of field personnel, additional staffing would be necessary in test kitchens, the Chicago office where educational materials are produced, and in the Washington office.

This, then, is the type of program that is needed. What then can we expect from such a program? Sales and profits are what motivate industry. I have developed what I believe to be interesting and realistic goals. Last year, the U.S. per capita consumption of fishery

products was 10.6 pounds, and the retail value of fishery products was $2.7 billion. I would hope, and believe, that if the Bureau's marketing program were expanded from its present $800,000 per year to $3.8 million per year, the following could be achieved:

1. A one-pound per capita consumption increase every five years.
2. An increase in retail value of present production of at least one percent per year -- over and above increases as a result of normal cost-of-living increases.
3. A minimum increase of one percent per year of present retail values as a result of special industry-government promotional programs to alleviate periodic gluts on the market.

Now, let's convert the above into actual dollars at the retail level. Bear in mind that we are talking about an increased expenditure of $15 million over a five-year period -- $3 million per year:

1. A one-pound per capita consumption increase would increase the retail value of fishery products to the tune of nearly $255 million (10.6 per capita consumption into retail value of $2.7 billion).
2. An increase in retail value of one percent per year (five percent in five years) would add another $135 million to the retail value of fishery products.
3. A one percent increase per year to the retail value as a result of special promotions to alleviate glutted conditions in certain

segments of industry would add another $135 million to the retail value of fishery products in a five-year period.

These three figures add up to $525 million over a five-year period. Using a straight line projection, this means that for an expenditure of $3 million per year, the industry increases the retail value of its product by $105 million per year.

I have gone into considerable detail to demonstrate to this committee how much this proposed appropriations bill means to our industry. I urge this commission to support, in every possible manner, industry efforts to pass this appropriations bill. If sufficient demand can be created for seafoods, industry will seek a way to satisfy this demand. And, if this demand is not created, foreign countries are going to move in and develop these fisheries for their own use. As I am discussing this problem with you right now, Russia has over 300 fisheries experts in Cuba helping Castro develop a highly sophisticated commercial fishing industry. We all know what is happening off the Grand Banks and in the Pacific Northwest.

I am not suggesting that a greatly expanded Bureau marketing program is a complete solution to all of the problems facing our fishing industry, I am suggesting that it is a necessary requisite if the industry is to appreciably improve its economic position. I appreciate the opportunity to be with you today, and I surely do hope that this commission will actively support this appropriations bill when it is introduced.

(18 Categories)

Gulf States Marine Fisheries Commission

CHAIRMAN
JAMES H. SUMMERSGILL
1819 SOUTH BAYOU DRIVE
GOLDEN MEADOW, LOUISIANA
70357

VICE-CHAIRMAN
VERNON K. SHRINER
217 COLUMBUS
MONTGOMERY, ALABAMA 36104

DIRECTOR
J. V. (JOE) COLSON

HEADQUARTERS OFFICE
ROOM 225 - 400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130
TELEPHONE: 524-1765

GULF STATES MARINE FISHERIES COMMISSION
Room 225 - 400 Royal Street
New Orleans, Louisiana 70130

M I N U T E S

ANNUAL MEETING, OCTOBER 19-20, 1967
Jefferson Davis Hotel
Montgomery, Alabama

OFFICIAL ATTENDANCE OF COMMISSIONERS

	PRESENT	ABSENT
ALABAMA	Claude Kelly L. W. Brannan, Jr. Vernon Shriner	
FLORIDA		W. Randolph Hodges J. Lorenzo Walker Walter Sheppard
LOUISIANA	Dr. Leslie Glasgow Richard Guidry James H. Summersgill	
TEXAS	Virgil Versaggi	J. R. Singleton Richard Cory
PROXIES	Wm. Anderson	(For Claude Kelly - Executive Session only)
	Harmon Shields	(For Randolph Hodges)
	John Ferguson	(For J. L. Walker)
	Geo. A. Brumfield	(For Charles Weems)
	Terrance R. Leary	(For J. R. Singleton)

OTHER STATE GOVERNMENT REPRESENTATIVES PRESENT

ALABAMA	C. E. White, Jr., Hugh A. Swingle, Derwood Rider, Eddie May, Charles Kelly, Robert C. Boone, Johnie Crance, Wm. A. Callaway, H. Beckert, W. F. Anderson.
FLORIDA	Harmon Shields.
LOUISIANA	Max W. Summers, Lyle St. Amant, Wm. Perret, Ralph Latapie, Ted Ford, J. G. Broom, Barney Barrett, Gerald Adkins.
TEXAS	T. R. Leary.
MISSISSIPPI	Dan Cotton.

30 pages
60 sides
3 blank
57 pages
Masters

BUREAU OF COMMERCIAL FISHERIES	I. B. Byrd, H. E. Crowther, Richard Hoagland, J. H. Kutkuhn, R. T. Norris, John P. Rogers, James E. Sykes, J. R. Thompson, Lawrence Van Meir, R. T. Whiteleather.
U. S. GEOLOGICAL SURVEY	Robert F. Evans, Jake B. Lowenhaupt.
WATER POLLUTION & RESEARCH INTERIOR DEPARTMENT	Ted Austin, F. J. Silva.
BUREAU OF SPORT FISHERIES	Herbert A. Hunter
U. S. COAST GUARD 8th Naval District	Admiral Ross P. Bullard, Capt. E. J. Worrel
U. S. CORPS OF ENGRS.	George Allen, Albert F. Pruett.
TRADE ASSOCIATION REPRESENTATIVES	Charlie Bevis, Johnnie Harbin, Pete Farrar, Adam Gisclair, Bob Jones, O. M. Longnecker, Wm. R. Neblett, J. S. Ramos, Ralph Richards, Mrs. Libby Wallace.
INDUSTRY	Lyon Crowe, John Ferguson, Robert A. Guthans, Alan D. Levine, Kenneth M'Lain, John Mehos, Sam Merror, John Ray Nelson, Albert J. Rea, Ezra B. Trice.
UNIVERSITY REPRESENTATIVES	J. Y. Christmas, Dr. David Cook, Dr. Lewis T. Graham, Dr. Gordon Gunter, Dr. Ed Iversen, Ronald H. Kilgen, Henry Kritzler, Harold Loyacano, Hugh A. McClellan, Geo. Rounsefell, John J. Ryan, Jerome Shireman, Walter Siler, Harold Wahlquist.
NEWS MEDIA	Bob Burns, Travis Wolfe.
CLERGY	Reverend Haywood Scott.

General Session, October 19, 1967

Commission Chairman Summersgill called the meeting to order at 9:35 a.m. and introduced the Reverend Haywood Scott, Pastor, First Southern Methodist Church, Montgomery, to render the invocation.

Upon completion of roll call and introductions of Commissioners and proxies, Commissioner Claude Kelly, Director of the Alabama Department of Conservation, extended a very cordial welcome to the State of Alabama on behalf of Governor Laurleen Wallace and the Department of Conservation.

The following appeared on the program as listed:

RESOURCES OF THE SEA, by H. E. (Skip) Crowther, Director of U. S. Bureau of Commercial Fisheries, Washington, D. C.

THE DEVELOPMENT OF A TAXONOMIC CODE AND SYSTEM FOR THE ELECTRONIC DATA PORCESSING OF BIOLOGICAL INFORMATION, by J. Y. Christman, Charles Eleuterius, Gulf Coast Research Lab., Ocean Springs, Mississippi.

BAY FRONT OPTIMISM, by R. T. Whiteleather, Deputy Regional Director, Bureau of Commercial Fisheries, Region 2, St. Petersburg Beach, Florida.

After a short coffee break the program proceeded with:

SUPPLY AND PRICE FORECAST FOR SHRIMP, by Dr. Lawrence W. Van Meir, Asst. Director of Economics, Bureau of Commercial Fisheries, Washington, D. C.

PROGRESS REPORT MISSISSIPPI ESTUARINE SEDIMENTALOGICAL STUDY, by Dr. Walter Siler, Geologist Gulf Coast Research Lab., Ocean Springs, Mississippi.

PROGRESS REPORT OF ESTUARINE COMMITTEE, Chairman, Dr. Ted B. Ford, Chief, Division of Oysters, Water Bottom & Seafood, Louisiana Wild Life & Fisheries, New Orleans, Louisiana.

Upon resumption after lunch, the Chairman introduced Dr. Lyle St. Amant, Asst. Director Wild Life & Fisheries, New Orleans, Louisiana, to conduct a panel discussion:

PANNEL DISCUSSION--U. S. COAST GUARD DEMARCATION LINE, Panel Representatives: U. S. Coast Guard, Directors of Trade Associations, State Government.

After this broad discussion the program continued as follows:

CORPS ENGINEERS AND THE ESTUARINE ENVIRONMENT, by George W. Allen, U. S. Corps of Engineers, Mobile, Alabama.

REPORT ON 88-309 PROJECTS, by I. B. Byrd, Federal Aid Coordinator, Bureau of Commercial Fisheries, Region 2.

The Resolutions Committee, having been appointed earlier by Chairman Summersgill, met in the Directors suite. Serving on this committee were Commissioners William Anderson, Chief Enforcement for Alabama Department of Conservation (Proxy-Kelly), Harmon Shields, Administrative Assistant, Florida Board of Conservation (Proxy-Hodges), Richard Guidry, Virgil Versaggi (Chairman)

A reception was held upon conclussion of todays session in the David Room at 7:00 p.m., compliments of Sourthern Industries and Buffet, host Commissioners of Alabama, and the Seafood Industry.

Friday, October 20

The Commission Executive Session started at 8:00 a.m. with the serving of breakfast. The following Commissioners were in attendance: Brannon, Anderson (Proxy-Kelly), Shields (Proxy-Hodges), John Ferguson (Proxy-Walker), Glascow, Guidry, Summersgill, Brumfield (Proxy-Weems), Leary (Proxy-Singleton). This session terminated at 10:50 a.m.

While Commissioners were in the Executive Session, the General Session resumed at 10:30 a.m., chaired by Dr. Ted Ford. The following were introduced:

NATIONAL ESTUARINE POLLUTION STUDY, by Frank J. Silva, Chief, Estuarine Studies, U. S. Department of the Interior, Federal Water Pollution Control Administration.

REPORT OF THE SEDIMENTALOGICAL STUDY OF MOBILE BAY FOR ALABAMA DEPARTMENT OF CONSERVATION, by John Ryan, Department of Geology, Florida State University, Tallahassee, Florida.

ALABAMA FISHERIES WORKSHOP FOR THE DISABLED, Ralph Richards, Executive Vice President, Alabama Fisheries, Association, Mobile, Alabama.

Chairman Summersgill presented director Colson to give report on Executive Session. The following resolutions were read as having been adopted:

1. Appreciation for Alabama's Delegations cordial hospitality.
2. Hotel commendations.
3. Outgoing Chairman Summersgill appreciation of service.
4. Alabama Conservation appreciation for providing transportation.
5. Appreciation to Southern Industries for reception.
6. Opposition to Corps of Engineers granting a permit for dumping of gypsum by the Gulf Coast Chemical Company.
7. Renewal of the Federal Aid to Commercial Fisheries Research & Development Program, 88-309 funds.
8. Change of Directors Title and Secretary's Salary.
9. Meeting requested of Federal Agencies to asertain authority for Control of Industrial waste dumping in the Gulf of Mexico.
10. Endorcement of Southeastern Fisheries Association's proposed National Marketing Program.

11. Resolution changing banking authority.
12. Objecting U. S. Coast Guard changing Demarcation Line.
13. Appreciation for formation of Fishing Industry Advisory Committee to Oil and Gas Supervisor, United States Department of the Interior, Geological Survey. Request the marking or removal of underwater obstructions and progress report.

Additionally, the suggested budget (annual) was approved as it appears in these minutes.

It was announced that the next regular meeting will be held in Panama City Beach, Florida at the Fontainebleau Terrace Motel, March 21-22, 1968. Colson also announced the U. S. Coast Guard Advisory meeting to be held 1:30 PM this afternoon in the Pine Room. All were invited to attend. The Director thanked everyone that appeared on the program and the Alabama Delegation for the fine cooperation and assistance given toward making this such a successful meeting. In conclusion, the final announcement was the selection of Commissioners Vernon Shriner as the incoming Chairman and Virgil Versaggi, Vice-Chairman.

Chairman Summersgill made the following remarks:

I come to the end of my term as Chairman of the Gulf States Marine Fisheries Commission with a feeling of gratitude for the real efforts made by the membership and special committees during the past year.

It has been twelve years since the Commission last met in Montgomery. I believe these have been twelve years of real progress. Speakers at this session have pointed out, for example, that it has taken about ten years to awaken in the public sufficient awareness of the importance of estuarine conditions to support this program. One year is scarcely time in which to talk about accomplishments, rather, we build for the future in the true sense of Conservation, which is to preserve the resource for our children and grandchildren.

One of the highlights of this year in our member States has been the success of the Public Law 88-309 programs, which collectively in our five states may well be marked as outstanding.

We have always stressed the cooperation between State and Federal offices which allowed for exchanges of ideas between scientists and administrators, and the development of necessary programs without duplication. We are most thankful to the Bureau of Commercial Fisheries for their contribution to the efforts of this Commission. We appreciate the cooperation of the Coast Guard, and the presence of the Admiral and his staff. We are happy to have with us the representatives of most of the Fishery Trade Associations, demonstrating again that cooperation so necessary to success. May I offer additional thanks to Mr. Bob Evans, the Regional Oil and Gas Supervisor for the Geological Survey of the Department of the Interior for the formation of the Fishing Industry Advisory Committee. I am confident that the future accomplishments of this group should be rewarding to our fishing fleet.

Outgoing Chairman was presented a plaque in recognition of his service by Virgil Versaggi and the gavel of past year. Commissioner Shriner in accepting leadership expressed his appreciation for the honor and pledged to exert every effort to promoting the welfare of the fishing industry. There being no further business, the meeting was adjourned.

Prepared by: Joseph V. Colson
Executive Director

GULF STATES MARINE FISHERIES COMMISSION
Room 225 - 400 Royal Street
New Orleans, Louisiana 70130

SUGGESTED BUDGET FOR FISCAL YEAR 1967-1968

Estimated Income F/Y 1967-1968

			Estimated Funds Available
Alabama	$5,000.00		
Florida	4,500.00		
Louisiana	6,000.00		
Mississippi	2,500.00		
Texas	6,000.00	$24,000.00	
Cash on hand close of F/Y 1966-67		10,594.43	$35,094.43

EXPENSES

	Budget 1966-67	Spent 1966-67 (Per Audit)	Suggested Budget 1967-1968
Salaries	$14,000.00	$11,729.74	$15,200.00
Traveling	1,800.00	2,103.82	3,200.00
Office Rent	1,200.00	930.00	840.00
Stationery, printing, and supplies	450.00	415.85	500.00
Telephone & Telegraph	550.00	394.73	650.00
Postage	250.00	148.42	250.00
Electricity	50.00	22.90	None
Equipment Maintenance	75.00	48.50	75.00
Accounting	250.00	250.00	250.00
Insurance	275.00	191.71	200.00
Meeting Expense	700.00	433.20	700.00
Publication Expense	700.00	992.78	1,200.00
Payroll Taxes	500.00	505.72	525.00
Depreciation	100.00	69.15	100.00
Sundry	100.00	157.43	200.00
Office Equipment			1,400.00
Automobile			2,700.00
	$21,000.00	$18,393.90	$27,990.00

True Bank Balance 9/30/67		$18,294.37
Due (9/1/67) Texas	$6,000.00	
Due (10/1/67) Alabama	5,000.00	11,000.00
Interest on Investments (Bonds) Anticipated		400.00
Anticipated Funds for 1967-1968		$29,694.37

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
October 19-20, 1967

EXECUTIVE SESSION

Friday, October 20 - Pine Room

The Commission Executive Session started at 8:00 a.m. with the serving of breakfast. The following Commissioners were in attendance: Brannon, Anderson (Proxy-Kelly), Shields (Proxy-Hodges), John Ferguson (Proxy-Walker), Glascow, Guidry, Summersgill, Brumfield (Proxy-Weems), Leary (Proxy-Singleton).

Chairman called meeting to order after a quorum was declared by the director. Minutes of the previous meeting were approved as having been submitted and read previously.

Dr. Ted Ford, Chairman of the Estuarine Technical Coordinating Commission, presented motions for consideration of the Commission as follows: Opposition to Corps of Engineers granting a permit for dumping of gypsum by the Gulf Coast Chemical Company. Renewal of the Federal Aid to Commercial Fisheries Research & Development Program, 88-309 funds. Meeting requested of Federal Agencies to ascertain authority for Control of Industrial waste dumping in the Gulf of Mexico. After discussion and minor revision, all were accepted.

Other resolutions adopted were: Appreciation for Alabama's Delegations cordial hospitality. Hotel commendations. Outgoing Chairman Summersgill appreciation of service. Alabama Conservation appreciation for providing transportation. Appreciation to Southern Industries for reception. Change of Directors Title and Secretary's Salary. Resolution changing banking authority.

Harmon Shields presented the Southeastern Fisheries marketing proposal for endorcement by Commission. Director Colson read the letter of transmittal to this Bill by Bob Jones, Executive Secretary to Southeastern Fisheries, and explained its merits. This program was unanimously endorced, and the appropriate motion was drafted. Commissioner Guidry asked for motions opposing the moving of the U. S. Coast Guard Demarcation Line to the coastal shoreline. The other motion concerned appreciation for formation of Fishing Industry Advisory Committee to Oil and Gas Supervisor, United States Department of the Interior, Geological Survey; and requested the marking or removal of underwater obstructions and progress reports. Both were adopted with suggestion that they be given wide distribution.

The director was given authority to purchase the following equipment for Commission use. One new 1968 model automobile, with power and air, subject to state contract purchase. Tape recording equipment not to exceed $300.00. Used or new offset press. All the above equipment specifications are subject to the discretion of director.

Commissioner Guidry suggested a meeting of Legislative appointed Commissioners to study operation or functions of Commission, and to determine if an increase of state financial support would improve the service to the industry. This suggestion was discussed and all agreed that such a study should be made.

Election of new officers was held and Vernon Shriner and Vergil Versaggie were elected Chairman and Vice-Chairman respectively. Panama City, Florida was selected as March 21-22, 1968 meeting site. The October 24-25, 1968 meeting place selected was Broadwater Beach, Biloxi, Mississippi.

There being no further business, the session was adjourned at 10:30 a.m. The group proceeded to the General Meeting for the remainder of the program and final adjournment.

Prepared by: Jos. V. Colson
Executive Director

NOTE: Copies of all the above resolutions are incorporated in the minutes of the General Meeting.

(1)

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express to the three Commissioners of the Alabama Delegation, its most sincere appreciation for the very cordial hospitality and the many courtesies extended during the course of the 18th Annual Meeting at Montgomery, Alabma.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the 18th Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

(2)

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its most sincere appreciation to the management and staff of the Jefferson Davis Hotel for the cordial hospitality and splendid food and service enjoyed by the group on the occasion of the 18th Annual Meeting of this Commission at Montgomery, Alabama.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

(3)

R E S O L U T I O N

WHEREAS, James H. Summersgill, appointee of the Governor of Louisiana on the Gulf States Marine Fisheries Commission, has served as Chairman of the Commission for the years 1966-67; and,

WHEREAS, he has served in a most distinguished manner, having not only discharged in a highly commendable fashion the duties of such office as set out in the Commission directives, but having additionally represented the Commission through his attendance and participation at Trade Association meetings to promote industrial progress.

NOW, THEREFORE, BE IT RESOLVED, that the Gulf States Marine Fisheries Commission express to James H. Summersgill its most sincere appreciation for the fine leadership he most generously provided the Commission during his term of office and during which period the objective of the Compact so admirably were advanced.

* * * * * * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the 18th Annual Commission Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

(4)

R E S O L U T I O N

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its sincere appreciation to the Alabama Department of Conservation for the excellent transportation provided by the personnel of the Department.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the 18th Annual Meeting at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED that the Commissioners and Staff of the Gulf States Marine Fisheries Commission express to the Southern Industries their most sincere appreciation for the enjoyable reception tendered them and delegates during the course of the 18th Annual Meeting, October 19-20, 1967 at Montgomery, Alabama.

* * * * * * * * * * *

The foregoing Resolution was adopted by the Gulf State Marine Fisheries Commission, October 20, 1967, at the 18th Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

(b)

R E S O L U T I O N

WHEREAS, the Gulf Coast Chemical Company, of Yazoo City, Mississippi, has applied to the U. S. Corps of Engineers, Mobile District, for a permit to dispose of a great amount of their gypsum by-product in the northern Gulf of Mexico in approximately ten fathoms of water in an area approximately fifteen miles south of the mainland lying south of Petit Bois and Horn Islands, Mississippi, and,

WHEREAS, this disposal of material would result in a direct loss of natural bottom and associated marine organisms where deposited and possibly would result in other losses of additional natural bottoms by movement of this material by the currents, and,

WHEREAS, the unknown possible effects, both chemically and physically, could exert immediate and long term damages upon marine resources,

NOW BE IT RESOLVED, that the Estuarine Technical Coordinating Committee does hereby oppose the granting of this permit, and recommends the consideration of this matter by the Gulf States Marine Fisheries Commission; and

BE IT FURTHER RESOLVED that copies of this resolution and any action taken by the Gulf States Marine Fisheries Commission in this matter be furnished to the District Engineer, U. S. Army, Corps of Engineers, Mobile District, prior to October 27, 1967.

* * * * * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission in its entirety as recommended by the Estuarine Technical Coordinating Committee, October 20, 1967, at the 18th Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

(7)

R E S O L U T I O N

WHEREAS, the estuarine and marine resources of the states bordering the Gulf of Mexico represent an important segment of the food and economic resources of the United States and contribute one third of the fishery landings of the Untied States, and

WHEREAS, these important natural resources have long needed serious study and management in order to maintain and preserve significant production, and,

WHEREAS, for the first time the Gulf States have been able to establish and/or expand significant quantity of research and development effort in the marine environment as a result of funding from from P. L. 88-309, and,

WHEREAS, this program has enabled some states to establish and/or expand the marketing program which has been beneficial to the fisheries of the Gulf, and,

WHEREAS, without this or a similar system of Federal aid, adequate, studies could not be made by the member states,

NOW, THEREFORE, BE IT RESOLVED, by the Estuarine Technical Coordinating Committee and it hereby recommends to the Gulf States Marine Fisheries Commission, that every consideration be given to the renewal of the Federal aid to Commercial Fisheries Research and Development Program with full implimentation to a t least the original authorized level of five million dollars, and it is recommended that the Executive Director of the Gulf States Marine Fisheries Commission be authorized and directed to take appropriate action by participating in Congressional hearings, and so forth, in support of this program.

* * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission October 19-20, 1967, at the 18th Annual Meeting at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Director
Gulf States Marine Fisheries Commission

(8)

RESOLUTION

BE IT RESOLVED by the Gulf States Marine Fisheries Commission that the title of its executive officer be changed from that of Director to that of Executive Director.

BE IT FURTHER RESOLVED that the salary of the secretary to the Executive Director be increased to $5,200.00 per annum, effective December 16, 1967.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at its 18th Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

WHEREAS, there is an increasing demand by industry, some of which is far removed from the Gulf area, to request permission to use the Gulf of Mexico as a dumping area for waste materials, and,

WHEREAS, permission is frequently being requested to dump a wide variety of materials which vary from chemically inert to extremely toxic in nature, and,

WHEREAS, the volume of materials involved, in some cases, may reach levels of several million tons annually, and,

WHEREAS, nothing is presently known of the immediate or long range effects of such waste disposal on the fisheries of the Gulf area, and,

WHEREAS, it is not clear as to the source of authority, the setting of regulations, and the area of governmental responsibility for determining it, when or where, any such materials may be disposed of in the Gulf of Mexico,

NOW, THEREFORE, BE IT RESOLVED by the Estuarine Technical Coordinating Committee, and it hereby recommends to the Gulf States Marine Fisheries Commission, that the heads of appropriate Federal and State fisheries and water pollution control agencies, the U. S. Army Corps of Engineers, and the U. S. Coast Guard be requested to designate representatives to serve as a committee member to meet with representatives of the Gulf States Marine Fisheries Commission to study and recommend means and methods for controlling and regulating these practices.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the 18th Annual Meeting at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

17

R E S O L U T I O N

WHEREAS, the United States per capita consumption of fishery products has remained static for many years; and

WHEREAS, the per capita consumption of fishery products must be increased if our domestic fishing industry is to appreciably improve its economic position; and

WHEREAS, domestic fishery production can be greatly expanded if markets are provided; and

WHEREAS, the cooperative marketing program of the Southeastern Fisheries Association, the Florida Board of Conservation, and the U. S. Bureau of Commercial Fisheries has been exceptionally effective in increasing markets for southern seafoods; and

WHEREAS, the Bureau of Commercial Fisheries marketing program remains underfinanced and understaffed and represents less than two percent of the total Bureau budget; and

WHEREAS, the recent relaxation of Friday abstinence rules for Roman Catholics has caused a decline in the demand for seafoods estimated at about 25 percent; and

WHEREAS, this decline in demand adversely affects our entire domestic fishing industry;

BE IT THEREFORE RESOLVED that the SOUTHEASTERN FISHERIES ASSOCIATION approve unamimously -- and hereby instructs -- its Executive Secretary and Officers of the SOUTHEASTERN FISHERIES ASSOCIATION to spearhead a national effort to introduce, support, and actively work for legislation for a greatly expanded national Bureau marketing program.

BE IT FURTHER RESOLVED that, in this national effort, the Executive Secretary of the SOUTHEASTERN FISHERIES ASSOCIATION, will enlist the support of other fishery trade associations, state fisheries administrators, marine fisheries commissions, allied food trades, congressmen, and others interested in the future of our domestic fishing industry, AND that this national legislative effort will continue until it is successful.

* * * * * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission in its entirety as recommended by the Southeastern Fisheries Association, October 20, 1967, at the 18th Annual Meeting held at the Jefferson Davis Hotel, Montogomery, Alabama, and hereby authorizes its Executive Director to offer his assistance toward promoting passage of this legislation.

Joseph V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

TO: THE NATIONAL AMERICAN BANK OF NEW ORLEANS

PROPOSED FORM OF RESOLUTION RELATIVE TO THE SIGNING OF CHECKS AND THE AUTHORITY TO INVEST

At the meeting of the Commissioners of the Gulf States Marine Fisheries Commission held at its 18th Annual Meeting, Montgomery, Alabama on October 20, 1967, pursuant to due notice, at which a quorum of the Commissioners was present, on motion, duly seconded, the following resolution was unanimously adopted:

RESOLVED, The Executive Director of this Commission or Chairman be hereby authorized to sign checks in the name of this Commission, drawn on the National Bank of New Orleans, including checks payable to the order, for whatever purpose, of the officer or officers signing same; that a certified copy of this resolution be sent to said Bank; and said Bank is hereby authorized to honor checks of this Commission when so signed by said officers unless and until it be expressly notified to the contrary by this Commission, and said Bank shall at all times be protected in recognizing as such officers the persons named in a certificate signed by the Chairman of this Commission, until and unless it be so notified that said officers have been changed.

Upon issuance of checks the Executive Director shall submit an Authorization Form to the Chairman, or in his absence the Vice-Chairman, for certification for audit purposes.

BE IT FURTHER RESOLVED, that the Executive Director be granted authority to invest surplus funds in short term interest bearing notes with the designated Depository Bank or U. S. of America Treasury Bills.

* * * * * * * * * * *

This is to certify that the above is a true and correct extract from the minutes of the meeting of the Commissioners of this Commission held October 20, 1967 and I further certify that the following are the names and titles of the Commissioners mentioned in the resolution, and the National American Bank of New Orleans is authorized to recognize them as such officers until, and unless it be so notified, that said officers have been changed.

/s/ Vernon K. Shriner Chairman

/s/ Jos. V. Colson Executive Director

R E S O L U T I O N

WHEREAS, Delegations of member States having attended numerous regional public hearings conducted by the U. S. Coast Guard concerning the moving of the U. S. Coast Guard Demarcation Line starting at Cape St. George, Florida, and following the coast line to Mexico.

WHEREAS, also having conducted a similar panel discussion with the U. S. Coast Guard's participation at the Fall General Meeting of the Gulf States Marine Fisheries Commission, October 19-20, 1967, in Montgomery, Alabama.

WHEREAS, after careful consideration of all presented facts we have come to the conclusion that it would work a hardship on our fishing fleet, if change was allowed.

THEREFORE BE IT RESOLVED, that this Commission hereby strongly opposes the U. S. Coast Guard's proposal.

BE IT FURTHER RESOLVED, that all future matters concerning all similar proposals be presented to the U. S. Coast Guard Fishing Advisory Commission.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, October 20, 1967, at the 18th Annual Meeting held at the Jefferson Davis Hotel, Montgomery, Alabama.

Jos. V. Colson

Joseph V. Colson, Executive Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED, that the Gulf States Marine Fisheries Commission gratefully recognizes the formation of the Fishing Industry Advisory Committee to the Oil and Gas Supervisor of the Geological Survey, Department of Interior.

BE IT FURTHER RESOLVED, that we request immediate consideration be given to method of marking, acceptable to U. S. Coast Guard standards or removal of underwater obstructions for the safety of the Gulf Fishing Fleet.

AND BE IT FURTHER RESOLVED, that this Committee be invited to attend all regular Gulf State Marine Commission meetings so as to report their activities.

* * * * * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission October 19-20, 1967, at the 18th Annual Meeting at the Jefferson Davis Hotel, Montgomery, Alabama.

Joseph V. Colson

Joseph V. Colson, Director
Gulf States Marine Fisheries Commission

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
Jefferson Davis Hctel
October 19-20, 1968

"Welcoming Address"

Director Claude Kelley
Alabama Department of Conservation

Governor Lurleen Wallace has asked me to extend for her a warm and hearty welcome and her best wishes for a successful meeting.

We might say that Governor Wallace as well as Governor Lurleen Wallace have taken a real interest in conservation and the need for more land to help us with the program pertaining to our natural resources.

During his administration, that ended less than a year ago, we were able, with his supported effort, to get on our books a legislative act that greatly strengthened our water pollution laws here in the State of Alabama. At last, we were able to get legislation that would more adequately help us to finance our seafood division and control our research. He was, also, successful in obtaining adequate funds for our new division, the Department of Water Safety. He helped us during this session to obtain enough money to do a better job in these two divisions.

Now, the first session of Governor Lurleen's legislature has just recessed, and we, perhaps during this session of legislation, were able to obtain more constructive legislation for our conservation department than all the other legislations in the past since our department has been created. Of course, we have many fine people in our legislature including Senator Brannon here, that has helped us with these programs. I will give you a brief run down on what I feel was important legislation pertaining to the field of conservation here in Alabama. We were able to increase serverance tax to more adequately

finance our protection program, research in the field of disease, parasites, etc., that was so badly needed for the forest division. Of course, this was a legislative act increase that will continue on and enable us to make plans for the future on these programs. Another program of great importance, the Forest Expansion Program, whereby the legislature passed an act that will provide for some 3 million dollars income annually to go to our State Forest Program. Additionally, the last legislature passed an amendment that will be voted on, and if it passes, will provide 43 million dollars, general bond issue, for a crash program, to bring our State Parks up to par. Only the amendment that will help the Mental Health Department is ahead of our amendment on our parks program and regardless of whether or not it passes, we will have some 3 million dollars with which to do this work and this is something that will continue. We can make plans now to greatly expand our parks program.

Another important piece of legislation was for the Game and Fish Division. A legislative act that says that this money cannot be used for any other purpose than for the protection and propagation of game and fish. This amendment, if passed, will safeguard these funds and see that they are used only for the purpose for which they are collected. This should also be done with our other trust funds, the SEAFOOD Division Trust Fund should have an amendment like this, because in this past session of legislature, we did have some measure that in some ways money can be taken from a trust fund and used for other purposes. These are briefly some of our acts that this legislature just passed and, of course, the efforts on the part of the Governor's staff and the members of the legislature is greatly appreciated by all of us who are interested in these programs. Each of you know the Commission cannot exist without their help.

Some 18 or 19 years ago, even though I was not in the capacity that I am now, I was at one of the early meetings held for the purpose of organizing the Gulf States Marine Fisheries Commission with the leaders that were advocating this, and I helped to get the movement on the way, even though I was just an ordinary citizen interested in a field of work at that time and as I recall 12 years ago the Commission met in this very hotel. A great deal of progress, and a great deal of good has come out of creating this Commission, and I know that greater things are yet to come from this fine organization. An example of the faith the State has in this is the contribution by the State. I know the amount the States are contributing, and I know the amount that we are contributing to it. Originally, I believe it was $3,500, and we just increased that to $5,000. That shows the Legislature and the people in our State feel it is a very deserving and worthwhile project. The individual members of the Commission are to be commended, especially those who take time out from their jobs to come and help us and the personnel of the departments that we have in this field of work, and the State and Federal personnel to bring about a better understanding of the resources of the Gulf, as well as better management of resources, marketing, processing and distribution, benefitting, for one, the people who make their livelihood from the industry.

As the population grows, the demands on our natural areas are greater and greater. We, the people in this room today face a real fight and a real challenge to keep from losing ground in this particular field, the fight against pollution of our waters, such as our estuarine bay areas as well as the fight to keep large amounts of pollution from going into the Gulf stream. It is a terrific challenge, a terrific job and these are the things that disturb me a whole lot, and I know that they disturb you.

The encroachment upon the estuarine areas are so important to the seafood industry and to the existence of many of the various species that are so important to the commercial and the sporting interests. A large number of these species are raised and grow in these estuarine areas. If we are unable to control the rapid encroachment each year, or stop it, we will slowly destroy what is necessary for much of this life. These problems are a real challenge to us, and these are the things you are working on at this meeting, and we will continue working on major problems such as this.

The primary objectives of this Commission, or any other agency in this field, is to propagate and evaluate the resources for which it is responsible. This can be done by regulation of the harvest, and improving the conditions in which the resources may be used, and at the same time have qualified people working on new ways and new developments to increase knowledge of our resources. This is in simple terms a combination, as I see it, of enforcement, development and research. Without this combination working together, the conservation element will have a hard time progressing in the future. Now we have new Federal programs that will help us in our field of research, finding the best means of managing these resources.

Again, I would like to repeat that the Governor extends a warm welcome to each of you. We, in the Department of Conservation are glad to have you in our State, and we would welcome an opportunity to be helpful in some way, such as showing you around the nearby areas. I'm standing by with my car, and we have other cars available if you need them.

SUMMARY

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
Jefferson Davis Hotel
October 19-20, 1967

"RESOURCES OF THE SEA"

H. E. (Skip)Crowther, Director of U. S. Bureau of Commercial Fisheries, Washington, D. C.

Mr. Crowther emphasized how Resources of the Sea can fill the increasing world need for protein. Finding enough food for the increasing number of people and fulfilling food needs for developing countries (which will double in the next two decades) is a serious problem today. He asked, "is the United States ready?"

Fish protein concentrate, a source of food value important to the domestic market as well as the international market was another topic of concern. "Will it be supplied by imports, as so many other of our fishery consumption on needs are?" His concluding statements were that if the Bureau of Commercial Fisheries had the money they would work on mapping the resources and improving harvesting methods to keep the United States in the picture.

NOTE: Upon receipt of an approved copy of this paper, it will be distributed for attachment to these minutes.

Copy

THE DEVELOPMENT OF A TAXONOMIC CODE AND DESIGN OF A SYSTEM FOR THE ANALYSIS OF BIOLOGICAL DATA[1]

by

J. Y. Christmas

Gulf Coast Research Laboratory
Ocean Springs, Mississippi

The ability of sophisticated electronic computers to reduce once time consuming laborious operations to a fraction of the time has resulted in an exponential increase in technical information. Recent imporvements in sampling gear and recording methods have further added to this expanding volume of knowledge.

The handling of voluminous amounts of data, raw or processed, is nothing new to the field of biology and is certainly one of the characteristics of the science. Electronic computers are playing a major role in the solution to the problem of storage and retrieval of biological information. There are, however, some unique problems in the application of EDP equipment for the handling and anaylysis of biological data.

During the last few years numerous articles have been written suggesting the development of storage and retrieval systems for biological information. These articles dealt with a variety of subjects including the philosophy of taxonomy and systematics and even suggested changes from the binomial system of nomenclature. Little (1964) and Rivas (1965) suggested uniform sustems of Biological Nomenclauture based on the binomial system. All of these authors point out the need fo a world wide system which will include all named species and provide for the addition of others. So far, they are only suggestions or recommendations.

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[1] Conducted in cooperation with the United States Department of the Interior Bureau of Commercial Fisheries, under Public Law 88-309. (Project 2-25-R).

With the beginning of our estuarine study, including geological, physical and chemical factors and the interrelationships of the many organisms living in the study area, it was evident that electronic data processing was practically mandatory.

In systematizing our data for computer utilization, numerous parameters, sampling methods, sampling schemes, methods of analysis and the possibility of several objectives were considered. Maximum flexibility within the limitations of the EDP equipment being used was a primary objective.

A taxonomic code was the first requirement. In order to make space available for recording as much information as possible on a card, a minimum number of digits was essential. An eleven digit code representing five categories of taxonomic levels was established. In the selection of higher categories and their position in the hierarchy, we arbitrarily used what we considered to be good authorities. Whether these are the best or most correct is immaterial for our purposes. It would be possible to enter endless debate on these matters.

The first two digits of our code indicate phyletic level groups except for the arthropoda and chordata. Classes of these two groups are indicated by the first two digits. The second pair of digits indicates the next lower taxon, the next three digits indicate family and the other two pair represent genus and species.

To begin with, we established the first two groups of digits in order, beginning with the Protozoa. This produced a list of 36 designations in the first category and the longest list in the second category occurred under the Crustacea with 35 groups listed.

Following this step, numerous check lists of animals known to occur in the Gulf of Mexico were consulted. Family names and included genera and

species were assigned numbers under appropriate categories. This gave us a working code of some 1,500 species which is open to additions as they occur.

Generation of an alphabetic list by genera enabled a secretary to enter code names on field data sheets prepared for this purpose, thus relieving technical personnel of the necessity for dealing with code numbers in addition to names. In practive, the secretary uses a list of about 250 animals which includes nearly all of the species collected in most samples.

Biologists cannot always identify all specimens to species immediately. In fact, we know that we are regularly collecting several unnamed species. Processing of data cannot await final identification. Consequently, data is entered through the lowest identifiable taxon and processing proceeds.

A color coded sheet is used for additonal identification as they occur and this information is readily incorporated into existing card files. Species not already listed in the code are esaily added by assigning the appropriate number and adding a punched card to the code deck.

Data cards are maintained in two decks, one by station and sample numbers and the other by species. Geological, chemical and physical parameters are maintained separately. Cross reference was readily accomplished with the use of gear type, sample and station numbers.

A list of species encountered during the project, with their corresponding taxonomic codes serves as an internally stored reference table. The programmed computer, after accepting the numeric taxonomic code identifying the biological data, attempts, by an algorithmic search, to match this taxonomic code with the internally stored tables of codes. If the codes match, the corresponding name for the table is used in the output, thereby eliminating the necessity for decoding output information.

Using an off or on-line sort to arrange the taxonomic codes in numerical order automatically places the names and associated information in semi-phylogenetic order.

The implementation of this code in the handling of the various data has eliminated many time consuming steps in progressing from raw data to the interpretation of processed results. Analyses that were formerly impracticable because of the amount of time required in the operation of hand calculators can now be readily accomplished.

This paper was delivered by:

J. Y. Christman & Charles Eleuterius
Gulf Coast Research Lab
Ocean Springs, Mississippi

To: Gulf States Marine Fisheries Comm.
Montgomery, Alabama
October 19-20, 1967

Annual Meeting

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
October 19-20, 1967

"BAYFRONT OPTIMISM"

R. T. Whiteleather, Deputy Regional Director
Bureau of Commercial Fisheries
St. Petersburg Beach, Florida

Bayfront optimism! I suppose you are wondering what I will talk about under this kind of title. I am going to talk about estuaries and control of manmade changes in them. Probably no subject has been given more attention by the Gulf States Marine Fisheries Commission in recent years than protection of the important estuaries along our coastline. In fact, estuarine protection is coming to be the hallmark of the Commission. I am not going to spend much time explaining the importance of the estuaries to the fish and wildlife resources. However, just to refresh our thinking on this for the moment let me say that nearly two-thirds of the total commercial catch of fish and shellfish taken from waters off the Atlantic coast is made up of estuarine dependent species. On the national level, well over half the catch falls into this category. The most dramatic example of the importance of these bayous along the coast occurs in the Gulf of Mexico where estuarine dependent shrimp, menhaden, and oysters account for 90 percent of the annual value of the Gulf seafood production. In previous sessions of the Commission, to the best of my recollection we have talked loud and vigorously about estuarine protection, but while we were talking our estuarine resources were gradually slipping away because of physical changes and/or pollution. While we have been vitally concerned with the fishery resources in these estuaries and have taken up the struggle to save them, we have appeared to have been fighting a discouraging rear guard

action. It always seemed that there were more important uses for the estuaries such as fills for real estate development, dumping grounds for industrial pollutants from large plants that were ballyhooed on the basis of their large payrolls and a myriad of other circumstances with which you are all too familiar. In short, we have been taking a real beating! At the same time, we have been trying to educate the public and alert it to the tremendous natural assets that are literally being buried in our estuaries. This has been going on for a decade or so, but today I think I can see a ray of bayfront optimism. Now, there are some unusual signals coming in on the regular beam to indicate that there is reason for some optimism. The purpose of my talk is to tell you about them.

The first situation I want to mention is taking place on the west coast of Florida, and, as a matter of fact, not too far away from our Bureau of Commercial Fisheries Regional Office. This relates to a dredge and fill application which has been fought through various governmental agencies and in the courts for nine years, and is still pending. The applicant in 1958 proposed to fill eleven acres of submerged land in an estuary in order to expand a trailer court. Biological surveys showed it to be a productive grass flats area. While the proposal called for a fill of only eleven acres, destruction of the fishery resource in the area assumed more than usual significance since it would add to the accumulative effect of many earlier fills in the same bay. Besides this, there is no evidence of a shortage of land for trailer courts. Anyone who has ever visited the west coast of Florida knows there is vast acreage of undeveloped land available for this purpose without violating an estuary. The question is simply this - Should we have more trailer courts or should we keep our trout fishing grounds and the juvenile fish nursery areas? The answer to this question is taking some doing as you will see.

The applicant for this fill permit struck a barrier on his first encounter with a governmental agency. The permit was denied by the Pinellas County Water and Navigation Authority on the basis that the fill would have "material and adverse effect upon the public interest." From here on, the case was appealed to the various courts and by 1963 reached the Supreme Court of the State of Florida, which ruled in favor of the applicant on the basis that the purchaser has certain rights to the use of his land. In 1965, the State Supreme Court ruled again on the broad question of bulkhead lines and rights to fill submerged land and indicated that regulation of such action is valid only if adverse effects can be shown. About this time, Pinellas County requested a rehearing hoping that the opinion of the court could be changed so that the burden of proof of adverse effect would fall on the applicant rather than the county. The county, at this rehearing, was ordered by the court to issue the permit for the trailer park fill, and the court upbraided county officials for the delay that had been imposed so far. After some further legal maneuvering, the county bowed to the court order. In April 1966, it issued a permit defining the limits of the 11-acre fill which it had fought off since 1958 and sent the application on to the trustees of the State Internal Improvement Fund, the next step for approval in the State of Florida.

Some more maneuvering took place and the applicants reported that they were not going to wait for a permit from the Internal Improvement Board but would go directly to the U. S. Army Corps of Engineers for proper permit. A few months later, however, a permit was granted by the Internal Improvement Board. By this time, this matter of an 11-acre fill was becoming an issue of wide public interest, and two opposing sides began to form up solidly. On the side opposed to the fill were some state legislators, a large Save Our

Bays Committee made up of local and vociferous citizens, a city councilman, some garden clubs, the Audubon Society, county health department, a fisheries trade association, university professors, State Board of Conservation, our U. S. FWS and some citizens from the area immediately adjacent to the proposed fill.

On the otherside were the submerged land owners and principally some engineering consultants and technicians. Obviously, there was a public awareness of the value of this particular estuary, and a good segment of the population was ready to fight for its protection.

The two sides met head-on on November 29, 1966, at a 5-hour hearing held by the Corps of Engineers. This was the match that was touched to the fireworks and the display was terrific.

On March 14, 1967, the Corps after examining all the hearing data, rejected the application for the permit to fill and explained its decision as follows: "It is the feeling of the Department of the Army that issuance of the permit would result in a distinctly harmful effect on the fish and wildlife resources of this_____Bay."

After all these years of struggling, this was the first denial by the Corps of any fill permit based strictly upon conservation aspects for fish and wildlife losses. This was a landmark decision and a real feather in the cap of conservationists. The interesting part now is that the applicant has gone to court to test the decision of the Corps, and the Corps is going to have to defend itself in this matter. What is more interesting, however, is that since the Corps substantially based its denial of the permit on recommendations and information furnished by the conservation agencies we now find ourselves in bed with them as chief supporters and principal witnesses. This is an abrupt

about-face from our usual negotiations where we have so often sat across the table from the Corps on these problems. I hope that this new relationship will endure, however, and that we will be able to find more positive acceptance of the Fish and Wildlife Coordination Act by government agencies that are handling permit requirements. At any rate, I consider this an important landmark, and one reason for some bayfront optimism.

There is another reason for optimism because of recent action by the Florida State Legislature. On July 14, 1967, a submerged lands protection bill, known as the Randell Bill, was signed into law after three months of legislative convolutions. It strictly forbids sale of state owned submerged lands, the setting of bulkhead lines, or the issuance of dredge and fill permits if the Internal Improvement Board decides that "the harm to the natural resources would be so great as to be contrary to the public interest." Determination of this effect on the public interest would take into consideration biological and ecological studies made by the State Board of Conservation, and the Act requires that these studies be financed by the applicant. The State Board has set charges of $100 per day for such survey work.

As you might guess, this bill has caused teeth gnashing, a great deal of anguish, and no little excitement. All kinds of efforts are being made to interpret the new law one way or another, depending upon whether it is being done by the proponents or the opponents to dredging and filling.

It has not been my intention to try to make this talk any sort of legal presentation because I am not very well qualified in that field. It has not been my intention, however, to bring these two matters before you so that people from all the states involved in this Commission will be aware of what has been done in at least one state. I think we can take new heart in our struggle, but I don't think we can let up in our endeavors to educate the public and to organize the citizens into groups to protect our estuaries.

SUMMARY

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
Jefferson Davis Hotel
October 19-20, 1967

"SUPPLY AND PRICE FORECAST FOR SHRIMP"

Dr. Lawrence W. Van Meir
Assistant Director of Economics
Bureau of Commercial Fisheries
Washington, D. C.

Dr. Van Meir was cautiously optimistic about the rise in price of shrimp. He stated that there is a basis for gradual improvement in prices, although there was a recent drop in small and medium sizes, jumbo shrimp, it seems, has a stable market of its own. A record shrimp catch was reported for this year.

Imports and domestic demand are such that they point toward an improvement in prices.

An interesting fact stated by Dr. Van Meir was, "The total world trade in shrimp amounts to only 25% of the catch," he said, "with the U. S. importing some 2/3 of this 25%."

NOTE: Upon receipt of an approved copy of this paper, it will be distributed for attachment to these minutes.

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
October 19-20, 1967

PROGRESS REPORT, MISSISSIPPI: ESTUARINE SEDIMENTOLOGICAL STUDIES

Wlater L. Siler, Geologist
Gulf Coast Research Laboratory
Ocean Springs, Mississippi

A bottom sampling program has been initiated in Mississippi Sound and three adjacent estuarine systems, the Pascagoula-Escataw, Biloxi Back Bay, and St. Louis Bay.

Sampling has been done with a Fcerst "Petersen" grab sampler (Hopkins, 1964, p 216) in water >12 feet deep and with a coring device in water <12 feet. Samples are returned to the laboratory for quantitative analysis.

Quantitative size analysis is made by standard sieve and/or pipette at intervals of 1ϕ($\phi = -\log_2$ mm). Percentages of each major size grouping, i. e. sand, silt, mud, are calculated and a verbal term assigned (see fig. 1). Along with the verbal description, a value of the arithmetic mean is reported in μ, e.g.$\bar{x} = 23\mu$, and the standard deviation, from which a measure of sorting may be ascertained. The size analysis may be done by a laboratory technician.

Qualitative analysis is done by binocular and petrographic microscope. First the shape and polish of grains is determined, then the mineral composition of the entire sample. These parameters aid in the reconstruction of the depositional history of sedimentary particles and their source area.

An example of this analysis may be seen in the study of a sample from Biloxi Back Bay. In the coarse fraction two distinct shapes are found; approximately 50 percent of the grains are well-rounded and highly polished, the other 50 percent angular and dull, indicating two probable immediate source areas. The rounded and polished grains were derived from Pleistocene

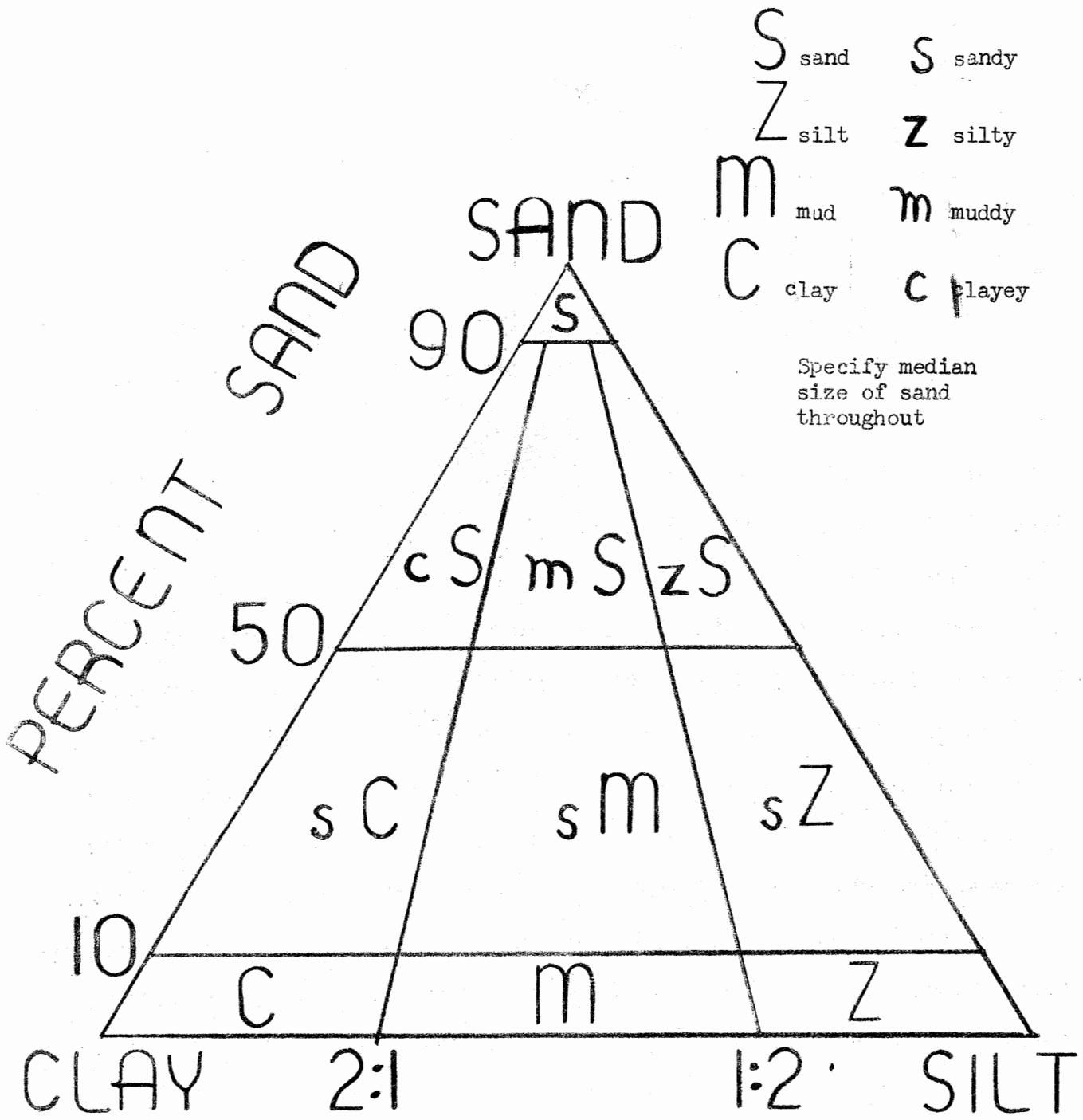

Figure 1. Triangular Graph for Bottom Sediment Nomenclature (from Folk, 1965).

beach ridges in the immediate vicinity and the angular grains from older beds upstream.

Incomplete compositional analysis has indicated that each estuary has a distinct mineral suite that can be recognized within the estuary and outside its mouth, and which may aid in study of bottom currents in the Sound.

Each of the estuaries is a drowned stream channell or valley, inundated since the last glacial melting, and each is slowly being destroyed. In the upper or inland reaches, the estuaries are being filled with sediments transported downstream or by runoff, and which sediments are usually coarse. Near their mouths these water bodies are being filled with fine-grained sediments brought in by tides and trapped in the marshes by the 'baffler' effect of plants.

Sediments in Mississippi Sound are coarsest near the barrier islands. These islands are made up of sand derived from a now submerged sand body lying south of Mobile Bay (Ludwick, 1964). Sediments near the central axis of the Sound are generally silty mud or sandy mud, and those near estuary mouths are usually muddy silt or muddy fine sand. Within the estuaries, mud is encountered near their mouths and muddy sand in the upper reaches.

Data derived from analyses are to be stored on IBM punch cards, where they will be available for consultation or for computer programming.

As outlined, this study will report bottom types, the kind of bottom being correlated with infaunal and epifaunal census and with the nekton. Periodic sampling at each station should reveal changes in time of bottom conditions; the changes will be useful in detecting trends in environmental quality and in predicting trends. As is now known, bottom sediment size is one of the many variables that control the presence or absence of certain taxa: however, the interrelationship of mineral composition and biota is little under-

stood. It seems likely that presence of certain minerals in the bottom contributes appreciably to the maintenance of favorable living conditions for many life forms.

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GULF STATES MARINE FISHERIES COMMISSION
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"PROGRESS REPORT OF ESTUARINE COMMITTEE"

Dr. Ted B. Ford, Chief
Div. of Oysters, Water Bottom & Seafood
Louisiana Wild Life & Fisheries
New Orleans, Louisiana

Dr. Ford gave a very fine report as to the status of the estuarine film. It is expected that the script should be approved soon, with some reservations from various states. Filming should start immediately, and completion is approximately a year from now.

The committee will recommend resolutions to the commission for extention of the 88-309 research program funds, which will expire in 1969. An additional resolution will be submitted concerning dumping of waste and by-products for their consideration.

It was also reported that all trawl and seine sampling gear was to be standardized within the participating states, and that base maps for the estuarine study would also require standization.

Dr. Ford thanked the members of the committee for their dedicated service, and announced that a sub-committee meeting would be held within the near future.

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
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"PANEL DISCUSSION - U. S. COAST GUARD DEMARCATION LINE"

Presiding: Dr. Lyle St. Amant, Assistant Director
Wild Life and Fisheries Commission
New Orleans, Louisiana

Panel Representatives:
U. S. Coast Guard
Directors of Trade Associations
State Government

The panel discussion on the demarcation line was moderated by Dr. Lyle St. Amant, Assistant Director, Louisiana Wild Life and Fisheries Commission, and sitting on the panel were Rear Admiral Ross Bullard, Commander, 8th Coast Guard District; Captain E. J. Worrell, Chief, Merchant Marine and Safety Division, 8th Coast Guard District; Fred Ellis, Louisiana Attorney General's Staff; Oscar Longnecker, Texas Shrimp Ass.; Bill Neblett, National Shrimp Congress, and J. Y. Christmas, Gulf Coast Research Laboratory.

Dr. St. Amant opened the discussion by giving some background and history of the recent demarcation hearing, and called upon Admiral Bullard to explain the purpose of the proposed move. The Admiral explained that this proposal was direct from Washington. Its purpose was only for simplification of enforcement of navigation rules. He stated that the line has no bearing on either the territorial jurisdiction of the United States, or the fisheries continguous zone.

Dr. St. Amant mentioned that about seven thousand boats operate in Louisiana waters. Upon moving this line a majority of these work boats would have to change lighting systems as they now operate under inland rules.

Oscar Longnecker stressed that the primary interest in Texas is safety. Their request is only that one set of rules be applied.

All panel members expressed their opinions, in addition to audience participation. It is expected that from this discussion Gulf States Marine will offer a resolution concerning this matter.

GULF STATE MARINE FISHERIES COMMISSION
Montgomery, Alabama
October 19-20, 1967

"THE CORPS OF ENGINEERS AND THE ESTUARINE ENVIRONMENT"

George W. Allen, Biologist
U. S. Army Corps of Engineers

Through the many years that I have attended these meetings, I have never noted an indication that it was ever an especially formal session, and I don't intend to start an attempt to place it on such a basis at this time. It is difficult to be formal with friends with whom you have visited the cultural centers of the Gulf Coast, from Tampa, Florida, to Matamoros, Mexico. In fact you wouldn't dare to be.

Many years ago the Gulf States Marine Fisheries Commission was formed with one of its prime functions being estuarine protection and preservation. It is still one of the Commission's prime functions, and it was one of the first groups to recognize the estuarine areas in relation to the value of the Gulf commercial fishing effort. Many of us present here today recently attended a meeting in Baton Rouge that was devoted entirely to the discussion of estuarine areas, together with their values, management and other aspects. At that time one speaker condemned, by inference if not directly, the various agencies responsbile for estuarine alteration and pointed out the destruction that some of these agencies have caused. His remarks were hailed as statements of originality, progress and leadership. They were actually about as full of leadership and originality as a Wells-Fargo stage coach.

Nearly fifteen years ago the same statements and conditional warnings were made by members of this Commission at one occasion or another. How many times and at how many places have some of the members of this group appeared

at hearings, presented papers and pleaded for consideration of these areas? At one meeting, in the not-to-distant past, Ozzie Norris and myself presented our papers to each other at a National meeting. I think the only other people in the room were speakers on F.P.C. and another brave soul speaking against pollution. At that time it wasn't nice or polite to speak of pollution, and high-protein concentrates were something you sent the starving people in some other country. There was more glamour in fighting a trout in the Colorado or the Au Sable or growing bream in an oversized gold-fish bowl, than in the mundane task of lifting a load of shrimp or menhaden from the sea or smelling the stench of our polluted estuaries. Those were the days that will some time be described as the "good old days."

We are now in the beginning of a new era. The pollution and estuarine band-wagon is heading today's conservation parade, and everyone is climbing aboard for the ride to glory, fame and achievement. I heard one enraptured individual, after the Baton Rouge meetings, exclaim that is was about time someone spoke up for these endangered areas. I wonder where this individual had been for the past years when our industry and its associated organizations first sounded the call of alarm for the marine resources and their environment. There is very little that can be said today about estuarine environment that was not appreciated by some of us many years ago. There is one important factor that is new, a factor that has been missing in our arguments for many years --- that is public appreciation of todays estuarine problem. This appreciation and awareness has brought increased financial support and more personnel ---- both badly needed. Already their effects have been felt in our field of endeavor.

For many years in the past, all Federal, state and municipal agencies have followed the demonstrated desire of the people. Good, bad or indifferent, this policy has been the guide-post of our democratic system of government, and sooner or later a demonstrated desire has dictated the functions and activities of political agencies. In past years the indicated desire for our coastal areas has been one of commercial and economic growth and development. All other considerations, including those of conservation have been considered as secondary to the above purposes, and as a result the preservation of estuarine areas has suffered.

We now enjoy the human characteristic of 20-20 hindsight and know that past years operations were not completely compatible with the welfare of our nation's estuarine resources. Bigger ships, greater commercial demands and economic growth were the demands that brought about increased lengths and depths of ship channels. These were the demands that received the greatest lip service and therefore received priority over other considerations. Records on file show that at most hearings conducted by the Corps of Engineers on what the Corps believed would be controversial projects, there was not a single representative of the conservation groups involved either directly or indirectly. Many of the controversial projects, such as flood-relief projects were considered and hearings held after congressional direction that took place many years ago. Records of such hearings show little if any participation in the hearings by the wildlife and fisheries interests. No wonder they received the least consideration.

This is where the missing factor of public appreciation has stepped into the picture. Now at last the conservation side of such arguments is beginning to be heard, and their problems have been placed in the limelight

where they may receive the proper consideration that is their due. There is no doubt that the Corps of Engineers is as pleased with such developments as are conservation interests. The increased clamour by the public for estuarine and conservation consideration has enabled the Corps of Engineers to request and receive funds which enable the Corps to include investigations and porgrams of resource investigation and considerations for management. It is not a question of a leopard changing its spots, but rather having an opportunity for the leopard to change its dietary habits, for the Corps of Engineers is staffed by persons such as you and me, and we as individuals do not want to see the destruction of the estuarine areas any more than the individual who depends upon it for a living.

At the present time there are three typical projects being either considered or partially underway at the present time on the Gulf Coast that exhibit all the troublesome characteristics that such estuarine projects seem to have inherited.

One such project is the extension of the Intracoastal Waterway from St. Marks, Florida, to Tampa Bay, Florida. This proposed waterway will most likely cut through one of the largest undefiled estuarine complexes on the Gulf of Mexico. Because of the length of this project, many different types of estuarine environment will be directly affected one way or the other. A lateral canal of this type will have a definite effect on the ecology and hydrography of the areas it contacts, the true nature and characteristics of which is unknown at the present time. Because of the fore-mentioned public awareness of estuarine value, the Corps of Engineers, depending of course that the feasibility study indicates that further investigation should be made and Congress approves the monies therefore, will include in its request for funds

a substantial amount for an extensive study of the hydrography of the area. The results of such a study will have a great deal to do with the suggested location, engineering and other recommendations for the project and its consturction. The shell dredging problem in Galveston Bay to a certain degree, has involved the Corps of Engineers in-so-far as permit granting is concerned. There has never been a project on the Gulf of Mexico that has developed into such a series of claims and counter claims as has this operation. Every aspect of the water resources picture has been given both good and bad consideration and all the publicity that could possibly be found concerning the porblems involved. All claims not-withstanding, the position of the Corps in this instance is that the final decision at the Federal level for such operational permits must lie with all Federal agencies whose responsibilities are found in such dredging activities. This problem has been dropped in the laps of both the Corps of Engineers and the Interior Department for consideration under recently signed agreements between the agencies. It will be most interesting to see how this test-flight of this new mutual-agreement program between these two agencies will end.

The most recent "hot-potatoe" that has appeared in Gulf Estuarine considerations is a recent request by a Mississippi chemical corporation for a permit to dump 10½ million tons of waste product into an area off the Mississippi Coast. Upon receipt of this request the Corps of Engineers entered into discussion with marine laboratories concerning the effects of this material on the fisheries that were present. In addition to these discussions the Corps itself entered into the investigation with a series of bioassays and water quaility tests to determine the effect of this material on the fisheries resources. As a result the Corps has on hand some preliminary data upon

which to base any permit decision in addition to the reams of complaints from the conservation-minded public which clearly indicates the interest in our Gulf waters.

One of the more serious problems that continually is on the Corps agenda, is the development and maintenance of deep-draft ship channels in the very heart of our estuaries. Initial dredgings, together with the following maintenance operations have developed a series of man-made islands stretching the entire length of these channels. These man-made islands have restricted lateral navigation, diverted natural current and tidal flows and have in general allegedly caused all sorts of mischief. As long as economic considerations are paramount, little else can be done with this material. When you dig a hole, the dirt must go some place. At the present time dredging in some channels can be accomplished for about 10¢ per cubic yard. Under these considerations, a single dredging of the Mobile ship channel costs 1.2 million dollars. It is doubtful if Congress would approve or appropriate an additional 4.8 million for maintenance by hopper dredging to eliminate such low-island developments. Recent developments in Chicago and Lake Erie indicate that the disposal of this material in so-called open waters is conducive to more severe problems than those of spoil islands.

Of particular interest is the fact that many of the marsh lands bordering the estuaries are privately owned. Many of these people are desireous of having these areas filled in anticipation of enhancing its value. Privately owned marsh lands coupled with the desire for improving by filling could make it extremely difficult to slow the rate at which feeding and shelter areas for some species are disappearing.

Many of the smaller channel projects in our estuaries where there is a conflict between the navigation interests and the shell fish industries appear to have run into an impasse. Among intelligent individuals there is no such thing as an unsolvable problem of this type. Whether or not you might wish to frown on compromise is beside the point. The two conflicting parties or interests are going to have to sit down and in good faith work out a long range program. Oysters should not be planted on spoil banks which will have to be covered during each maintenance operation, and the channels should not go through historic oyster holdings and destroy the livelihood of the shell fishermen. This can only be accomplished by a frank and mutual discussion with both interests being interested only in the common good.

With the increased emphasis on estuarine problems by the tax-paying public, political agencies will at last find themselves able to gain financing and the authority to consider these problems to a greater degree than ever before. This is true of the problems and the solutions of the Corps of Engineers as well as of other agencies. With such possibilities at hand, and by the recognition of the mutual losses and benefits we can either suffer or gain, we can and will engage the gears of mutual estuarine management in such a manner that forward motion will be smooth and rewarding. We have no other choice in this matter, and I know it will not fail.

COPY

PROGRESS OF THE PL 88-309 PROGRAM IN THE GULF STATES

Presented By
I. B. Byrd, Federal Aid Coordinator
Bureau of Commercial Fisheries
St. Petersburg Beach, Florida
at
Gulf States Marine Fisheries Commission Meeting
Montgomery, Alabama, October 18, 1967

We are proud of the success of the PL 88-309 program in the Gulf States. This success was made possible by the enthusiastic response and cooperation of these States.

A total of $2,809,400 in PL 88-309 funds has been allocated to the five Gulf States since July 1, 1965. Louisiana, Florida and Texas have received the maximum allocation ($246,000) for each of three fiscal years the program has been funded. Mississippi received approximately $120,000 and Alabama almost $45,000 annually. Through September 1967, the Gulf States obligated $2,427,628 (86 percent) of their total allocations. They have matched these Federal monies with $905,838 of State funds in financing approved projects costing $3,333,466. These expenditures indicate a high degree of interest and need on the part of the States for commercial fisheries research and development projects. The Federal and State funds have been utilized for research, construction and development projects directed toward the enhancement of the commercial fisheries industry. As a result of PL 88-309, the Gulf States have been able to hire a total of 53 new technical employees including biologists, chemists, engineers, marketing specialitsts and home economists. These employees have been supplied with adequate facilities and equipment needed for the proper utilization of their skills.

A total of 32 projects have been approved in the five Gulf States. These include research studies on shrimp, oysters, clams, statistics and environmental characteristics; development projects for construction of oyster reefs, planting of oyster cultch, marketing of seafood products, placement of oyster lease control structures, and film production; and the construction of vessels, ponds, research and landing facilities.

Prior to reviewing individual programs withing the States, I would like to mention two projects made possible under the PL 88-309 program which serve as excellent examples of interstate and Federal-State cooperation. The first if the production of an estuarine film through the joint efforts of all five Gulf States and the Bureau of Commercial Fisheries. This film will illustrate and empasize the importance of the estuaries in the maintenance and development of the commercial fisheries of the Gulf. While the film will be produced in the Gulf and by the Gulf States, it will be of value in all coastal States of the nation having estuaries.

The second cooperative project is the Gulf of Mexico estuarine inventory and study. This represents a coordinated effort on the part of three Gulf States and the Bureau to inventory the estuaries of theGulf and to catlog their important physical, chemical, biological and economical characteristics in an Atlas. Through the unitiring efforts of the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission, the

participating States have established common objectives and are using standardized sampling schedules, procedures, equipment and methods for coolecting and recording data. During calendar year 1968, all phases of this study will be performed concurrently by the cooperating States.

In addition to the cooperative projects, the Gulf States have a variety of projects designed for the enhancement of their commercial fisheries. Let us review these on a State-by-State basis:

Flroida currently has three projects which include a study to determine the effects of clam dredging on the environment; a project for construction of permanent oysterreefs as cultch material, and a seafood marketing project. Florida's marketing project has been so successful that Texas and several other States throughout the nation have used it as a model. This marketing project has also served to strengthen the Bureau's fish marketing program.

Alabama has completed construction of oyster landing facilities, the planting of 37,300 barrels of oyster cultch material, and is currently constructing an experimental pond for oyster culture research. The State is also conducting a research project for oyster raft culture.

Mississippi is supplementing their part of the cooperative estuarine inventory project with a project providing for a study of marine species which extends to the 60-fathom curve. Other reserach projects are concerned with the effects of pollution on oysters and depuration of oysters. The State also

has a study to determine the effects of bacterial spoilage on iced shrimp. The two latter projects should provide important technological information which will be most helpful for the further development of the oyster and shrimp industries.

Louisiana is placing permanent oyster lease control structures which will do much to alleviate the many problems associated with the identification of individual lease boundaries. The State has placed a total of 65,000 cubic yards of shells as oyster cultch under three separate projects. One of these was funded with Section 4(b) disaster monies following the devasting effects of Hurricane Betsy in 1965.

Texas has completed the construction of a 72-foot research vessel which is currently being used in an off-shore study of shrimp and finfish. This project is closely coordinated with research being conducted by the Bureau of Commercial Fisheries Galveston Laboratory and Pascagoula Exploratory Fishing and Gear Research Base. Other projects include the evaluation of the effects of flood control projects on associated estuaries, studying the migration of shellfish and finfish through a natural pass and the construction of a coastal fisheries experiment station. The State has recently completed staffing for their new marketing project and are working closely with the Bureau's regional marketing personnel. Texas is also conducting a commercial fisheries statistical program in cooperation with the Bureau's Branch of Fisheries Statistics.

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
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"NATIONAL ESTUARINE POLLUTION STUDY"

Frank J. Silva, Chief
Estuarine Studies
U. S. Department of the Interior
Federal Water Pollution Control Administration

The National Estuarine Pollution Study is being conducted under Authority of Title II, Section 5(g)(1), Clean Water Restoration Act of 1966, P.L. 89-753, November 3, 1966. The objective of the Study is to prepare a report for the Secretary of the Interior to the Congress which will: (1) document and analyze the various aspects of estuarine pollution; (2) make recommendations for a comprehensive National program for preservation, study, use, and development of the estuaries; and (3) recognize the respective roles of Federal, State, and local governments plus public and private interests. The Act calls for a comprehensive study of the effects of pollution, including sedimentation, in the estuaries and estuarine zones on beneficial uses and a consideration of use-trends which will influence future pollution problems. The Act also calls for the assembly, coordination, and organization of all existing data; the conduct of surveys to provide supplementary data in representative estuaries; the identification of problems and areas in need of further study; and analysis of the economic and social values of the estuaries; and a discussion of the major economic, social, and ecological trends as they may influence future pollution problems. The Act directs that the study be made in cooperation with other government agencies, private organizations, institutions and individuals.

The Act directs that a report be submitted to Congress within 3 years after enactment, which in effect, is November 1, 1969. Information and data will be obtained through five principal avenues:

1. Data already in the files of the Federal Water Pollution Control Administration.

2. Consultation with other elements of the Department of the Interior.

3. Consultation with other Federal agencies, State agencies, interstate agencies, private organizations, institutions, National organizations, and individuals. The following actions are contemplated:

   a. Direct consultation with other Federal agencies interested in estuarine resource problems.

   b. Consultation on a State-by-State basis with agencies interested in estuarine resources and pollution control. (Consultation will be limited to the 24 coastal States, Puerto Rico, Virgin Islands, Guam, American Samoa, and the Distirct of Columbia). The assistance of the several Governors in arranging agency meetings has been requested through the Office of the Secretary. Subsequent contacts will be made through the Regional Office.

   c. Direct consultation with interstate agencies and commissions, institutions, and National organizations. Institutions are interpreted to mean universities, colleges, and private foundations interested in marine sciences. National organizations are interpreted to mean professional organizations interested in pollution control, conservation, and natural resources; non-professional, general interest organizations such as General Federation of Women's Clubs; user organizations such as the National Association of Manufacturers, and interested labor unions.

   d. Public meetings in each "coastal State", under the direct sponsorship of Federal Water Pollution Control Administration, with the assistance of the Governors' office.

4. Contracts will be used as the primary source of information for socio-economic values, ecological, demographic and industiral trends, and application of new technology. A National Conference on Estuarine Research needs will be scheduled for January 1969 to provide interested engineers, scientists, and public administration with a "last minute" opportunity to outline and discuss research and study needs and areas of opportunity.

5. Supplemental in-house technical studies will be concentrated in the Chesapeake Bay area and will be focused on those aspects of the Bay which may be typical of estuarine pollution problems such as:

   Management of thermal wastes
   Marina and boat pollution
   Management of nutrients
   Pollution surveillance systems
   Modeling and data display systems
   Residual sludge or sediment deposits
   Petroleum handling

Approximately 70-80% of appropriated funds will be used for contracts. Contracts have been and will be negctiated with universities, corporations, non-profit institutions, and other Federal Agencies.

The following assumptions will be used in the conduct of the study:

1. Estuaries have high economic and social values.

2. Attainment of maximum public return from estuarine system depends on:
   a. protection of water quality, and
   b. land use "restriction"

3. There will be increasing pressure for multiple use of the estuarine system.

4. There is a need for continuing, articulated research program with broad geographic scope.

5. Attainment of maximum public returns calls for a management partnership among State, Federal, and local agencies.

6. Estuaries cannot be considered independently of their water sheds or the Continental Shelf.

The testimony of H.R. 25 et al. supports the thesis that estuaries are a valuable natural resource component of the Nation's total wealth, and that special measures are needed to preserve, protect, and manage this resource. (House Document 90-3). H. R. 25 also provides that the data generated by the National Estuarine Pollution Study will be utilized in the study and classification of estuaries.

Tabulation of all pertinent data, related to the description of the estuaries, and the degree of pollution will be undertaken by the Federal Water Pollution Control Administration. Tentative conclusions with respect to National Management policies will be developed by the Federal Water Pollution Control Administration and discussed with a Department of Interior Interagency Task Force. The report will be submitted to Congress by November 1, 1969 with copies being made available to all interested parties.

* * * * * * * * * * *

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
October 19-20, 1967

"REPORT OF THE SEDIMENTALOGICAL STUDY OF MOBILE BAY FOR ALA. DEPT. OF CONSERVATION"

John Ryan, Dept. of Geology
Florida State University
Tallahassee, Florida

NOTE: Upon submission of a copy of this paper, it will be distributed for attachment to these minutes.

SUMMARY

GULF STATES MARINE FISHERIES COMMISSION
Montgomery, Alabama
Jefferson Davis Hotel
October 19-20, 1967

"ALABAMA FISHERIES WORKSHOP FOR THE DISABLED"

Ralph Richards, Executive Vice President
Alabama Fisheries Association
Mobile, Alabama

In a unique training program at a new oyster shucking shcool, called the Alabama Fisheries Workshop for the Disabled, handicapped people are developing the art of opening oysters. A special machine and new methods, which Richards found in a Mississippi seafood plant, make it easy to remove the meat with an oyster knife. The art and skill is in holding the oyster beneath the hammer so that the shell is struck in precisely the right spot and in cutting the oyster's muscle away from the shell or valves.

An incentive system is used to encourage the trainees to do their job well and continue improving their skill. Trainees are all dressed in uniforms to lose their identity as handicapped persons while they work.

After finishing the program, Mr. Richards stated, the graduates are hired by the fisheries industry. There are approximately 100 in the program at present and about 35 of the better-than-average shuckers will be available to industry. They hope to have about 200 in the program next year and these people will also be able to head shrimp, mend nets, and even serve as crewmen.

As part of his presentation, Mr. Richards showed some interesting slides.

J. V. Colson —

GULF STATES MARINE FISHERIES COMMISSION
Minutes, Executive Session
October 21, 1966

The Executive Session opened with Breakfast at 8:00 a.m.

Chairman Sheppard called the meeting of the Executive Session to order at 8:40 a.m. The roll was called by states, and the following were present:

ALABAMA	George W. Allen (Proxy for Commissioner Kelley)
	Vernon K. Shriner (Proxy for Commissioner Brannan)
	Vernon K. Shriner
FLORIDA	Harmon Shields (Proxy for Commissioner Hodges)
	J. Lorenzo Walker
	Walter O. Sheppard
LOUISIANA	Dr. Leslie L. Glasgow
	Dr. Lyle St. Amant (Proxy for Commissioner Todd)
	James H. Summersgill
MISSISSIPPI	Ted Millette
	Joseph V. Colson
TEXAS	J. R. Singleton
	Virgil Versaggi

The Chairman reported a quorum present.

Commissioner Shriner moved to dispense with the reading of the Minutes of the March 18, 1966, meeting, and moved approval; seconded by Dr. St. Amant, and the motion carried.

The Financial Report, submitted by Peat, Marwick, Mitchell & Co., CPA, New Orleans, was discussed. Chairman Sheppard stated a cash balance at the end of the fiscal year, June 30, 1966, of $7,477.99, with all member states having paid their contributions. There being no question, the audit report was approved as submitted.

Discussion of the Suggested Budget, 1966-67, followed. The Chairman stated all current contributions from member states had been received. He indicated Bank Balance as of October 21, 1966 to be $25,744.03. The Budget Item "Depreciation" was reviewed, and the Chairman stated the total represented depreciation on a 1956 Chevrolet automobile, office furniture and equipment. The item "Travel" was discussed, and Chairman Sheppard stated the new director might make a budget adjustment and ask for ratification by the Commission at the March, 1967 meeting if it became necessary to

over-extend the budgeted amount of $1,800.00. There being no further question, Mr. Millette moved adoption of the Suggested Budget; seconded by Mr. Summersgill, and the Budget was approved, as suggested. (See Page 7-C).

Mr. Versaggi moved that 1000 additional copies of Informational Series No. 3, "The Shrimp Fishery of the Gulf of Mexico," be printed at the printer's special price of $30.00; seconded by Dr. St. Amant, and the motion carried. 68.50+2.74 tax=71.24 #2760
Stamp Fund -$16.36-

The Chairman proposed the investment of Commission funds, over the director's anticipated total of need for three-months' operating costs, in U.S. Treasury notes, at approximately 6% interest, stating that such an investment is authorized under the By-Laws. George Allen moved that the director be instructed by the Commission to invest all unneeded funds into short-term government securities. Mr. Versaggi proposed a finance committee be appointed to work with the director in this regard, and that Mr. Allen's motion be amended to that effect. This was seconded by Mr. Shriner, and the amended motion carried.

Chairman Sheppard then named to the Finance Committee Mr. Summersgill, the in-coming Chairman; Dr. Glasgow; and, the director.

Mr. Shriner moved that the Traveling Fund of $250.00, a fund under the By-Laws advanced to Director W. Dudley Gunn, and held by him at his death, be expensed out; seconded by Mr. Walker. There being no further discussion, the motion carried.

The disposal of the 1956 Chevrolet automobile owned by the Commission was the next item on the agenda. Mr. Colson stated that as director, he would prefer to use his personal car. Chairman Sheppard recommended the 1956 Chevrolet be sold, and expenses incurred in travel by the director be charged to the Travel Expense budget item. Mr. Versaggi suggested that personal contacts might be made by the director in traveling if the Commission owned or leased a car, which might even be cheaper than flying, and he proposed that the Commission furnish a new car to the director to be used for business purposes. Dr. St. Amant concurred. Mr. Allen concurred, stating he felt the more contacts the director made, the better for the Commission. Mr. Millette stated he felt the director would need an automobile, but he thought the subject premature at this time. It was agreed that the Commission pay the director mileage at the rate of 10¢ per mile until the meeting in March, 1967, and the director was instructed to keep a record of all travel expense and give a complete report to the Executive Session at the March, 1967, meeting, at which time the subject would again be discussed to determine the feasibility of purchasing a motor vehicle for the director.

SUGGESTED BUDGET FOR FISCAL YEAR 1966-67

Estimated Income F/Y 1966-67

Alabama	$3,500.00		
Florida	4,500.00		
Louisiana	6,000.00		
Mississippi	1,500.00		Estimated
Texas	6,000.00	$21,500.00	Funds Available
Cash on hand close F/Y 1965-66		7,477.99	$ 28,977.99

EXPENSES

	Budget 1965-66	Spent 1965-66 (Per Audit)	Suggested Budget 1966-67
Salaries	$ 14,000.00	$ 14,000.00	$ 14,000.00
Traveling	1,600.00	937.96	1,800.00
Office rent	1,080.00	1,080.00	1,200.00
Stationery, printing and supplies	400.00	385.10	450.00
Telephone & telegraph	500.00	418.40	550.00
Postage	250.00	210.10	250.00
Electricity	42.00	41.00	50.00
Equipment maintenance	50.00	62.06	75.00
Accounting	250.00	250.00	250.00
Insurance	265.00	269.78	275.00
Meeting expense	650.00	396.10	700.00
Publication expense	570.00	609.40	700.00
Payroll taxes	433.70	366.53	500.00
Depreciation	75.00	69.86	100.00
Sundry	90.00	54.13	100.00
	$20,255.70	$19,150.42	$21,000.00

- -

True Bank Balance, 9/30/66		$14,983.89
Texas dues deposited 10/3/66 . . .	$6,000.00	
Miss. dues deposited 10/12/66 . . .	1,500.00	
Ala. dues deposited 10/19/66 . . .	3,500.00	11,000.00
Anticipated funds for 1966-67		$25,983.89

There being no objection, Chairman Sheppard directed the sale of the 1956 Chevrolet immediately, at the best obtainable price, by the director as soon as the director assumes his duties.

Mr. Versaggi suggested the possibility of a return premium on prepaid automobile liability insurance when the insurance is cancelled. Mr. Colson stated he would handle the sale of the car and that he will have the automobile insurance cancelled. He further stated that as director, he hopes to do more traveling than has been done in the past and hopes to make many personal contacts.

Chairman Sheppard reported that the Commission's lease on office space in the Audubon Building expired September 30, 1966, and that the Commission had been notified of a raise in rent to $100.00 per month. Arrangements have been made to rent on a month-to-month basis until the October, 1966, meeting, when a decision could be made regarding renewal of the lease. He stated the Commission has now been advised that the building has been sold, and that he has no knowledge of the amount of rent desired by the new owners. Dr. St. Amant suggested that office space for the Commission might be available in the Louisiana Wild Life Building at either a nominal rental fee, or gratis. Mr. Summersgill stated he felt this to be a better location for the Commission office, and he might be able to determine if space were available within a week or two, if arrangements could be worked out with the owners of the Audubon Building to continue to rent on a temporary basis. Mr. Colson suggested the Commission needed more office space if larger offices were obtainable in the Wild Life Building. Mr. Summersgill stated expenses incurred to install airconditioning and to modify the office space in the Wild Life Building would have to be borne by the Commission, and the expense of heating and utilities also would have to be borne by the Commission. Chairman Sheppard reported the Commission would attempt to refrain from entering into a lease at the Audubon Building. He recommended that the discretion be left to the in-coming chairman as to whether to negotiate a lease for present office space in the Audubon Building, if space were not available in the Louisiana Wild Life Building.

The Commissioners ratified payment of Mr. Sheppard's expenses for telephone and travel from the date of Mr. Gunn's death through September 1, 1966, in the amount of $333.60, for which Mr. Sheppard had previously been paid. Mr. Versaggi moved reimbursement of Mr. Sheppard's present expenses for travel and other items totaling $225.00; Mr. Colson seconded, and without objection the motion carried. Mr. Sheppard stated he desired no payment for salary during the three weeks he spent away from his office on Commission business.

The next meeting will be held in Brownsville, Texas, March 16-17, 1967. Mr. Versaggi stated he would confer with the Texas delegation on a hotel or motel site and would report to the Commission during

the Gulf-Caribbean meeting. He stated the necessity of having prior information from those who planned to fly to the Texas meeting, including airline flight schedules, estimated time of arrival, and city of arrival in Texas, since state conservation department cars would be available to meet planes in Brownsville and Harlingen, Texas. Mr. Colson was asked to include this request in his letter of invitation to the commissioners and interested parties. Mr. Versaggi expressed the hope that entertainment for the ladies will be provided at the Brownsville meeting. Whereupon Chairman Sheppard stated that announcement of hotel site would be made at a later date.

The fall meeting will be held October 19-20, 1967, in Alabama, and the Alabama delegation designated Mobile as the location.

The Chairman advised that the Resolutions Committee had approved the normal resolutions, and the resolution memorializing the death of W. Dudley Gunn (Resolution No. 1). Mr. Shields moved that the reading of the resolution regarding Mr. Gunn be dispensed with, and its adoption; seconded by Mr. Colson, and Resolution No. 1 was adopted without dissent. Resolutions Nos. 1 and 2 are, as follows:

RESOLUTION No. 1

RESOLUTION MEMORIALIZING THE DEATH OF WILLIAM DUDLEY GUNN

WHEREAS, WILLIAM DUDLEY GUNN departed this life on July 25, 1966, and in his passing, the GULF STATES MARINE FISHERIES COMMISSION lost an outstanding and devoted member of the Commission; and,

WHEREAS, The history of the GULF STATES MARINE FISHERIES COMMISSION was indelibly impressed by the useful life and deeds of this outstanding Executive Director; and,

WHEREAS, It is fitting and proper that this Commission, through its Board of Directors, take notice of the death of WILLIAM DUDLEY GUNN and pay deserved tribute to his memory,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF GULF STATES MARINE FISHERIES COMMISSION:

"That this Board of Directors does hereby direct that there be inscribed upon its permanent records in the Minutes of this Commission this expression of bereavement over his loss:

IN MEMORIA - WILLIAM DUDLEY GUNN

WILLIAM DUDLEY GUNN was born on the 12th day of January, 1904, at Pensacola, Florida. He became the

Director of the Gulf States Marine Fisheries Commission in November 1949 and continued with the Commission until his passing. He was a member of the Gentilly Methodist Church of New Orleans, Louisiana, and was a Member of the Escambia Masonic Lodge, Pensacola, Florida. He was also a Member of the Military Order of the World Wars. He was a good citizen, a good neighbor, a loyal friend and a devoted employee of this Commission. In his passing, the Gulf States Marine Fisheries Commission has lost a valuable leader, servant and respected and honored citizen.

BE IT FURTHER RESOLVED That a copy of this Resolution be spread upon the Minutes of the Gulf States Marine Fisheries Commission, and be made a permanent record of the Minutes of the Meeting of the Board of Directors of this Commission.

BE IT FURTHER RESOLVED That the original of this Resolution be presented to the surviving spouse of WILLIAM DUDLEY GUNN, MARY KNOWLES GUNN."

S/ Walter O. Sheppard
Acting Director

ATTEST:
S/ J. H. Summersgill

RESOLUTION No. 2

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its most sincere appreciation to the management and staff of the Monteleone Hotel for the cordial hospitality and service enjoyed by the group on the occasion of the October 20-21, 1966 meeting of this Commission in New Orleans, Louisiana

The Chairman asked the commissioners to pass additional resolutions thanking the Atlantic States Marine Fisheries Commission and its Executive Director Ernest Mitts, and Mrs. Branan, for their assistance in coming to New Orleans and reporting the meeting. Dr. St. Amant moved adoption; seconded by Mr. Millette, and the resolutions were adopted without dissent. Resolutions Nos. 3 and 4 are, as follows:

RESOLUTION No. 3

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its most sincere appreciation to the Honorable Ernest Mitts, Executive Director, Atlantic States Marine Fisheries Commission, for his help in formulating the program for the Seventeenth Annual Meeting of this Commission held in New Orleans, Louisiana.

RESOLUTION No. 4

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its most sincere appreciation to Mrs. Mary R. Branan, Administrative Assistant, Atlantic States Marine Fisheries Commission, for recording the proceedings and the many other courtesies extended during the course of the October 20-21, 1966 meeting of this Commission in New Orleans, Louisiana.

The Chairman appointed to membership on the Committee to Amend the By-Laws Mr. Summersgill; Vernon Shriner; George Allen; Virgil Versaggi; and Walter Sheppard, and he stated the suggested changes would be acted upon at the March, 1967 meeting. He further stated within a short time the director would circulate through the mail the Suggested Changes to the committee members, and that he felt the work of the committee could be handled satisfactorily through the mail. However, should the committee feel a meeting necessary, one could be arranged.

Under the Commission's system of rotation, the State of Louisiana will have the in-coming chairman, and Dr. St. Amant of the Louisiana delegation nominated Mr. Summersgill; seconded by Mr. Singleton. Mr. Versaggi moved the nominations be closed, and Mr. Summersgill was unanimously elected.

Under the Commission's system of rotation, the State of Alabama will have the in-coming vice-chairman, and Mr. Allen of the Alabama delegation nominated Vernon Shriner; seconded by Mr. Versaggi. Dr. St. Amant moved the nominations be closed, and Mr. Shriner was unanimously elected.

Mr. Sheppard announced that Joseph V. Colson has been selected as the new Director of the Commission.

As Further Business, Mr. Millette reported to the Executive Session from the Estuarine Technical Coordinating Committee. At the March 18, 1966 meeting, the Executive Session requested this committee to investigate the feasibility of the GSMFC, through its representative states, sponsoring estuarine films emphasizing the value of estuarine areas and the compilation of the areas, and requested that committee to report back at the October, 1966, meeting. Mr. Millette reported that representatives of all states except one were present at the committee meeting April 28, 1966, in New Orleans, and that representatives of the Bureau of Commercial Fisheries also attended. The committee agreed that this was a worthwhile project. Further, it was agreed that the GSMFC should serve as the agent for the states; that the contract for the work be on an individual basis with the Bureau of Commercial Fisheries sharing one-sixth of the cost, and each state sharing one-sixth of the cost, for a sum not to exceed $8500.00. Of this sum, $600.00 is to be contributed by each state

towards travel costs of the BCF representative who will direct the film; and whatever amount that is not used in travel costs would eventually be refunded to the states. The committee felt it would like to give emphasis to the GSMFC in the film title as a cooperative project. Mr. Millette urged those states which have not already done so to complete their agreements, stating that Alabama was the first state to do so.

Whereupon the Chairman declared the Executive Session adjourned at 9:58 a.m.

(end)

PROGRAM

(James H. Summersgill, Commission Chairman, Presiding)

Thursday (March 16)

8:30 - 9:30 AM

REGISTRATION

9:30 AM

CALL TO ORDER—GENERAL SESSION

INVOCATION
Reverend George F. Sexton, OMI
Sacred Heart Church, Brownsville

ROLL CALL

WELCOME ADDRESS
Honorable John L. Hill, Secretary of State
State of Texas—(Introduced by the Honorable J.R. Singleton — Executive Director, Texas Parks and Wildlife Department)

MANDATORY INSPECTION
R.T. Whiteleather, Deputy Reg. Director
Bureau of Commercial Fisheries, Region 2
St. Petersburgh Beach, Florida

OIL OPERATION IN THE GULF
Robert F. Evans, Regional Oil and Gas Supervisor Gulf Coast Region—U.S. Department of Interior New Orleans, La.

ACTIVITIES ON FLORIDA BOARD OF CONSERVATION
Don Sweat, Marine Laboratory,
Key West, Fla.

11:00 AM

RECESS—COFFEE BREAK *Fifteen Minutes*

11:15 AM

PROCESS OF TEXAS BLUE CRAB STUDY
William R. More, Biologist
Texas Parks and Wildlife Department

PROGRESS REPORT OF ESTUARINE COMMITTEE
Chairman, Ted B. Ford, Chief, Div. of Oysters, Water Bottom & Seafood, La. Wildlife & Fisheries, New Orleans, La.

12:00 NOON

RECESS FOR LUNCH

1:30 PM

SHRIMP POND GROWTH
Harold Cook, Bureau of Commercial Fisheries, Galveston, Tex.

LIQUID NITROGEN FREEZING IN THE SHRIMP INDUSTRY
J.T. Sills, Products Manager, Cyro-quick, Air Products & Chemicals, Inc.
Allentown, Pa.

WEATHER INFORMATION FOR THE GULF OF MEXICO
Robert M. Ingle, Dir. of Research,
Board of Conservation, State of Fla.
Tallahassee, Fla.

3:15 PM

RECESS—COFFEE BREAK *Fifteen Minutes*

3:30 PM

THE MURDER OF SILENCE
45 Minutes Extravaganza on Natural Resources,
Texas Parks & Wildlife Dept.

4:30 PM

MEETING OF RESOLUTIONS COMMITTEE

Friday (March 17)

7:30 - 9:15 AM

COMMISSION EXECUTIVE SESSION—BREAKFAST

9:15 - 12:00 NOON

GENERAL SESSION

RESEARCH PROGRAM—OREGON II
Francis J. Captiva, Base Fleet Supervisor
Bureau of Commercial Fisheries, Exploratory Fishing Base, Pascagoula, Miss.

USE OF FISH STATISTICS
George W. Snow, Reg. Supervisor,
Statistics & Market News, Bureau of Commercial Fisheries, New Orleans, La.

ADJOURNMENT

★

Gulf States Marine Fisheries Commission
J. V. Colsan, Director
Room 225—400 Royal Street
New Orleans, Louisiana 70130

Commissioners
Order of listing: Administrator, Legislator, Governor's Appointee

Alabama
Claude D. Kelley
L. W. Brannan, Jr.
Vernon K. Shriner (Vice-Chairman)

Florida
W. Randolph Hodges
J. Lorenzo Walker
Walter O. Sheppard

Louisiana
Dr. Leslie L. Glasgow
Richard P. Guidry
James H. Summersgill (Chairman)

Mississippi
Charles Weems
Ted Millette
(Open)

Texas
J. R. Singleton
Richard H. Cory
Virgil Versaggi

GULF STATES MARINE FISHERIES COMMISSION

Annual Spring Meeting

Brownsville, Texas

FORT BROWN MOTOR HOTEL

March 16 (Thursday) - 17 (Friday), 1967

Ladies Luncheon—Tour, Brownsville and Matamoros, 11:00 A. M., March 16.

Reception—Buffet, Fortress Room (Fort Brown Motor Hotel) 7:00 P. M.—March 16.

THE CAPITOL
STATE OF TEXAS
AUSTIN

Gulf States Marine Fisheries Commission

CHAIRMAN
JAMES H. SUMMERSGILL
1819 SOUTH BAYOU DRIVE
GOLDEN MEADOW, LOUISIANA
70357

VICE-CHAIRMAN
VERNON K. SHRINER
217 COLUMBUS
MONTGOMERY, ALABAMA 36104

DIRECTOR
J. V. (JOE) COLSON

HEADQUARTERS OFFICE
ROOM 225 - 400 ROYAL STREET
NEW ORLEANS, LOUISIANA 70130
TELEPHONE: 524-1765

M I N U T E S

SPRING MEETING

THE FORT BROWN MOTOR HOTEL

BROWNSVILLE, TEXAS

MARCH 16-17, 1967

COMMISSIONERS & THEIR ADDRESSES

ALABAMA

Hon. Claude D. Kelley, Commissioner
Union St. Administrative Bldg.
Montgomery, Ala. 36104

Hon. L. W. Brannan, Jr., Commissioner
Foley, Ala.

Hon. Vernon K. Shriner, Vice-Chairman
% Florida Fish Co.
217 Columbus St
Montgomery, Ala. 36104

FLORIDA

Hon. W. Randolph Hodges, Commissioner
Florida Board of Conservation
107 West Gaines
Tallahassee, Florida 32304

Hon. J. Lorenzo Walker, Commissioner
P.O. Box 475
Naples, Florida

Hon. Walter O. Sheppard, Commissioner
P.O. Drawer 2139
Fort Myers, Fla. 33902

LOUISIANA

Dr. Leslie L. Glasgow, Commissioner
La. Wild Life & Fisheries
400 Royal St.
New Orleans, La. 70130

Rep. Richard P. Guidry
P.O. Box 8
Galliano, La.

Hon. James H. Summersgill, Chairman
1819 S. Bayou Road
Golden Meadow, La. 70357

MISSISSIPPI

Hon. Charles Weems, Commissioner
1124 E. Bay View Ave.
Biloxi, Miss.

Hon. Ted Millette, Commissioner
349 Watts Ave.
Pascagoula, Miss.

(Open)

TEXAS

Hon. J.R. Singleton, Commissioner
John H. Reagan State Office Bldg.
Austin, Texas 78701

Hon. Richard H. Cory, Commissioner
P.O. Box 3547
Victoria, Texas

Hon. Virgil Versaggi, Commissioner
% Versaggi Shrimp Co.
P.O. Box 1847
Brownsville, Texas 78521

GULF STATES MARINE FISHERIES COMMISSION
Room 225 - 400 Royal Street
New Orleans, Louisiana 70130

M I N U T E S

SPRING MEETING, MARCH 16-17, 1967
FORT BROWN MOTOR HOTEL
Brownsville, Texas

OFFICIAL ATTENDANCE OF COMMISSIONERS

	PRESENT	ABSENT
ALABAMA	Vernon K. Shriner	Claude D. Kelley L.W. Brannan, Jr.
FLORIDA	W. Randolph Hodges Walter O. Sheppard	J. Lorenzo Walker
LOUISIANA	L.L. Glasgow R.P. Guidry James H. Summersgill	
MISSISSIPPI	Ted Millette	Charles Weems
TEXAS	J.R. Singleton Virgil Versaggi	R.H. Cory
PROXIES	J. H. Crance Wm. Demoran J.R. Singleton	(For Claude D. Kelley (For Chas. Weems) (For Richard Cory)

FORMER COMMISSIONERS PRESENT: Geo. Brumfield

STATE GOVERNMENT REPRESENTATIVES PRESENT: John L. Hill, Secretary of State, Ames Savoie

OTHER STATE GOVERNMENT REPRESENTATIVES PRESENT:

ALABAMA: Jack L. Gaines

FLORIDA: Bob Ingle, Harmon Shields, Don Sweat

LOUISIANA: Ted Ford, J.G. Broom, Barney Barrett, Woodrow Mock, Jr., Lyle St. Amant, Max Summers, Chas. J. White

TEXAS: Clarence Beezeley, Ed Bradley, Joe Brewer, C.E. Bryan, Ray Childress, Henry Compton, Bob Cross, R. Spencer Gaille, Wm. H. Gooch, L.H. Griffin, Pete Hamilton, R.A. Harrington, T.L. Heffernan, R.P. Hofstetter, J.R. Holbein, Roy Johnson, B.D. King III, Terrance Leary, O.B. Lynam, E.G. Marsh, Jr., Rudy Martinez, A.W. Moffett, Tom D. Moore, F. More, M.C. Pletz, William More, Harvey Schoen, Ernest Simmons, Marshall H. Smith, Roy Spears, Don Steinbach, James R. Stevens, K.R. Stewart, William Stewart

FEDERAL GOVERNMENT REPRESENTATIVES PRESENT:A

BUREAU OF COMMERCIAL FISHERIES: Charles R. Chapman, Harry Cook, James B. Engle, Don Geagan, J. Bruce Kinsey, J.H. Kuthhhn, Milton J. Lindner, Elliot Mecklow, Dr. J.K. McNulty, R.T. Norris, John M. Patton, Spencer H. Smith, Geo. W. Snow, William M. Terry, R.T. Whiteleather

COAST GUARD: C.R. Hallberg

U.S. CORPS OF ENGINEERS: George W. Allen

U.S. DEPARTMENT OF STATE: Bert Brittin, Richard S. Croker, Donald McKernan, Leland W. Warner, Jr.

REPRESENTATIVES OF INDUSTRY PRESENT: J.E. Barr, Bruce W. Brown, F. M. Harbin, Will Hardee, Ben A. Hobson, A.E. Kennedy, W.E. Kenon, Louis Lapeyre, P.R. Mains, Kenneth L. McLain, John Mehos, J.R. Nelson, Albert J. Rea, J.T. Sills, V.C. Stevens

TRADE ASSOCIATION REPRESENTATIVES PRESENT: Mrs. Johnnie Harbin, Chas. Jackson, Bob Jones, Oscar Longnecker,Jr., Andrew Martin, William R. Neblett

UNIVERSITY REPRESENTATIVES PRESENT: Walter Abbott, J.Y. Christmas, David Cook, Lewis T. Graham, Dr. Gordon Gunter, Dr. Henry Hildebroad, Walter R. Nelson, J.V. Shireman

CLERGY PRESENT:

Reverend George F. Sexton, OMI

GENERAL SESSION, MARCH 16, 1967

Commission Chairman Summersgill called the meeting to order at 9:30 a.m. and introduced Father George F. Sexton, CMI, Sacred Heart Church, Brownsville, who rendered the invocation.

Following calling of the roll and the introducting of Commissioners and Proxies, J.R. Singleton, Executive Director, Texas Parks and Wildlife introduced the Honorable John L. Hill, Secretary of State, State of Texas, who extended a very cordial welcome to the State of Texas. His and other program presentations appear in these Minutes.

A series of five addresses were heard during the session, prior to a recess, in the following order:

MANDATORY INSPECTION, by R.T. Whiteleather, Deputy Reg. Director, Bureau of Commercial Fisheries, Region 2,.

OIL OPERATION IN THE GULF, by Robert F. Evans, Regional Oil and Gas Supervisor Gulf Coast Region, U.S. Department of the Interior.

ACTIVITIES ON FLORIDA BOARD OF CONSERVATION, by Don Sweat, Marine Laboratory

PROCESS OF TEXAS BLUE CRAB STUDY, by William R. More, Biologist, Texas Parks and Wildlife Department

PROGRESS REPORT OF ESTUARINE COMMITTEE, by Chairman, Ted B. Ford, Chief, Div. of Oysters, Water Bottom and Seafood, Louisiana Wildlife and Fisheries.

Following a recess for lunch a series of four addresses followed:

SHRIMP POND GROWTH, by Harold Cook, Bureau of Commercial Fisheries

LIQUID NITROGEN FREEZING IN THE SHRIMP INDUSTRY, by J.T. Sills, Products Manager, Cyro-quick, Air Products & Chemicals, Inc.

WEATHER INFORMATION FOR THE GULF OF MEXICO, by Robert M. Ingle, Director of Research, Board of Conservation, State of Florida

THE MURDER OF SILENCE - a forty-five Minutes Extravaganza on Natural Resources, Texas Parks & Wildlife Department.

Meeting at 4:30 was the Resolution Committee appointed earlier by the Chairman.

FRIDAY (MARCH 17)

The Commission Executive Session began with the serving of breakfast at 7:30 a.m. This session terminated at 9:15 a.m. The closing General Session was called to order by Chairman James Summersgill at 9:30.

The following Resolutions were adopted in the Executive Session nnd appear in order as mentioned.

Upon recommendation of the Estuareine Coordinating Committee the adoption of a resolution supporting the general purpose of H.R.25 but not accepted in its present form but conditionally upon further study.

The adoption of a resolution requesting an Advisory Panel be created by the Regional Oil and Gas Supervisor, U.S. Department of Interior.

The adoption of a Resolution that the Bureau of Commercial Fisheries make a technological study of indigenous fishes for production of Fish Protein and pilot plants be constructed.

Three resolutions of appreciation to the Texas Parks and Wildlife Department; Texas Shrimp Association and the Brownsville-Port Isabel Shrimp Producers Association; and the Fort Brown Motor Hotel, were presented.

Two addresses were heard at this session, as follows:

RESEARCH PROGRAM - OREGON II, by Francis Captiva, Base Fleet Supervisor, Bureau of Commercial Fisheries, Exploratory Fishing Base

USE OF FISH STATISTICS, by George W. Snow, Regional Supervisor, Statistics and Market News, Bureau of Commercial Fisheries.

With no response on call for other matters to be presented, Chairman Summersgill thanked the speakers for their participation and the delegates for their attention, and extended a most cordial invitation to the 18th Annual Meeting, October 19-20, 1967.

The meeting was adjourned at 12:30 p.m.

Prepared by: Jos. V. Colson
Director

RESOLUTION

LET IT BE KNOWN that Dr. Theo. B. Ford, Chairman of the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission, came before the Commissioners of the Gulf States Marine Fisheries Commission at its regular Spring Meeting to present and recommend the adoption of the following resolution:

"RESOLUTION: WHEREAS, a special Committee of the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission does support the general purpose of H.R. 25 relative to the preservation, protection, development, and restoration of the estuarine areas of the Nation; and

WHEREAS, the Committee has not had sufficient time to consider all aspects of the bill as proposed; and

WHEREAS, the Committee finds that certain aspects of the proposed legislation are not acceptable to one or several States represented; and are objectionable; and these objections include but are not limited to powers of regulation and certain permit authorities granted to the Secretary of the Interior.

NOW, THEREFORE, BE IT RESOLVED that the Committee recommends (1) that the Gulf States Marine Fisheries Commission request the Honorable John Dingell of the House Merchant Marine and Fisheries Committee, not to report H.R. 25 out of the Committee in its present form; and (2) that the Gulf States Marine Fisheries Commission support the concept of an Estuarine Protection Act; and, (3) that the Gulf States Marine Fisheries Commission request the House Committee of Merchant Marine and Fisheries to seek the assistance of the affected States and the Secretary of the Interior in drafting a bill mutually acceptable to both the affected States and the Secretary of the Interior which will promulgate the basic concept of H.R. 25 as now proposed; and (4) that this resolution be adopted by the Gulf States Marine Fisheries Commission and a copy thereof be furnished to the Honorable John Dingell with copies being sent to the other members of the House Committee of Merchant Marine and Fisheries, to the Congressional Delegation of

of each State, to the Governors and Commission members of each of the Gulf States, and to the Secretary of the Interior.

The Motion for the adoption of the foregoing resolution was made by Dr. Lyle St. Amant, seconded by J.Y. Christmas; and unanimously adopted by the Special Committee of the Estuarine Technical Coordinating Committee at a luncheon meeting on March 16, 1967, and referred to Dr. Theo. B. Ford, Chairman, Estuarine Technical Coordinating Committee, for presentation to the meeting of the Gulf States Marine Fisheries Commission for its adoption."

Attest: /s/ Johnnie Crance /s/ Terry Leary, Chairman
Special Committee

RESOLUTION

WHEREAS, the Gulf States Marine Fisheries Commission is of the opinion this same resolution be adopted by this Commission.

NOW, THEREFORE, BE IT RESOLVED that the foregoing resolution as adopted by the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission be and the same is hereby adopted. The motion for adoption of this resolution was made by Richard P. Guidry and seconded by Dr. Lyle St. Amant (proxie for Dr. Leslie Glasgow).

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

WHEREAS, the fishing fleets of member states of the Gulf States Marine Fisheries Commission, in the course of their regular business operations encounter difficulties with vessels conducting geophysical operations in their regular course of business; and,

WHEREAS, these same fishing fleets regularly man the waters of the Gulf of Mexico and in connection with such trawling operations encounter sea floor obstructions in and around the fishing grounds located in said waters, for their business operations.

NOW, THEREFORE, BE IT RESOLVED that the Gulf States Marine Fisheries Commission request an Advisory Panel be created by the Regional Oil and Gas Supervisor, Gulf Coast Region, United States Department of the Interior, and composed of representatives of the full range of interests concerned with fishing operations in the aforesaid waters, including representatives of the fish and shellfish industries; and

BE IT FURTHER RESOLVED that action be taken to protect all navigable interests in the outer continental shelf of the Gulf Coast area.

* * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries
Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission request the Department of the Interior, Fish and Wildlife Service, Bureau of Commercial Fisheries is urged to take note of the great potential existing in the Gulf of Mexico for fish Protein Concentrate production by beginning at once a systematic technological study, species by species of the indigenous fishes of the Gulf that offer the best promise for this use.

BE IT FURTHER RESOLVED that an appropriate number of pilot plants be constructed in the area at the earliest possible date to take advantage of the acknowledged potential

BE IT FURTHER RESOLVED that copies of this resolution be transmitted to the members of the House Committee on Merchants Marine and Fisheries, and the Congressional Delegations of the States of Alabama, Florida, Louisiana, Mississippi and Texas.

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The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries
Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its sincere appreciation to the Texas Parks and Wildlife Department for the most cordial hospitality extended upon the occasion of the March 16-17, 1967 meeting of the body at Brownsville, Texas; and,

BE IT FURTHER RESOLVED that this Commission is particularly appreciative of the excellent transportation provided by the law enforcement personnel of the Department.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission Meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED that the Commissioners and Staff of the Gulf States Marine Fisheries Commission express to the Texas Shrimp Association and the Brownsville-Port Isabel Shrimp Producers Association their most sincere appreciation for the enjoyable Ladies' Tour and Luncheon and the very lovely Reception and Buffet tendered them and delegates during the course of the March 16-17, 1967 meeting at Brownsville, Texas; and,

BE IT FURTHER RESOLVED that the Commission's gratitude be expressed to Mr. Oscar Longnecker for his most valued assistance in perfecting meeting arrangements and to Mrs. Irma Cantu for her excellent handling of registrations.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its sincere appreciation to the management and staff of The Fort Brown Motor Hotel for the cordial hospitality and splendid food and service enjoyed by the group on the occasion of the March 16-17, 1967 meeting of this Commission at Brownsville, Texas.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at The Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

COPY

GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"WELCOMING ADDRESS"

Honorable John L. Hill, Secretary of State
State of Texas

Those who traveled the length of our Texas coast from the Louisiana border to Brownsville can attest to the extent of our coastline which is about 380 miles long. We have 2,200 square miles of bays and estuaries and another 3,900 square miles of Gulf of Mexico waters within the state's jurisdiction. We are a coastal state with all of the resources of sea and many of the accompanying problems.

We are fortunate to have a thriving commercial fishing industry which produces over 90 million dollars worth of seafood and manufactured fishery products. Our submerged lands contain a wealth of oil and gas which contribute substantially to the public shcool fund.

Because of the low cost of water transportation and the availability of petroleum, the Texas Gulf coast is experiencing a rapid industrial development. Approximately 75 per cent of our 10 million people now live within a 4½ hour drive to the coast.

Recreation has become another of our major coastal resources. To provide the necessary facilities for the 800,000 Texans who fish in saltwater and the 6 million vacationing our of state visitors, resort complexes are developing, where marsh existed a few years ago.

This rapid development of our coast line has complicated the here-to-fore rather simple management of our bays. Multiple use management must now consider the expansion and maintenance of waterways for the increased vessel traffic, the drilling of wells and laying of pipelines, the construction of causeways and roads, bulkheading of shorelines, and the filling of marshlands. The need for developing all of the fresh water resources of the State will necessarily reduce the flow of the rivers to the bays, while industrial and residential expansion along the shore increase the possibility of pollution.

We know the bays provide a unique and essential habitat for many of our salt water species. Our marine scientists have determined that shrimp, crabs, menhaden, and most of our popular food and sport fishes are dependent on an estuarine environment for a portion of their life cycle. We recognize that unregulated and haphazard development without regard to the effects to the habitat of the marine fisheries and feeding grounds of waterfowl can destroy vast areas of productive water bottoms.

It was only a few years ago that marsh lands were considered by most of our citizens to be vast wastelands of little value. Any drop of fresh water that reached the bays were deemed to be wasted. Little consideration was given to wildlife and fishery requirements in the planning for water development.

However, through the work of our conservation people and through such groups as the Gulf States Marine Fisheries Commission, information about the importance of these valuable areas has been provided. Our people have begun to become aware of the problems and of the need for action.

Our State is interested in promoting our fishing industry. Two bills of special interest to the industry are currently being considered. A bill to permit the use of the electro shrimp trawl as developed by the Bureau of Commercial Fisheries has passed the House. The other bill currently being considered in the House is one which would authorize the Parks and Wildlife Department to establish a Seafood Marketing program similar to the successful program proven by our collegues in Florida. Increasing the efficiency of the fisherman and developing new and better markets for fishery products, will strengthen the industry and bring more revenue to the coastal areas.

The Parks and Wildlife Department has also met the challenge of times. The department is in the final stage of purchasing a 40 acre site on Matagorda Bay near Palacios to be used for the location of a saltwater pond experiment station. The station will be used for research purposes to compliment the field studies now being conducted. The department has just this week received delivery of its Gulf research vessel, The Western Gulf. I understand the vessel is to be here in Brownsville today and will be available for viewing. Both the experiment station and the vessel are products of the Federal Aid to Commercial Fisheries Research and Development Program.

With the new Gulf research vessel, our Parks and Wildlife Department will be equipped to monitor the fishery resources of the Gulf Shelf. Our state jurisdiction extends three marine leagues or nine marine miles. The recent Congressional passage of PL 89-658 extended our national fishery zone to twelve marine miles.

Questions have naturally arisen concerning the status of fishery regulations between the nine and the twelve mile limits. What fishing regulations are to be observed within this three mile bend? What licenses, if any, are required by fishermen? What agencies are to enforce the regulations?

Our offshore shrimp season will soon begin and our fishermen would like the answers. We understand that the United States Attorney General has been advised of the problem. It is in matters such as this that our compact of states with a common interest can serve most effectively.

We feel that while our problems are increasing with the development of our coastal region the responsibilities of the State must increase correspondly to provide guidance and management of its resources. It is especially gratifying to have the leaders and scientists of the Gulf States' fisheries with us today to discuss our common efforts. The association of our own five States together with representation from our Federal Government has formed the basis for a successful and progressive compact. It is a pleasure to be able to welcome you to Texas.

(COPY)

GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"MANDATORY INSPECTION OF FISHERY PRODUCTS:

R.T. Whiteleather, Deputy Regional Director
Bureau of Commercial Fisheries
St. Petersburg Beach, Florida

Federal inspection of fishery products is not mandatory at present. However, the Bureau of Commercial Fisheries has had a voluntary fishery products inspection program in effect for a decade. The voluntary service, sustained by a cost assessment to the plants subscribing to it, has been successful in assisting plants in the production of uniform high quality fishery products under exacting operating conditions. There are some complications, particularly in relation to smaller plants, in further extending the scope of the voluntary program. For that reason, thought has been given to "across the board" mandatory federal inspection. In the past year or two, there has been more deliberation on the question of mandatory inspection of all types of fishery products destined for U.S. markets than at any time heretofore. Pursuance of this subject within the industry, government agencies, and various trade association groups has been a rather common occurrence. Points of view, pro and con, are not hard to find, depending upon who is doing the expressing and where it is being done. On balance, however, there does appear to be some inclination toward a kind of mandatory inspection which would aid the industry in more dynamic marketing of fishery commodities and likewise benefit the consumer. This might be a good time to say that the Bureau of Commercial Fisheries is not campaigning for a mandatory inspection service, but, as a federal agency responsible for assistance to the fishing industry, it would be remiss in not examining and evaluating all aspects of such service.

Perhaps the most positive step forward was taken by Senator Hart of Michigan in the second session of the 89th Congress when he introduced S-3922 to provide for mandatory inspection of fish and fishery products by the Department of the Interior. The bill was introduced in October 1966, late in the session, and it did not come to a hearing. It did, however, provoke some thinking about the ramifications of a national inspection service. In introducing it, the Senator urged the commercial fishing industry and the U.S. Department of the Interior to study it very carefully so that the best possible legislation might be developed for congressional consideration when the 90th Congress convened.

The Hart bill is quite broad. It concerns principally the areas of

health, hygienic and economic safeguards for the benefit of the consumer. In this respect, all domestically produced and imported edible fish and shellfish designated for sale in interstate commerce and/or in major marketing areas would be inspected. Products found to be unsuitable for human food would be condemmed and destroyed. Minimum productsstandards of quality and wholesomeness would be established so as to prevent spoiled products reaching the consumer. The economic safeguard for the consumer's benefit would cover both the product and the manner in which it is labeled. Each fish producing establishment would be subject to inspection, and no establishment could process fish for commerce unless it complied with the Act. Also, no fish could be imported unless it met the requirements of the Act, and, after being imported, it would be treated under the Act in the same way as domestic fish. The bill provided stiff penalties for violations, and repetition of violations could cause loss of registration for plant operation.

The Senator wrote two extremely interesting provisions into this bill. One stated that for the purpose of preventing burdens on commerce in fish and fishery products the jurisdiction of the Secretary of the Interior within the scope of the Act shall be exclusive, and products covered under it would be exempt from the provisions of the Federal Food, Drug, and Cosmetic Act to the extent of the application of the provisions of the Inspection Act. The second is a provision whereby the Secretary can, under certain conditions, apply the Act to fish or fishery products processed or consumed in a major consuming area where this would tend to effectuate the purposes of the Act. Finally, a period of not less than three years was provided for the purpose of developing regulations and conducting federal advisory services designed to facilitate industry compliance with the initial requirements.

Our Bureau staff has made a careful study of this bill and of other mandatory inspection programs, especially the one currently existing in Canada. Several meetings have been held with Canadian officials to become familiar with the mechanics of their program and its effectiveness so as to be able to give Senator Hart the best consultation possible in the drafting of a new bill for consideration in the present session of Congress. A review of over 70 years of voluntary and mandatory inspection of Canadian fishery products indicated that their type of program might better facilitate meeting the purposes of inspection in our country than the service provided in the bill introduced in Congress last year.

Harry Dempsey, the director of the Canadian Inspection Service, pointed out, however, that a program and its organization are not easily and quickly accomplished. The Canadians first made a national survey of all fish handling, processing, and storage establishments, numbering over 600, to define the existing environment of production, its deficiencies, and corrective measures required. Next was an assessment

10. Regulations would be developed in the course of this program to cover imported fishery products so as not to place domestic producers at an unwarranted disadvantage.

The Bureau considers that implementation of this type of program would require a 3-phase chronological procedure generally in accordance with the Canadian inspection philosophy:

1. Preparatory period which would be completed three years from enactment of the legislation.

2. Implementation of the mandatory requirements on a federally financed voluntary basis by those plants so desiring for a 3-year period, commencing three years after enactment of the legislation.

3. Implementation and operation of mandatory inspection program across the board six years from the date of enactment of the legislation.

If, and when, a bill is introduced, our Bureau, in conformance with usual procedure, will be asked to make a legislative report on it. So far, the Bureau has taken no position and probably will not establish a position until proposed legislation has been introduced and studied. It would be our hope that such an inspection program would not be a policing type solely, but that it would work to the benefit of all concerned, industry and consumer alike. Assistance and counselling would be given industry by inspectors in overcoming any problems that might stand in the way of production of fishery commodities of the highest possible quality. Our Bureau director has stated that it is immaterial whether the Bureau of Commercial Fisheries or some other federal agency is charged with the responsibility for operating a mandatory fisheries inspection program so long as there is assurance that the American consumer will receive the finest fishery products.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"OIL OPERATIONS IN THE GULF"

Robert F. Evans
Regional Oil and Gas Supervisor
Gulf Coast Region
U.S. Department of Interior
New Orleans, Louisiana

Mr. Chairman, Director Colson, distinguished members, guests, and visitors. It is a pleasure to meet with you and bring you information concerning our organization and operation of the Gulf Coast Regional Office. As introduced to you, I am Regional Supervisor for the Gulf Coast Region and am responsible for the supervision of operations, within the Region, for the exploration, development, and production of oil, gas, and sulphur in the Outer Continental Shelf and oil and gas operations on onshore public domain.

By way of a brief explanation as to our organization, the Continental United States is divided into seven regions with a regional supervisor in charge of each region. The Gulf Coast Region encompasses all of the OCS lands in the Gulf of Mexico from Florida to the boundary between Mexico and the United States, and the Atlantic side of Florida. It also includes portions of onshore areas of the states of Texas, Louisiana, Mississippi, Alabama, and Florida. The northern boundary line of the region is roughly the 31st parallel southward and approximately the southeastern quarter of the State of Texas. There is, however, very little public domain land within the southwestern portion of the United States so, therefore, our activity is confined mainly to the OCS area.

The Regional Supervisor has at his disposal Petroleum Engineers, Geologist, Engineering Technicains, and Accountants. The accounting section of our organization is responsible for the collection of rentals and royalties of oil, gas, sulphur, and salt operations in this area. To give you a general idea of the amount of money generated from this area, we take in approximately $13 million a month in rentals and royalties. This is roughly $150 million a year from this industry. Our main activity in the OCS is primarily offshore from Louisianz, although there is some activity off Texas.

There have been various Acts of Congress passed which are related to the mining and mineral industry for both onshore public lands and the offshore OCS lands. These Acts of Congress, in general, have delegated the supervision to the Secretary of the Interior. He, in turn, has re-delegated portions of his authority down through the Geological Survey to the Branch of Oil and Gas Operations of the Conservation Division. Much of this authority has been delegated to and is administered by the Regional Oil and Gas

Supervisors. To implement these various Acts of Congress, the Secretary has also provided regulations concerning operations on both the Outer Continental Shelf and the onshore public domain lands.

The oil industry has enjoyed a great deal of growth since the first part of the century and in its growth it has developed many problems that it has had to solve both onshore and more recently in the offshore areas. Some of the problems in the onshore area are problems connected with surface land owners, ranchers, forestry lands, water basins, Indian tribal lands, and many others. In the offshore area, there have been problems concerned with the shipping industry and now we have had problems arising with the fishing industry.

I would like to digress a few moments to point out some of the similarities and dis-similarities between onshore and offshore oil and gas operations. The location made for a well onshore requires a civil engineer, registered by the state, to survey a location from known section corners or known boundary points, drive a stake, and then the road contractor builds his road and location in order that they can move in a rig. The offshore areasrequires highly sophisticated surveying techniques to survey in the location and drop a buoy. This has to be done from aerial and surface surveys. There are no road locations to make but then you have to move in your rig which requires the use of tugs, barges, and various supporting equipment. The drilling of a well onshore is very standard. The hole is drilled and the well is cased with casing and cement. In the offshore area, the drilling equipment is practically identical with the onshore drilling equipment. The main difference is in the supporting equipment. Offshore a platform is required to support the rig. This can be done either with a floating vessel, a movable vessel made temporarily stationary or, perhaps, a permanent platform. The offshore rig requires a great deal of support equipment and many more safety devices because the men and equipment are isolated and have to depend upon helicopters or boats to supply their needs. There are also weather problems that enter into the offshore that we don't encounter inland--for example, the hurricanes. The spacing locations for the wells, that is the subsurface location for the wells, is very similar both for onshore and offshore. The only difference is that offshore, generally speaking, the surface locations are at the platform. You have a concentration of wells on anplatform--12, 16, perhaps more. The bottom hole locations of the wells are quite a distance from the platform since they are directionally drilled. This also increases the cost of these wells.

We have to cooperate very closely with all the various interests groups--all the Federal and state agencies involved and the industries themselves, including the supporting industries. We find that right at the present time we have two problem areas between the oil industry and fishing industry, that we are aware of and are concerned about, and to which we are trying to find a solution. The two problem areas are geophysical operations performed by either contract companies or the oil companies themselves and our underwater well completions or underwater casing stubs that stick up above the mud line and yet are below the surface of the water and are not marked.

Before progressing into the actual problem areas of geophysical operations, I think that I should review the legislative and legal aspects of the operation. By Act of Congress, Public Law 212, known as the OCS Lands Act, geological and geophysical operations conducted in the OCS was delegated to the Secretary of the Interior. He, in turn, has adopted the state regulations in the Gulf of Mexico as being applicable to the OCS. These are formal agreements made by the Secretary of the Interior with each state adjacent to the Gulf of Mexico except Mississippi. The formal agreement between the State of Texas was made September 22, 1953, with Louisiana March 23, 1954, with Alabama August 25, 1958, and with Florida on March 27, 1956. The Secretary has also provided regulations concerning the approval of certain of these operations in Title 43 Code of Federal Regulations, Part 3387.4-4. The formal agreements with these various states have also provided a means for the Secretary to accept the assistance of the adjoining states in the enforcement of these regulations. It is my understanding the reason we have no formal arrangement with the State of Mississippi is that they do not have geophysical regulations that are applicable to the offshore area. There are also less formal agreements with the various states for the actual working arrangements between the states in the coordination of our activities concerning seismic operations. The Corps of Engineers and the Coast Guard regulations are also applicable in many instances. I wish to emphasize that the state enforces the regulations off their state on both Federal and state waters and we provide permits on only the Federal waters. Offshore Mississippi we provide the requirements that are necessary for what operations are being conducted there.

The problem connected with seismic operations is that both the fishing industry and the geophysical companies want to operate in the same area at the same time. The problem of both industries wanting to operate at the same time in the same area has caused me to try and find out what times of the year you operated and the heaviest concentration of your activity both from a location standpoint and from a time standpoint. I have had to turn to Mr. George Snow, whom many of you know, of the Bureau of Commercial Fisheries in New Orleans. He has provided me a map such as this one of offshore Texas, that indicates by the shaded portion, the area of shrimping activity. Incidently, this area coincides with the area of greatest interest to the oil industry. Now you will note on this particular map that it shows some graphs concerning the various areas. This information shows me that in the area of primary interest your activity period commences in June, reaches a very high point during August and September, and then begins to taper off until about December and then you have little activity in this area from January to June. With this information, I can then try to plan explorationsactivities. My recommendations will now be geared to having lease sales at such times that the geophysical activity preceding the lease sale is conducted when your industry is at its lowest period of interest. In other words, we will try and schedule a lease sale where there will be less geophysical activity during your periods of greatest fishing activity and have seismic activity increase when your activities have decreased. This is one method of trying to cut down on interference between the two industries. We have other thoughts in that perhaps we will have to limit seismic operations in certain areas during

certain periods of time, or perhaps even forbidding seismic activity in certain areas. These are things that will have to be worked out on an individual basis, but for right now we are trying to gear our lease sale activity to where there will be the least interference as is possible.

This map of Louisiana also shows the areas of shrimping activity and we have tried to schedule the Louisiana sale, that will probably be coming up some time this summer, to where there will be the least interference with the shrimping industry in this area. This map doesn't have the activity graphs on it, however, it does show with other information provided by Mr. Snow, that the activity period commences in these shaded areas during June and then tapers off during the month of August. Therefore, we want to have any lease sale offshore Louisiana to where it won't interfere with your shrimping season during this period of time.

We also have another problem that is perhaps, getting to be somewhat minor now. This is the problem of floating charges. Hopefully, it is not a big problem now although it was a major problem just a short while ago. Floating charges have been a very serious threat and, to some extent, still are. The various state agencies, the Coast Guard, the oil industry itself, the geophysical companies, the powder companies, and ourselves, have all been working in various ways to try and solve this problem. I have recently received communicatinn through our West Coast Regional Office that the country of Norway has apparently been using a detonator that becomes deactivated after two hours in the water. We just recently received this information and are passing it along to the Offshore Operators Committee for evaluation. We don't know whether this will be of any value or not. It will have to be checked out but if it doesn't work than we will have to try something else. We are working on this particular problem.

Now we come to the question of underwater well completions, well stubs or whatever you might call them. These wells currently number some 130to140 in the Gulf. They are pieces of casing that stick up above the mud line some 5 to 50 feet yet they are below the surface of the water and are not marked by any buoy markers. They are not a threat to navigation. Now I want to explain to you that all wells that are dry, that are non-productive, unless there is some very special occasion, are required to be plugged with cement, and cutoff below the mud line and the location cleared immediately. These wells that we are talking about that stick up above the mud line and are not marked are productive wells or they can be made productive. However, they are plugged just like an abandoned well. The only difference is that they are left in a condition for re-entry and to be put on production in the future. So there is no danger of them blowing out in case you should hook on to one and pull it over. It is highly unlikely that you would but, in the event that you should, there is no danger to you from that aspect because they are all plugged. These wells have to be left in this condition at this time because of our technical advancement and for economic reasons. For example, a great number of the wells are gas wells and there is a lack of market facilities pipelines to bring the gas to shore. Other wells are temporarily

plugged in this manner while a platform is being constructed to move on the location at which time the well will be completed and tied in to the surface platform. For vaious reasons we are going to have a certain amount of this type of well for quite a while to come. Some of them are being completed every month. There will be a turnover in these probably 5 to 6 a month.

We have, as a stop-gap measure, provided a list of the location of these wells giving you the various information about the well and how far it sticks up above the mud line, the footage location, the block, and the area. We have made up this list and keep it up monthly. We provide this information and give it to George Snow. He in turn has his men pass it out to the actual vessel operators. This isn't the complete answer to this particular problem--it is one that we have resorted to as an expedient in that it might help some and we have had some indications that it has been of some help. However, we are going to have to continue to work on this particular problem and see if we can't find some other method of providing relief. There have been suggestions as to marking them with buoys. Well, I believe this would get it off into an area where it would concern the Coast Guard and the Corps of Engineers and industry themselves because of the cost and maintenance. Therefore, we will have to sit down and discuss this particular problem to find a solution. Referring to the map here, you will see that there are apparently some areas that are not fished, at least shrimped, at this time. Also, apparently anything beyond about the 200 foot water depth is not of concern to you right at this present time so perhaps these underwater completions that are beyond 200 foot water depths are not a particular problem to you. These are some of the things we will have to find out and discuss with one another to see what we can do about alleviating this problem. There have also been suggestions made that they be cutoff below the mud line and use an electronic device for locating the well again. We have a few like this in certain areas, however, it is my understanding that beyond a certain water depth or in a certain area the concentration of them would become a problem to the Navy from a submarine activity standpoint. So we can't just say this is an answer to it because there are other problems that enter in. There is also the possibility of forbidding cutting them off in this manner perhaps requiring that they be completed to the surface by a protective well jacket. Well, this is quite an economic problem, particularly if the company is intending to put up a regular platform in the area.

These are problems we have to sit down and work with and find an answer to, and I am sure that we will. I think we need an advisory panel from both the fishing industry and the oil industry where we can take these problems and work with them and come up with good solutions to the problems. We are very concerned about these problems that I have been discussing plus any others that I am not aware of and I think that with the cooperative attitude and an active interest in trying to solve these problems it will bear fruit. I wish to assure you of our cooperation and interest in solving thes problems and we are more than willing to discuss any possible solutions to these problems. I thank you.

(COPY)

GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"ACTIVITIES ON FLORIDA BOARD OF CONSERVATION"

Don Sweat
Marine Laboratory
Key West, Florida

I am from the Florida Board of Conservation Marine Research Laboratory located in Key West. We are a new facility, of which the majority of your are unaware, since we were not in existence at the time of your last meeting. My purpose this morning, is to tell you in general terms what we are doing in that area. I have also brought a few slides which will show you portions of our facilities and work in Key West.

The Florida Board of Conservation was given an $85,000 special appropriation by the past session of the Florida Legislature to set up a research facility in Key West, primarily to study the Florida Lobster, Panulirus argus and we opened our doors officially on June 1st of this past year following several months of construction and outfitting.

Our main purpose, of course, is to learn as much as we can about our spiny lobster, in the hopes that we can assist our commercial fishery by making scientifically based suggestions and advising on regulatory legislation.

As most of you know, raising our Florida Lobster, or crawfish, is no easy task. As a matter of fact, to this date it has been impossible.

The problem lies in rearing the larval forms between the egg and post larvae. It is no problem to hatch the eggs, but workers have been unable to solve food and filtering problems in some 40 - odd years of trying.

During the latter 1920's and early 30's, Dr. E. Lowe Pierce, from the University of Florida, attempted to raise crawfish larvae in Key West under a WPA program. In more recent years, the Japanese, who have a close relative to our crawfish, have become involved and have managed to raise the larvae through about 1/2 of the estimated 12-15 stages. The Florida Board of Conservation attempted, unsuccessfully, a rearing project during 1962-1963, and today, Robertson, at the Institute of Marine Science in Miami has kept the larvae alive for 90 days. The total number of larval stages has been estimated from plankton samples, to be 12-15 and to comprise between a 6 and 9 month period.

We are leaving the larval development to other workers and are concentrating

(Great 3#)2)

more on the post larvae. The post larvae are collected and brought into the lab when they are raised in individual, aerated one gallon aquaria. We are obtaining growth reate information, food preference and salinity data. We are also trying to develop artificaial habitats which will assist them in surviving the crucial juvenile stages of their development. Mr. Ross Witham, who heads up FBC Field Station at Stuart, has devised a floating habitat which has proved quite successful in capturing the first stage post larvae. This is the first stage in the animals development in which he is able to swim and attach himself to an object, as he is planktonic and at the mercy of the currents during his larval period.

We have developed a submissible concrete habitat which is undergoing field tests at thepresent time. Tests in the lab show promise.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
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March 16-17, 1967

"PROGRESS OF TEXAS BLUE CRAB STUDIES"

William R. More, Biologist
Texas Parks & Wildlife Department
Seabrook, Texas

Abstract

Research on the biology of the blue crab, Callinectes sapidus, in Texas waters was begun in 1962. Information on seasonal abundance, growth, movements and environmental relationships has been used to study trends in the blue crab population, while a survey of the fishery has provided information on the size of the catch and market conditions.

Studies on the availability and spawning activities of female crabs in the Gulf surf at Galveston provided information on spawning intensity. Spawning usually begins during April and peaks during June-July. Majorcrab waves were detected in the bays in June-July and October-November.

Growth studies in Galveston Bay indicated that most blue crabs will reach commercial size within one year after hatching.

Tagging studies have provided valuable information on crab movements. This work will be continued.

Introduction

The blue crab, Callinectes sapidus, supports one of the most important fisheries on the Gulf coast. Landings in 1964 totaled more than 25.5 million pounds, valued at 1.7 million dollars. This catch represented the efforts of some 700 fishermen and provided employment for many other persons in processing plants and allied industries.

Texas crab landings have increased from 206 thousand pounds in 1958 to over 3.6 million pounds in 1965. An increasing crab demand coupled with a fluctuating supply of crabs has caused much concern among ggencies studying blue crabs, seafood dealers and sportsmen. Attempts to control these fluctuations by protective legislation in the past have proven unsuccessful and management of the fishery must be based on scientific knowledge of the causes and changes in abundance (Walburg 1963).

Growth rates, rates of survival, migrations, habitat requirements, trends in seasonal abundance and status of the commercial fishery are a few of the aspects that must be understood before a management program can be applied.

(M-re # 2)

To acquire this information, biologists of the Texas Game and Fish Commission (now Parks and Wildlife Department) began, in 1962, a program designed to study the biology of the blue crab in Texas waters. Periodic standardized samples are taken in all bay systems on the Texas coast and spceial studies on crab movements and the commercial fishery have been conducted.

I have prepared a brief summary of some of these findings.

THE CRAB FISHERY

Commercial production seems to fluctuate with the availability of crabs to the fishery, rather than market conditions. A high demand, coupled with good prices, has encouraged increases in the number of fisherman, operating units nad time spent fishing. About 50 men were actively engaged in crab-pot fishing in 1966. Prices paid to the crab fishermen ranged from 6 to 10 cents per pound (live weight). Most crabbers operated from 100 to 250 crab pots. The overall catch averaged for 1965 and 1966 was 4 pounds per pot/day. The commercial fishery is concentrated on the upper Texas coast. Bays south of Aransas Bay receive little or no fishing pressure.

A two year survey of the commercial fishery in Galveston Bay revealed:
(1) The sex rationof the catch baried with the season and was dependent on the area fished. The more active female crabs composed the bulk of the catch during winter and spring and fishing was concentrated in lower bay areas where they were most available. Male crabs were more numerous in catches from the upper bay, which receives the bulk of commercial fishing pressure from April through November.

(2) Seasonal variation in catches can be attributed to crab migrations into and out of certain areas. For example, the commercial catch from December-March in middle and lower Galveston Bay is influenced by movements of newly matured female crabs into these areas in late fall and early winter prior to egg development. These so called "overwintering" female crabs composed the bulk of the catch during this period. When the water temperature rises above 68°F in the spring, these crabs develop sponges (egg masses) and move into the Gulf of Mexico to spawn. They are replaced by a second group of female crabs that mate in spring and migrate into the area in summer. By August, most of these crabs (second group) have moved into the Gulf of Mexico and the commercial catch drops considerably due to the scarcity of female crabs.

(3) Crabs between 6-7 1/2 inches (carapace width) composed 85% of the commercial catches examined. Only 2% of the crabs were less than 5 inches in carapace width.

(4) Catch per effort was lowest in January and highest in June and November; total effort was greatest in May and June.

(5) Catches were reduced considerably in the spring of 1966, when commerdial crabbers were prohibited from taking egg bearing crabs by a new "sponge crab" law passed by the state legislature in1965.

After studying 13 generations of blue crabs in Chesapeake Bay, Pearson (1948) found no correlation between the relative abundance of adult female crabs and their progency. Pearson concluded that "the size of the spawning stock has not determined the size of the population of crabs surviving to commercial age." However, he also noted that it was possible that the spawning population could be reduced to a level at which the scarcity of spawners could become the dominant factor in limiting natural reproduction. At the current rate of fishing, blue crabs in Texas bays do not appear to be over-fished and there is no apparent paucity of spawners, therefore protective legislation in the form of a sponge crab law may not be necessary.

GULF SURF AND PASS STUDIES

Quantitative plankton samples collected in seven gulf passes to major bays during 1965 failed to establish a clear relationship between the number of megalops entering the bay and the subsequent juvenile crab abundance in nursery areas. Seasonal patterns of availability varied from bay to bay, but the largest catches were made in spring and summer. Similar patterns of availability were reported in Louisiana by Darnell (1959), and were substantiated by studies of maturity stages of female crabs sampled in the gulf surf at Galveston. This study showed that spawning commenced in early April and reached a peak during June and July. After Augustl, few crabs were taken in the surf and most of those taken were either crabs bearing a second sponge or were spent. Following the hatching of the second sponge, female crabs do not normally return to the bay, but remain in the gulf where they presumably die soon afterwards.

BAY STUDIES

Routine sampling with fine-mesh trawls, bat seines and haul seines was conducted in all bay systems on the coast to study the availability trends, distribution, environemetal relationships and growth of blue crabs. Small blue crabs (1/4 to3/4 inches) are present during all months, but peaks in availability are recorded during fall and winter. Major waves ofcrabs are normally detected in June-July and October-November. The small crabs grow rapidly and a crab 1/9 inch wide will reach commercial size (5 inches) in about 8 months. The larval life of a crab lasts about 2 months, therefore, the total time from hatching to commercial size takes about 10 months. Crabs in a wide range of sizes in spring and summer can all be expected to be of commercial size by about September. Small crabs (below 3 inches) hatched during the late summer and fall continue to molt throughout the winter, even at low water temperatures. Crabs larger than three inches are less active and normally bury up and do not grow during this period.

The most productive sampling stations in Galveston, Matagorda aand San Antonio

Bays were in tidal marshes, rivers, bayous, creeks and areas adjacent to freshwater drainage. Most of these stations were characterized by low salinities and soft mud, silty clay or sandy clay bottom. Distribution of small crabs in the lower Laguna Madre, Corpus Christi and Aransas Bays seemed to be influenced by bottom type, with the largest samples being collected on soft mud bottoms.

Although immature crabs appear to be more abundant in the fresher areas of a bay sustem, a clear, inverse relationship between salinity and crab availability has not been established.

TAGGING STUDIES

The movements of sexually mature blue crabs are being determined by tagging studies in Galveston Bay. Between April 19, 1962 and July 8, 1966, 1,642 blue crabs were tagged and released in four areas of Galveston Bay and on West Galveston Beach. The overall recovery rate was 7.2% as 88 males, 20 females and 10 sponge crabs were returned.

Eighty-five per cent of the male crab tag returns were within five nautical miles of the tagging site. Movements of these crabs were random. The longest movement was about 20 miles from the release site.

Tagged female crabs demonstrated a southward movement into the lower bay and Gulf of Mexico. These movements were correlated with sexual development. More information on migrating female crabs is needed.

Tagging studies to determine migrations of sponge crabs and what happens to these crabs after spawning will be started in the spring of 1967. This will involve an expansion of the tagging program.

BIOLOGICAL CONSIDERATIONS

Eventually, we hope that a relationship between juvenile crab abundance and the subsequent abundance of adult crabs can be established. If a relationship does exist, it may be possible to make catch predictions. The catch per unit effort based on sampling data provides an index of the relative abundance of juvenile crabs, but before we can make predictions we must first understand the effects of changing environmental conditions on crab populations.

The sampling of commercial catches helps monitor the availability of crabs to the fishery, but detailed statistics of commercial operations, including reliabale catch per effort data and changes in the amount of fishing, are necessary to determine real changes in the abundance of commercial sized crabs.

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GULF STATES MARINE FISHERIES COMMISSION
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"PROGRESS REPORT OF ESTUARINE COMMITTEE"

Chiirman, Ted. B. Ford
Chief, Division of Oysters, Water Bottom
and Seafoof
Louisiana Wild Life & Fisheries
New Orleans, La.

Dr. Ford reported having held a committee meeting, Wednesday, March 15th at the Fort Brown Motor Hotel in conjunction with the regular meeting of the Gulf States Marine Fisheries Commission.

The committee is expected to let bids shortly for the production of the Estuarine film and that a committee comprised of one man from each participating state of the Estuarine Technical Coordinating Committee and the director of the Gulf State Marine Fisheries Commission would be formed to work with the Bureau of Commercial Fisheries in regrrd to producing the film.

It was suggested at this meeting a uniform set of criteria of all data collected be used in the study to develop the estuarine inventory.

A special committee was named to meet during this session to study House Bill 25 dealing with estuarines and deliver an opinion to the Chairman for recommendation to the Gulf States Estuarine Committee meeting.

It was announced that the next committee meeting is to be held in New Orleans tentatively set for May 15th.

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"SHRIMP POND GROWTH"

Harold L. Cook
Bureau of Commercial Fisheries
Galveston, Texas

Recent developments in shrimp culture at the Galveston Biological Laboratory were discussed. A reliable method has been developed to culture small numbers of shrimp larvae. Brown, white, and pink shrimp and seabobs, the four most important kinds of shrimp in the south Atlantic and Gulf of Mexico have been reared from eggs spawned in the laboratory. Sufficient numbers of white shrimp were reared to stock a 1/9-acre experimental pond. These shrimp grew very rapidly for a 5-week period. They were not fed, but the pond water had been fertilized. The immediate problems to solve relate to obtaining cheap food for the shrimp.

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GULF STATES MARINE FISHERIES COMMISSION
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"LIQUID NITROGEN FREEZING IN THE SHRIMP INDUSTRY"

J.T. Sills, Product Manager
CRYO-QUICK- Air Products and Chemicals Inc.
Allentown, Pennsylvania

Today there are many commercial applications of liquid nitrogen to the freezing of shell fish products, and several of these applications are for P&D IQF shrimp. The larger sized processors freeze several thousand pounds of shrimp per day. In one operation, P&D shrimp are conveyed from a slush ice tank to the bedding table (Fig. 3) of a large tunnel freezer. The shrimp are bedded on the table in their normal cruciform shape such that 50% to 60% of the continuous stainless steel mesh belt is covered by the shrimp itself. The shrimp pass down the tunnel (Fig. 4), in countercurrent flow to the nitrogen gas, in intimate contact with the gas, being cooled by the gas as they approach the liquid nitrogen spray zone. The chilled shrimp pass through the spray and, being much warmer than -320°F., cause the liquid in the spray to vaporize to nitrogen gas at -320°F. The nitrogen gas is caused to move toward the feed end of the tunnel, being warmed by the incoming shrimp and removing heat from the shrimp, effecting the freezing. The completely frozen shrimp leave the spray and enter an "equilibration zone" where the much colder surface of the shrimp equalizes in temperature against the warmer core, permitting the shrimp to leave the tunnel (Fig. 5) at -40° to -50°F., depending upon the size of the shrimp. The subcooled shrimp then may enter a glazing tank where, in a predetermined controlled time period, a desired amount of glaze per pound of shrimp can be picked up on the shrimp. The refrigeration to freeze the glaze comes from the shrimp itself, raising the average temperature of the glazed shrimp to a more reasonable "frozen temperature".

The liquid nitrogen used by the freezing tunnel is stored in a 20,000 gallon vacuum-insulated storage tank (Fig. 7) located just outside the wall from the freezer. The liquid can be delivered in 15,000 gallon vacuum-insulated railroad cars or over the road tank trailer trucks (Fig. 9), and is delivered on a routine basis.

THE ECONOMICS OF LIN-FREEZING

Some of the advantages of LIN-freezing over conventional blast-tunnel or blast-room freezing are the following:

1. lower initial capital investment for equipment
2. less operating labor required
3. less maintenance
4. less product dehydration and drip loss

5. less product deterioration--oxidative, enzymatic, bacteriological
6. better product appearance
7. improved product keeping qualities
8. less space requirements
9. greater equipment flexibility

1. Investment

A LIN-freezing system can cost significantly less than a conventional blast freezer of the same production capability. The conventional blast freezer has not only the freezing cabinet or tunnel, but also all of the high-side (compressors and coolers and condensers to reliquefy and subcool refrigerant) refrigeration equipment and associated recirculation piping. The cabinet also has considerable connected horsepower and associated switch gear. In contrast, the liquid nitrogen freezer is smaller, has far less connected horsepower and switch gear, and has no high-side equipment. The vacuum jacketed storage tank for LIN, which essentially replaces the high-side equipment, is owned, installed and maintained by the gas supplier.

Investment cost for a LIN system is of the order of one-fourth that of a grass roots conventional system, and one-half that of an incremental conventional system tied into existing high-side equipment.

2. Operating Labor

LIN-freezing can be fully conveyorized, in-line, continuous freezing system. Starting with automatic feeders to properly bed the belt and ending with automatic weighing, packaging and boxing equipment, product can be bedded, frozen, packaged and moved into refrigerated holding rooms in as little as 15 minutes of total exposure. Productivity per manhour may be greatly increased. While such conveyorized handling also is characteristic of conventional blast freezing equipment, freezing time and thus total processing time is significantly longer than with nitrogen freezing. Productivity per manhour is commensurately greater. Freezing in blast rooms or cold rooms is characterized by considerable manual handling and rehandling, and by significant cost for repair and maintenance of the manually operated equipment.

3. Maintenance

LIN-freezing tunnels are inordinately simple in design and construction. There is a minimum of moving parts--a few fans and belt drives. As pointed out above, there is no high-side equipment. And maintenanc of high-side equipment is a major cost in conventional freezing. "High-side" maintenance in LIN-freezing is borne by the gas supplier at his liquid nitrogen producing facility and at the storage tank. It has been estimated by a knowledgeable and experienced leader in custom food freezing that maintenance costs are of the order of one-tenth that of conventional systems.

4. Dehydration and Drip Loss

(Sills #3)

A significant cost to the freezing processor of shrimp can be yield loss, primarily caused by dehydration during freezing. In conventional blast tunnel and blast-room freezing of shrimp, dehydration can be as high as 5%. For high-priced food products such as shrimp, dehydration loss can cost the processor as much as 5 cents per pound of frozen product. Such dehydration results from chilled air (Fig. 10) circulating through the blast tunnel, unsaturated with regard to moisture at the exit temperature, becoming saturated upon contacting the shrimp and giving up this picked-up moisture as frost on the external chilling coils. These chilling coils cool the air blast and simultaneously unsaturate the air (relative to tunnel exit temperature) permitting the recirculating air to pick up moisture from the product on each pass across the shrimp. When one considers that a given parcel of air can contact shrimp up to 100 times in the course of travel of the shrimp through the freezing process, high levels of dehydration are obviously possible even for air at 30° to 40°F. below zero.

In contrast, nitrogen freezing (Fig. 11) is characterized by negligible dehydration. The liquid nitrogen, vaporized upon contact with the food, is caused to work its way down the tunnel in intimate contact with the food. The nitrogen, however, never leaves the tunnel until its work is done and, in properly designed tunnels, gives up little of its accepted moisture to cooler surfaces. The maximum moisture pickup by the nitrogen (and thus the maximum dehydration of the product) is, in this instance, that amount of moisture just sufficient to saturate the nitrogen gas at the temperature of the exhaust-say 10° to 20°F. above zero. This is a very small amount of moisture.

At the P&D IQF freezing operation referred to previously, 1400 pounds per hour of nitrogen is vaporized. This produces only 300 SCFM of nitrogen gas. At 20°F., each standard cubic foot of nitrogen can only accomodate 0.00016 pounds of water per pound of shrimp, or 0.25% dehydration (Fig. 12). This is a 99.75% yield during freezing. This is to be compared with an experienced loss of 4% to 5% in previously used conventional blast freezing.

Drip loss is the weeping of frozen shrimp upon being thawed. Drip loss is caused largely if not entirely by large ice crystals which penetrate cell walls permitting cellular moisture to drain into intercellular space and then to waste. Nearly all the moisture in foods is contained within the cells. Rupturing of these cells permits the moisture to drain away, carrying dissolved food constituents, flavor constituents and nutrients. Further, much of taste is determined by texture, and texture is related to moisture content. No product of less than natural moisture content tastes like fresh food. The importance of little or no drip loss on the quality of thawed foods cannot be overemphasized.

For conventional freezing, aside from the dehydration discussed above with its adverse effect upon texture and taste, drip loss is often on the order of 3% or more. This drip loss results from the large ice crystals which form during <u>slow</u> freezing. With liquid nitrogen freezing, the freezing is done so rapidly that the ice crystals are extremely small, sometimes having negligible

crystallinity. Minimal rupturing of cell walls, results, and no drip loss occurs upon thawing.

Dehydration and drip loss, properly recognized and accounted for in the economics of freezing, may often pay for the costs of liquid nitrogen and freezing equipment, disregarding all other factors such as increased productivity, labor savings, etc.

5. Deterioration

Deteriorative processes in foods--oxidative, bacteriological, enzymatic--all take place faster at higher temperatures. It follows that the faster food can be processed and frozen, the less deterioration of fresh qualities will take place. Liquid nitrogen freezing permits this faster processing and freezing. Another factor not to be overlooked is that aerobic bacteria cannot live in a nitrogen atmosphere. Bacteria counts are therefore reduced. The inert atmosphere, devoid of oxygen, precludes oxidative deterioration while in the tunnel, and may significantly reduce such oxidative deterioration of the frozen product.

6. Appearance

P&D IQF shrimp frozen with liquid nitrogen generally have a superior appearance than slowly frozen product. The lack of dehydration permits the shrimp to maintain its fresh bloom. The extreme rapidity with which the glaze is formed causes the glaze to be very uniform and clear, permitting the superior condition of shrimp to be readily discernible.

7. Keeping Qualities

All frozen foods are subjected to considerable abuse in cold room storage, loading, in-transit refrigeration, unloading, display, and customer handling and storage after purchase, including the all important thawing. Ice crystals tend to grow even with slight changes in temperature. The manifold variations in temperature to which frozen food is subjected between the processing freezer and the home freezer cause ice cyrstals to grow significantly, resulting in further cell damage beyond that done during the initial freezing. It follows that the smaller the ice crystals in the initial freeze, the more abuse the article can accommodate before ice crystals grow to sizes sufficient to effect significant additional damage to cell structure. Liquid nitrogen freezing provides this additional protection against abuse by heat shock.

8. Space Requirements

As mentioned above, the LIN-tunnel freezer is smaller than the cabinet or tunnel of conventional blast freezers of comparable capacity. This means less floor space and, therefore, more working room. Most important, however, is the space not needed by high-side equipment not installed--and the much less space required by maintenance people not needed--and the less space required

by a smaller operating force.

9. Greater Equipment Flexibility

Freezing with liquid nitrogen is done in a matter of a few minutes. Freezing with conventional equipment takes from several minutes to as long as several hours. Faster freezing rates mean higher production per manhour--less labor costs. A significant consideration is that a conventional freezer has a definite maximum productive capacity which cannot be exceeded without producing inadequately frozen food. A LIN-tunnel freezer has a high "reserve" of extra capacity--2 times, 3 times, 4 times nominal. Of course, liquid nitrogen consumption per pound of product increases as nominal capacity is exceeded. But one may exceed it when special circumstances dictate. This option is not available to the user of conventional freezing equipment.

There are available today several LIN-freezing tunnels of varying designs. Two representative models are vacuum-jacketed tunnels (Fig. 13) and foam insulated tunnels (Fig. 15). These tunnels may vary in production rates from several hundred pounds per hour to over two thousand pounds per hour for certain food products. Their price range is from about $20,000 to $70,000, depending on the particular unit's capacity and operating features.

ATTENDANT USES FOR NITROGEN

The use of nitrogen for other purposes in a shrimp plant may be feasible. To such techniques as inert packaging of prepared product must be added other uses such as the economic utilization of the low-level refrigeration values present in the off-gas from freezing tunnels and in-transit refrigeration of frozen products to storage, market or further processing. These supplemental uses become mandatory of consideration for the processor who is using relatively large quantities of liquid nitrogen for freezing. The significantly lower price for nitrogen which accompanies its consumption in large quantities often makes these ancillary considerations highly attractive.

The large scale use of liquid nitrogen in the shrimp industry is here. Its present application to the freezing of shrimp and shrimp products for consumer and institutional markets will undoubtedly always be the principal application. However, the economic application of liquid nitrogen to other aspects of the shrimp industry may well be significant factor in the near future.

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"WEATHER INFORMATION FOR THE GULF OF MEXICO"

Robert M. Ingle, Director of Research
Board of Conservation
State of Florida
Tallahassee, Florida

IT IS EXPECTED MR. INGLE'S PAPER WILL BE ATTACHED

TO THE MINUTES OF THE NEXT REGULAR COMMISSION MEETING.

GULF STATES MARINE FISHERIES COMMISSION
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"THE MURDER OF SILENCE"

Richard Moree, Projectionist
Texas Parks and Wildlife Department
Austin, Texas

The program, "The Murder of Silence", is unique in audio-visual presentations in that it required the usage of three 35 mm slide projectors; three, seven-foot portable screens; special electronic equipment; a trained operator and a special vehicle for transportation. There were 813 color slides, programmed to change on cue from recorded high-frequency sound signals (Three separate signals were used, one for each projector, to eliminate "bleeding" and possibility of unprogrammed changes) on a quarter-inch magnetic tape, which also carried the narration and mood music on one track. Actually, there were four tracks on the tape one for each of the high-frequency slide change tracks and one for the music and narration.

Top quality, professional color photography artistically arranged to present Texas, from the Gulf Coast to the Panhandle and from the mountainous Trans-Pecos to the Piney Woods, portrays the vastness and beauty of the Lone Star State. The presentation acknowledges the challange which accelerated urbanization of the State's population places before those responsible for providing outdoor recreational facilities to meet the needs and desires of Texans and their visitors.

The impact of the presentation lies in the panoramic presentation of many beautiful scenic and historical areas of the State in additon to the portrayal of the present usage being made of Federal, State and private outdoor recreation areas - from fishing piers to sand dunes and from ancient missions to football stadiums.

The spectacular was enjoyed by the group.

We take this occasion to thank the Texas Parks and Wildlife Department for this fine presentation.

Special thanks to J.R. Singleton, Director and Terrance R. Leary, Coastal Fisheries Coordinator for arranging this program.

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GULF STATES MARINE FISHERIES COMMISSION
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PROPOSED RESEARCH PROGRAM -OREGON II"

Francis J. Captiva, Base Fleet Supervisor
Bureau of Commercial Fisheries
Exploratory Fishing Bse
Pascagoula, Mississippi

Mr. Chairman, Commissioners, ladies and gentlemen, it gives me great pleasure to report to you that our new exploratory fishing vessel Oregon II is afloat at the Ingall's wet dock and undergoing outfitting. Hopefully, we will take delivery in time to commence work in the Gulf early in July of this year.

Oregon II's schedule for the first six months will consist of a series of short cruises on the Continental Shelf and slope areas of the northern Gulf. These cruises will combine the dual purpose of guarantee period shakedown and availability studies of pelagic and benthic fish stocks in these areas. Emphasis during this period will be placed upon resource assessment of industrial fish stocks beyond the areas presently fished by the industrial fish fleets, and limited general resource assessement of the shall shallow and deep water crustacean and food fish pppulations.

Following completion of the guarantee durvey and final acdeptance of the vessel, approximately two months will be required for the installation of eqqipment not contained in the original building contract.

By March or April 1968, the vessel will engage in a 4-point program as follows:

1. Resource Assessment - Pelagic Fishes

Over the past few years man has come to the realization that he can no longer meet the nutritional requirements of the world's millions simply through terrestrial resources. This awareness has created an increasing emphasis on the sea and its vast reservoir of available protein. However, the traditional fishery stocks and methods of harvest are still considered inadequate in supplying enough food to feed the world's growing population. Man must now ply the sea with new techniques, find new resources, and develop new products through which protein can be obtained and distributed in greater quantities.

For the sake of simplicity in outlinging our pelagic fish program, we will exclude the surface layer and recognize two fundamental regions in the marine environment; namely, the bottom (or benthis) region, and the pelagic (or midwater) region comprising everything between the bottom and the surface.

Present knowledge of bottom fishery resources is quite advanced as compared to that of the midwater region. Bottom trawling methods have undergone progressive evolution through the years and now occupy a place of prominence in regard to productivity in world fisheries. Regarding the midwater region and fishery methods, however, such knowledge is sadly lacking.

Many years ago we in exploratory fishing became aware of the vast subsurface resources of the Gulf of Mexico, but also realized that many of these would require new harvesting techniques--many of which would be entirely alien to the fishing community.

We attempted a series of limited studies on midwater pelagic fishes in 1957 to 1961, but realized our vessels, gear, winches and instrumentation were hopelessly inadequate for the job. However, our results dis show that certain species such as bumper, scad, butterfish, anchovies, mackeral, round herring, and various species of herring-like fishes were abundant in the Gulf of Mexico, and that several of these species could on occasion be harvested with minor modificatio of then present techniques. Others would require more sophisticated harvesting methods; the design, testing, and use of which were beyond the capabilities of our existing vessels. Oregon II is designed around this premise, and more important, is equipped with the built-in capability for harvesting the untapped pelagic resources of our waters.

Since we are convinced that the direction of expansion of Gulf fisheries is the development of what we term the "alternate resource" pptential, we have programmed approximately 30 percent of Oregon II's sea time over the next three years toward the assessment and harvesting of the Gulf's unutilized coastal pelagic resources. This program will undertake the development of trawl systems, winches, and monitoring instrumentation.

Starting with conventional midwater trawls, we will employ closed-circuit TV and motion picture cameras, sonar, trawl mounted electronic trawl positioners and fish counters, and diving vehicles to study not only the gear configuration and performance, but also to investigate the behavior of fish in relation to the trawl. Though we have hopes, based on our past experience, of producsing feasible harvesting techniques with modified standard gear, we may be forced to develop new harvesting methods for the commercial capture of these subsurface species.

2. Resource Assessment - Deep Water Snapper Stocks

Our second program, aimed at assessing the deeper water snapper stocks of the northern and southwestern Gulf, will be centered on the yelloweye snapper and will occupy 30 percent of Oregon II's sea time over the next three years. This species is currently harvested in the Caribbean and to a much lesser extent in the Gulf by conventional hand-lining techniques. Our decision to work on this species group is based on previous explorations with the Oregon and Silver Bay, during which we located potentially commercial stocks of the yelloweye snapper in 70 to 150 fathoms. These vessels were

also instrumental in developing operable fish trawls for harvesting snappers and other similar bottomfishes. It is our intention to re-examine fish trawls with respect to their application in deep water. Neither the Oregon nor the Silver Bay were equipped to effectively handle fish trawls nor to cope with all the ramifications inherent in their operation. Oregon II, on the other hand, will provide the versatility and capability necessary to develop efficient and effective deep water harvesting techniques for bottomfish.

We know from previous explorations, that this species occurs in the Gulf, but we have very little knowledge of its seasonal and geographical distribution. Thus, a major portion of the bottomfish cruises will be spent in fishery explorations with subsequent commercial scale harvesting trails.

3. Resource Assessment - Caribbean and Tropical Atlantic

Our exploratory work in the Caribbean and tropical Atlantic will continue with approximately 20 percent of Oregon II's sea time scheduled for these waters. Major emphasis will be placed upon exploration for, and evaluation of, the bottomfish and shrimp resources of these areas. Gear employed will include trawls, dredges, and electronic fish detection devices.

4. General Explorations and Resource Assessment - Gulf of Mexico

The remaining 20 percent of Oregon II's sea time will be programmed to provide continuing assessment of the benthic resources of the shelf and slope regions of the Gulf of Mexico. Our program will include, in addition to resource location, development of harvesting techniques and studies on the spatial and temporal distributions of commercially potential species. Many of the environmental and biological factors influencing these distributions will be monitored in order that we may gain a greater understanding of the availability of these animals with respect to commercial fishing. Species involved include royal red shrimp, deep sea crabs and scarlet prawns, hake, lobsterettes, scallops, clams, so-called industrial fish species, and others that could be used as protein source. We shall also endeavor to prepare fishing charts which delineate trawlable bottom areas.

In the interim between transference of the Oregon to Georgia and the anticipated commissioning of Oregon II, we have been concerned with interpreting our ADP faunal records on Gulf and Carribean fishery resources. For example, we have noted that in the existent Gulf industrial bottom fishery there are some 170 species which occur in the catch, many of which are discarded or underutilized--yet represent an untapped protein pool. Additionally, there is a complex faunal community that inhabits our Gulf Continental Slope, several members of which have potential for use as fish blocks.

In summary our program for Oregon II has been designed to provide greater and more specific knowledge of those resources having potential application for food and industrial purposes. It has been developed as a result of the extensive data gathered over the past 15 years on these unutilized fish stocks. The assemblage and evaluation of these data indicate that, by this work towards expansion of the Gulf fishery to include the fullest exploitation of these species, the greatest return will be realized on the research dollar.

(COPY)

GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17.1967

"MULTIPLE USES OF FISHERY STATISTICS"

George W. Snow, Regional Supervisor
Statistics & Market News
Bureau of Commercial Fisheries
New Orleans, La.

In reviewing past presentations regarding the Bureau's Branch of Fishery Statistics, I have found few instances in which the specific authority and responsibilities have been indicated. The original authority and delineation of responsibility is contained in 16 U.S.C. 744 which states, "The Director of the Fish and Wildlife Service shall prosecute investigations and inquiries*** with the view of ascertaining whether any and what diminution in the number of food fishes *** has taken place****." More explicit responsibilities are contained in PL 1024, 84th Congress (Fish and Wildlife Act of 1956) which requires the Secretary of the Interior to conduct continuing investigations, prepare and disseminate information, and make periodical reports to the public. to the President, and to Congress with respect to the following:

(1) The production and flow to market of fish and fishery products domestically produced and also those produced by foreign producers which affect the domestic fisheries.

(2) Availability and abundance and the biological requirements of the fish and wildlife resource,

(3) The competitive economic position of the various fish and fishery products with respect to each other and with respect to competitive domestic and foreign produced commodities.

(4) The collection and dissemination of statistics on commercial and sport fisheries,

Let us take a look at the methods and means by which these responsibilities are fulfilled.

As most of you know, shrimp has been the consistent dollar leader in the commercial fisheries of the nation and the Gulf States are the center of this fishery. The extensive grounds fished by the Gulf shrimp fleet and the large number of major unloading ports requires a large staff to collect and compile the types of information vital to research and business needs. At present we have fifteen one-man field stations established at major Gulf ports from Brownsville, Texas to Key West, Florida. Those present who are, or have been, active in the industry know of the work by our fishery reporting specialists in obtaining data on the volume and value of commercial fishery

landings. An aspect of our work which is not as well known is the crediting of catches to specific major waterbodies and the specific gear used in capture. This involves extensive interviewing, primarily of fisherman, but in some areas and fisheries wholesale dealers also furnish invaluable assistance with regards to these type of data. All of the data collected by our reporting specialist are channeled to either the Regional Statistical-Market News Center in New Orleans or to our Central Office in Washington for further review and compilation prior to publication.

In view of some of the inquiries we receive, it appears that the availability of statistical data is not as well known as it should be. I would like to very briefly review a few of the publications produced and disseminated in line with our responsibilities.

Probably our best known publication is the daily Fishery Products report, or "yellow sheet" as the industry knows it, which is compiled and published by our New Orleans Market News office. This report provides current information on supplies, availability and prices for fish and shellfish landed at major Gulf ports. Daily exchange of information with the New York and Chicago Market News offices enables us to publish information on the marketing conditions for shrimp in these major distribution centers. Unfortunately, we found it necessary to discontinue Market News monthly summaries in the interest of economy. Since the principal interest in these summaries was shrimp, we attempted to keep people abreast of current conditions by including our monthly Shrimp Preliminary with the daily Fishery Products report published on the 15th of each month. Most agree that this one page synopsis of Gulf landings ex-vessel prices at three major ports, cold storage holdings, and imports meets their immediate needs. Detailed shrimp data also appear in our monthly and annual Shrimp Landings bulletins and Gulf Coast Shrimp Data; the former are primarily business statistics and the latter are used extensively for research purposes. Since a listing and description of all our statistical publications would take all of my allotted time, I have prepared a listing and placed copies on the table - if you desire to receive any of these publications check the appropriate box and mail the request as indicated.

Other government agencies also furnish statistical data of great assistance to us. One of the agencies which comes most readily to mind is the Bureau of Customs which furnishes detailed vessel information collected in the course of their documenting and ad measuring duties, and also the collection of information on the quantities and types of seafoods imported to and exported from the United States. According to Bureau of Customs records, 439 vessels were issued first documents as fishing craft in the Gulf and South Atlantic States during 1966 - an increase of about 20 percent over the previous year. Of this total, 195 vessels joined the Gulf shrimp fleet and approximately 80 vessels joined the U.S. shrimp fleet fishing tn the Caribbean area and unloading catches at American owned plants in that area. These records also indicate a general trend towards steel construction. During the past year 89, or 32 percent, of the new shrimp vessels were of steel construction - during 1965 about 22 percent of the new shrimp vessels were of steel construction. These would also appear to be a trend to the use of more powerful engines - 74 percent of the

RESOLUTION

LET IT BE KNOWN that Dr. Theo. B. Ford, Chairman of the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission, came before the Commissioners of the Gulf States Marine Fisheries Commission at its regular Spring Meeting to present and recommend the adoption of the following resolution:

"RESOLUTION: WHEREAS, a special Committee of the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission does support the general purpose of H.R. 25 relative to the preservation, protection, development, and restoration of the estuarine areas of the Nation; and

WHEREAS, the Committee has not had sufficient time to consider all aspects of the bill as proposed; and

WHEREAS, the Committee finds that certain aspects of the proposed legislation are not acceptable to one or several States represented; and are objectionable; and these objections include but are not limited to powers of regulation and certain permit authorities granted to the Secretary of the Interior.

NOW, THEREFORE, BE IT RESOLVED that the Committee recommends (1) that the Gulf States Marine Fisheries Commission request the Honorable John Dingell of the House Merchant Marine and Fisheries Committee, not to report H.R. 25 out of the Committee in its present form; and (2) that the Gulf States Marine Fisheries Commission support the concept of an Estuarine Protection Act; and, (3) that the Gulf States Marine Fisheries Commission request the House Committee of Merchant Marine and Fisheries to seek the assistance of the affected States and the Secretary of the Interior in drafting a bill mutually acceptable to both the affected States and the Secretary of the Interior which will promulgate the basic concept of H.R. 25 as now proposed; and (4) that this resolution be adopted by the Gulf States Marine Fisheries Commission and a copy thereof be furnished to the Honorable John Dingell with copies being sent to the other members of the House Committee of Merchant Marine and Fisheries, to the Congressional Delegation of

of each State, to the Governors and Commission members of each of the Gulf States, and to the Secretary of the Interior.

The Motion for the adoption of the foregoing resolution was made by Dr. Lyle St. Amant, seconded by J.Y. Christmas; and unanimously adopted by the Special Committee of the Estuarine Technical Coordinating Committee at a luncheon meeting on March 16, 1967, and referred to Dr. Theo. B. Ford, Chairman, Estuarine Technical Coordinating Committee, for presentation to the meeting of the Gulf States Marine Fisheries Commission for its adoption."

Attest: /s/ Johnnie Crance /s/ Terry Leary, Chairman
Special Committee

RESOLUTION

WHEREAS, the Gulf States Marine Fisheries Commission is of the opinion this same resolution be adopted by this Commission.

NOW, THEREFORE, BE IT RESOLVED that the foregoing resolution as adopted by the Estuarine Technical Coordinating Committee of the Gulf States Marine Fisheries Commission be and the same is hereby adopted. The motion for adoption of this resolution was made by Richard P. Guidry and seconded by Dr. Lyle St. Amant (proxie for Dr. Leslie Glasgow).

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

WHEREAS, the fishing fleets of member states of the Gulf States Marine Fisheries Commission, in the course of their regular business operations encounter difficulties with vessels conducting geophysical operations in their regular course of business; and,

WHEREAS, these same fishing fleets regularly man the waters of the Gulf of Mexico and in connection with such trawling operations encounter sea floor obstructions in and around the fishing grounds located in said waters, for their business operations.

NOW, THEREFORE, BE IT RESOLVED that the Gulf States Marine Fisheries Commission request an Advisory Panel be created by the Regional Oil and Gas Supervisor, Gulf Coast Region, United States Department of the Interior, and composed of representatives of the full range of interests concerned with fishing operations in the aforesaid waters, including representatives of the fish and shellfish industries; and

BE IT FURTHER RESOLVED that action be taken to protect all navigable interests in the outer continental shelf of the Gulf Coast area.

* * * * * * * *

The foregoing resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries
Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission request the Department of the Interior, Fish and Wildlife Service, Bureau of Commercial Fisheries is urged to take note of the great potential existing in the Gulf of Mexico for fish Protein Concentrate production by beginning at once a systematic technological study, species by species of the indigenous fishes of the Gulf that offer the best promise for this use.

BE IT FURTHER RESOLVED that an appropriate number of pilot plants be constructed in the area at the earliest possible date to take advantage of the acknowledged potential

BE IT FURTHER RESOLVED that copies of this resolution be transmitted to the members of the House Committee on Merchants Marine and Fisheries, and the Congressional Delegations of the States of Alabama, Florida, Louisiana, Mississippi and Texas.

* * * * * * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries
Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its sincere appreciation to the Texas Parks and Wildlife Department for the most cordial hospitality extended upon the occasion of the March 16-17, 1967 meeting of the body at Brownsville, Texas; and,

BE IT FURTHER RESOLVED that this Commission is particularly appreciative of the excellent transportation provided by the law enforcement personnel of the Department.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission Meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED that the Commissioners and Staff of the Gulf States Marine Fisheries Commission express to the Texas Shrimp Association and the Brownsville-Port Isabel Shrimp Producers Association their most sincere appreciation for the enjoyable Ladies' Tour and Luncheon and the very lovely Reception and Buffet tendered them and delegates during the course of the March 16-17, 1967 meeting at Brownsville, Texas; and,

BE IT FURTHER RESOLVED that the Commission's gratitude be expressed to Mr. Oscar Longnecker for his most valued assistance in perfecting meeting arrangements and to Mrs. Irma Cantu for her excellent handling of registrations.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at the Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

RESOLUTION

BE IT RESOLVED that the Gulf States Marine Fisheries Commission express its sincere appreciation to the management and staff of The Fort Brown Motor Hotel for the cordial hospitality and splendid food and service enjoyed by the group on the occasion of the March 16-17, 1967 meeting of this Commission at Brownsville, Texas.

* * * * * * *

The foregoing Resolution was adopted by the Gulf States Marine Fisheries Commission, March 17, 1967, at a regular Commission meeting held at The Fort Brown Motor Hotel, Brownsville, Texas.

Jos. V. Colson

Jos. V. Colson, Director
Gulf States Marine Fisheries Commission

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"WELCOMING ADDRESS"

Honorable John L. Hill, Secretary of State
State of Texas

Those who traveled the length of our Texas coast from the Louisiana border to Brownsville can attest to the extent of our coastline which is about 380 miles long. We have 2,200 square miles of bays and estuaries and another 3,900 square miles of Gulf of Mexico waters within the state's jurisdiction. We are a coastal state with all of the resources of sea and many of the accompanying problems.

We are fortunate to have a thriving commercial fishing industry which produces over 90 million dollars worth of seafood and manufactured fishery products. Our submerged lands contain a wealth of oil and gas which contribute substantially to the public shcool fund.

Because of the low cost of water transportation and the availability of petroleum, the Texas Gulf coast is experiencing a rapid industrial development. Approximately 75 per cent of our 10 million people now live within a 4½ hour drive to the coast.

Recreation has become another of our major coastal resources. To provide the necessary facilities for the 800,000 Texans who fish in saltwater and the 6 million vacationing our of state visitors, resort complexes are developing, where marsh existed a few years ago.

This rapid development of our coast line has complicated the here-to-fore rather simple management of our bays. Multiple use management must now consider the expansion and maintenance of waterways for the increased vessel traffic, the drilling of wells and laying of pipelines, the construction of causeways and roads, bulkheading of shorelines, and the filling of marshlands. The need for developing all of the fresh water resources of the State will necessarily reduce the flow of the rivers to the bays, while industrial and residential expansion along the shore increase the possibility of pollution.

We know the bays provide a unique and essential habitat for many of our salt water species. Our marine scientists have determined that shrimp, crabs, menhaden, and most of our popular food and sport fishes are dependent on an estuarine environment for a portion of their life cycle. We recognize that unregulated and haphazard development without regard to the effects to the habitat of the marine fisheries and feeding grounds of waterfowl can destroy vast areas of productive water bottoms.

It was only a few years ago that marsh lands were considered by most of our citizens to be vast wastelands of little value. Any drop of fresh water that reached the bays were deemed to be wasted. Little consideration was given to wildlife and fishery requirements in the planning for water development.

However, through the work of our conservation people and through such groups as the Gulf States Marine Fisheries Commission, information about the importance of these valuable areas has been provided. Our people have begun to become aware of the problems and of the need for action.

Our State is interested in promoting our fishing industry. Two bills of special interest to the industry are currently being considered. A bill to permit the use of the electro shrimp trawl as developed by the Bureau of Commercial Fisheries has passed the House. The other bill currently being considered in the House is one which would authorize the Parks and Wildlife Department to establish a Seafood Marketing program similar to the successful program proven by our collegues in Florida. Increasing the efficiency of the fisherman and developing new and better markets for fishery products, will strengthen the industry and bring more revenue to the coastal area.

The Parks and Wildlife Department has also met the challenge of times. The department is in the final stage of purchasing a 40 acre site on Matagorda Bay near Palacios to be used for the location of a saltwater pond experiment station. The station will be used for research purposes to compliment the field studies now being conducted. The department has just this week received delivery of its Gulf research vessel, The Western Gulf. I understand the vessel is to be here in Brownsville today and will be available for viewing. Both the experiment station and the vessel are products of the Federal Aid to Commercial Fisheries Research and Development Program.

With the new Gulf research vessel, our Parks and Wildlife Department will be equipped to monitor the fishery resources of the Gulf Shelf. Our state jurisdiction extends three marine leagues or nine marine miles. The recent Congressional passage of PL 89-658 extended our national fishery zone to twelve marine miles.

Questions have naturally arisen concerning the status of fishery regulations between the nine and the twelve mile limits. What fishing regulations are to be observed within this three mile bend? What licenses, if any, are required by fishermen? What agencies are to enforce the regulations?

Our offshore shrimp season will soon begin and our fishermentwould like the answers. We understand that the United States Attorney General has been advised of the problem. It is in matters such as this that our compact of states with a common interest can serve most effectively.

We feel that while our problems are increasing with the development of our coastal region the responsibilities of the State must increase correspondly to provide guidance and management of its resources. It is especially gratifying to have the leaders and scientists of the Gulf States' fisheries with us today to discuss our common efforts. The association of our own five States together with representation from our Federal Government has formed the basis for a successful and progressive compact. It is appleasure to be able to welcome you to Texas.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"MANDATORY INSPECTION OF FISHERY PRODUCTS:

R.T. Whiteleather, Deputy Regional Director
Bureau of Commercial Fisheries
St. Petersburg Beach, Florida

Federal inspection of fishery products is not mandatory at present. However, the Bureau of Commercial Fisheries has had a voluntary fishery products inspection program in effect for a decade. The voluntary service, sustained by a cost assessment to the plants subscribing to it, has been successful in assisting plants in the production of uniform high quality fishery products under exacting operating conditions. There are some complications, particularly in relation to smaller plants, in further extending the scope of the voluntary program. For that reason, thought has been given to "across the board" mandatory federal inspection. In the past year or two, there has been more deliberation on the question of mandatory inspection of all types of fishery products destined for U.S. markets than at any time heretofore. Pursuance of this subject within the industry, government agencies, and various trade association groups has been a rather common occurrence. Points of view, pro and con, are not hard to find, depending upon who is doing the expressing and where it is being done. On balance, however, there does appear to be some inclination toward a kind of mandatory inspection which would aid the industry in more dynamic marketing of fishery commodities and likewise benefit the consumer. This might be a good time to say that the Bureau of Commercial Fisheries is not campaigning for a mandatory inspection service, but, as a federal agency responsible for assistance to the fishing industry, it would be remiss in not examining and evaluating all aspects of such service.

Perhaps the most positive step forward was taken by Senator Hart of Michigan in the second session of the 89th Congress when he introduced S-3922 to provide for mandatory inspection of fish and fishery products by the Department of the Interior. The bill was introduced in October 1966, late in the session, and it did not come to a hearing. It did, however, provoke some thinking about the ramifications of a national inspection service. In introducing it, the Senator urged the commercial fishing industry and the U.S. Department of the Interior to study it very carefully so that the best possible legislation might be developed for congressional consideration when the 90th Congress convened.

The Hart bill is quite broad. It concerns principally the areas of

health, hygienic and economic safeguards for the benefit of the consumer. In this respect, all domestically produced and imported edible fish and shellfish designated for sale in interstate commerce and/or in major marketing areas would be inspected. Products found to be unsuitable for human food would be condemmed and destroyed. Minimum productsstandards of quality and wholesomeness would be established so as to prevent spoiled products reaching the consumer. The economic safeguard for the consumer's benefit would cover both the product and the manner in which it is labeled. Each fish producing establishment would be subject to inspection, and no establishment could process fish for commerce unless it complied with the Act. Also, no fish could be imported unless it met the requirements of the Act, and, after being imported, it would be treated under the Act in the same way as domestic fish. The bill provided stiff penalties for violations, and repetition of violations could cause loss of registration for plant operation.

The Senator wrote two extremely interesting provisions into this bill. One stated that for the purpose of preventing burdens on commerce in fish and fishery products the jurisdiction of the Secretary of the Interior within the scope of the Act shall be exclusive, and products covered under it would be exempt from the provisions of the Federal Food, Drug, and Cosmetic Act to the extent of the application of the provisions of the Inspection Act. The second is a provision whereby the Secretary can, under certain conditions, apply the Act to fish or fishery products processed or consumed in a major consuming area where this would tend to effectuate the purposes of the Act. Finally, a period of not less than three years was provided for the purpose of developing regulations and conducting federal advisory services designed to facilitate industry compliance with the initial requirements.

Our Bureau staff has made a careful study of this bill and of other mandatory inspection programs, especially the one currently existing in Canada. Several meetings have been held with Canadian officials to become familiar with the mechanics of their program and its effectiveness so as to be able to give Senator Hart the best consultation possible in the drafting of a new bill for consideration in the present session of Congress. A review of over 70 years of voluntary and mandatory inspection of Canadian fishery products indicated that their type of program might better facilitate meeting the purposes of inspection in our country than the service provided in the bill introduced in Congress last year.

Harry Dempsey, the director of the Canadian Inspection Service, pointed out, however, that a program and its organization are not easily and quickly accomplished. The Canadians first made a national survey of all fish handling, processing, and storage establishments, numbering over 600, to define the existing environment of production, its deficiencies, and corrective measures required. Next was an assessment

10. Regulations would be developed in the course of this program to cover imported fishery products so as not to place domestic producers at an unwarranted disadvantage.

The Bureau considers that implementation of this type of program would require a 3-phase chronological procedure generally in accordance with the Canadian inspection philosophy:

1. Preparatory period which would be completed three years from enactment of the legislation.

2. Implementation of the mandatory requirements on a federally financed voluntary basis by those plants so desiring for a 3-year period, commencing three years after enactment of the legislation.

3. Implementation and operation of mandatory inspection program across the board six years from the date of enactment of the legislation.

If, and when, a bill is introduced, our Bureau, in conformance with usual procedure, will be asked to make a legislative report on it. So far, the Bureau has taken no position and probably will not establish a position until proposed legislation has been introduced and studied. It would be our hope that such an inspection program would not be a policing type solely, but that it would work to the benefit of all concerned, industry and consumer alike. Assistance and counselling would be given industry by inspectors in overcoming any problems that might stand in the way of production of fishery commodities of the highest possible quality. Our Bureau director has stated that it is immaterial whether the Bureau of Commercial Fisheries or some other federal agency is charged with the responsibility for operating a mandatory fisheries inspection program so long as there is assurance that the American consumer will receive the finest fishery products.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"OIL OPERATIONS IN THE GULF"

Robert F. Evans
Regional Oil and Gas Supervisor
Gulf Coast Region
U.S. Department of Interior
New Orleans, Louisiana

Mr. Chairman, Director Colson, distinguished members, guests, and visitors. It is a pleasure to meet with you and bring you information concerning our organization and operation of the Gulf Coast Regional Office. As introduced to you, I am Regional Supervisor for the Gulf Coast Region and am responsible for the supervision of operations, within the Region, for the exploration, development, and production of oil, gas, and sulphur in the Outer Continental Shelf and oil and gas operations on onshore public domain.

By way of a brief explanation as to our organization, the Continental United States is divided into seven regions with a regional supervisor in charge of each region. The Gulf Coast Region encompasses all of the OCS lands in the Gulf of Mexico from Florida to the boundary between Mexico and the United States, and the Atlantic side of Florida. It also includes portions of onshore areas of the states of Texas, Louisiana, Mississippi, Alabama, and Florida. The northern boundary line of the region is roughly the 31st parallel southward and approximately the southeastern quarter of the State of Texas. There is, however, very little public domain land within the southwestern portion of the United States so, therefore, our activity is confined mainly to the OCS area.

The Regional Supervisor has at his disposal Petroleum Engineers, Geologist, Engineering Technicains, and Accountants. The accounting section of our organization is responsible for the collection of rentals and royalties of oil, gas, sulphur, and salt operations in this area. To give you a general idea of the amount of money generated from this area, we take in approximately $13 million a month in rentals and royalties. This is roughly $150 million a year from this industry. Our main activity in the OCS is primarily offshore from Louisianz, although there is some activity off Texas.

There have been various Acts of Congress passed which are related to the mining and mineral industry for both onshore public lands and the offshore OCS lands. These Acts of Congress, in general, have delegated the supervision to the Secretary of the Interior. He, in turn, has re-delegated portions of his authority down through the Geological Survey to the Branch of Oil and Gas Operations of the Conservation Division. Much of this authority has been delegated to and is administered by the Regional Oil and Gas

Supervisors. To implement these various Acts of Congress, the Secretary has also provided regulations concerning operations on both the Outer Continental Shelf and the onshore public domain lands.

The oil industry has enjoyed a great deal of growth since the first part of the century and in its growth it has developed many problems that it has had to solve both onshore and more recently in the offshore areas. Some of the problems in the onshore area are problems connected with surface land owners, ranchers, forestry lands, water basins, Indian tribal lands, and many others. In the offshore area, there have been problems concerned with the shipping industry and now we have had problems arising with the fishing industry.

I would like to digress a few moments to point out some of the similarities and dis-similarities between onshore and offshore oil and gas operations. The location made for a well onshore requires a civil engineer, registered by the state, to survey a location from known section corners or known boundary points, drive a stake, and then the road contractor builds his road and location in order that they can move in a rig. The offshore areasrequires highly sophisticated surveying techniques to survey in the location and drop a buoy. This has to be done from aerial and surface surveys. There are no road locations to make but then you have to move in your rig which requires the use of tugs, barges, and various supporting equipment. The drilling of a well onshore is very standard. The hole is drilled and the well is cased with casing and cement. In the offshore area, the drilling equipment is practically identical with the onshore drilling equipment. The main difference is in the supporting equipment. Offshore a platform is required to support the rig. This can be done either with a floating vessel, a movable vessel made temporarily stationary or, perhaps, a permanent platform. The offshore rig requires a great deal of support equipment and many more safety devices because the men and equipment are isolated and have to depend upon helicopters or boats to supply their needs. There are also weather problems that enter into the offshore that we don't encounter inland--for example, the hurricanes. The spacing locations for the wells, that is the subsurface location for the wells, is very similar both for onshore and offshore. The only difference is that offshore, generally speaking, the surface locations are at the platform. You have a concentration of wells on anplatform--12, 16, perhaps more. The bottom hole locations of the wells are quite a distance from the platform since they are directionally drilled. This also increases the cost of these wells.

We have to cooperate very closely with all the various interests groups--all the Federal and state agencies involved and the industries themselves, including the supporting industries. We find that right at the present time we have two problem areas between the oil industry and fishing industry, that we are aware of and are concerned about, and to which we are trying to find a solution. The two problem areas are geophysical operations performed by either contract companies or the oil companies themselves and our underwater well completions or underwater casing stubs that stick up above the mud line and yet are below the surface of the water and are not marked.

Before progressing into the actual problem areas of geophysical operations, I think that I should review the legislative and legal aspects of the operation. By Act of Congress, Public Law 212, known as the OCS Lands Act, geological and geophysical operations conducted in the OCS was delegated to the Secretary of the Interior. He, in turn, has adopted the state regulations in the Gulf of Mexico as being applicable to the OCS. These are formal agreements made by the Secretary of the Interior with each state adjacent to the Gulf of Mexico except Mississippi. The formal agreement between the State of Texas was made September 22, 1953, with Louisiana March 23, 1954, with Alabama August 25, 1958, and with Florida on March 27, 1956. The Secretary has also provided regulations concerning the approval of certain of these operations in Title 43 Code of Federal Regulations, Part 3387.4-4. The formal agreements with these various states have also provided a means for the Secretary to adopt the assistance of the adjoining states in the enforcement of these regulations. It is my understanding the reason we have no formal arrangement with the State of Mississippi is that they do not have geophysical regulations that are applicable to the offshore area. There are also less formal agreements with the various states for the actual working arrangements between the states in the coordination of our activities concerning seismic operations. The Corps of Engineers and the Coast Guard regulations are also applicable in many instances. I wish to emphasize that the state enforces the regulations off their state on both Federal and state waters and we provide permits on only the Federal waters. Offshore Mississippi we provide the requirements that are necessary for what operations are being conducted there.

The problem connected with seismic operations is that both the fishing industry and the geophysical companies want to operate in the same area at the same time. The problem of both industries wanting to operate at the same time in the same area has caused me to try and find out what times of the year you operated and the heaviest concentration of your activity both from a location standpoint and from a time standpoint. I have had to turn to Mr. George Snow, whom many of you know, of the Bureau of Commercial Fisheries in New Orleans. He has provided me a map such as this one of offshore Texas, that indicates by the shaded portion, the area of shrimping activity. Incidently, this area coincides with the area of greatest interest to the oil industry. Now you will note on this particular map that it shows some graphs concerning the various areas. This information shows me that in the area of primary interest your activity period commences in June, reaches a very high point during August and September, and then begins to taper off until about December and then you have little activity in this area from January to June. With this information, I can then try to plan explorationsactivities. My recommendations will now be geared to having lease sales at such times that the geophysical activity preceding the lease sale is conducted when your industry is at its lowest period of interest. In other words, we will try and schedule a lease sale where there will be less geophysical activity during your periods of greatest fishing activity and have seismic activity increase when your activities have decreased. This is one method of trying to cut down on interference between the two industries. We have other thoughts in that perhaps we will have to limit seismic operations in certain areas during

certain periods of time, or perhaps even forbidding seismic activity in certain areas. These are things that will have to be worked out on an individual basis, but for right now we are trying to gear our lease sale activity to where there will be the least interference as is possible.

This map of Louisiana also shows the areas of shrimping activity and we have tried to schedule the Louisiana sale, that will probably be coming up some time this summer, to where there will be the least interference with the shrimping industry in this area. This map doesn't have the activity graphs on it, however, it does show with other information provided by Mr. Snow, that the activity period commences in these shaded areas during June and then tapers off during the month of August. Therefore, we want to have any lease sale offshore Louisiana to where it won't interfere with your shrimping season during this period of time.

We also have another problem that is perhaps, getting to be somewhat minor now. This is the problem of floating charges. Hopefully, it is not a big problem now although it was a major problem just a short while ago. Floating charges have been a very serious threat and, to some extent, still are. The various state agencies, the Coast Guard, the oil industry itself, the geophysical companies, the powder companies, and ourselves, have all been working in various ways to try and solve this problem. I have recently received communication through our West Coast Regional Office that the country of Norway has apparently been using a detonator that becomes deactivated after two hours in the water. We just recently received this information and are passing it along to the Offshore Operators Committee for evaluation. We don't know whether this will be of any value or not. It will have to be checked out but if it doesn't work than we will have to try something else. We are working on this particular problem.

Now we come to the question of underwater well completions, well stubs or whatever you might call them. These wells currently number some 130 to 140 in the Gulf. They are pieces of casing that stick up above the mud line some 5 to 50 feet yet they are below the surface of the water and are not marked by any buoy markers. They are not a threat to navigation. Now I want to explain to you that all wells that are dry, that are non-productive, unless there is some very special occasion, are required to be plugged with cement, and cutoff below the mud line and the location cleared immediately. These wells that we are talking about that stick up above the mud line and are not marked are productive wells or they can be made productive. However, they are plugged just like an abandoned well. The only difference is that they are left in a condition for re-entry and to be put on production in the future. So there is no danger of them blowing out in case you should hook on to one and pull it over. It is highly unlikely that you would but, in the event that you should, there is no danger to you from that aspect because they are all plugged. These wells have to be left in this condition at this time because of our technical advancement and for economic reasons. For example, a great number of the wells are gas wells and there is a lack of market facilities pipelines to bring the gas to shore. Other wells are temporarily

plugged in this manner while a platform is being constructed to move on the location at which time the well will be completed and tied in to the surface platform. For vaious reasons we are going to have a certain amount of this type of well for quite a while to come. Some of them are being completed every month. There will be a turnover in these probably 5 to 6 a month.

We have, as a stop-gap measure, provided a list of the location of these wells giving you the various information about the well and how far it sticks up above the mud line, the footage location, the block, and the area. We have made up this list and keep it up monthly. We provide this information and give it to George Snow. He in turn has his men pass it out to the actual vessel operators. This isn't the complete answer to this particular problem--it is one that we have resorted to as an expedient in that it might help some and we have had some indications that it has been of some help. However, we are going to have to continue to work on this particular problem and see if we can't find some other method of providing relief. There have been suggestions as to marking them with buoys. Well, I believe this would get it off into an area where it would concern the Coast Guard and the Corps of Engineers and industry themselves because of the cost and maintenance. Therefore, we will have to sit down and discuss this particular problem to find a solution. Referring to the map here, you will see that there are apparently some areas that are not fished, at least shrimped, at this time. Also, apparently anything beyond about the 200 foot water depth is not of concern to you right at this present time so perhaps these underwater completions that are beyond 200 foot water depths are not a particular problem to you. These are some of the things we will have to find out and discuss with one another to see what we can do about alleviating this problem. There have also been suggestions made that they be cutoff below the mud line and use an electronic device for locating the well again. We have a few like this in certain areas, however, it is my understanding that beyond a certain water depth or in a certain area the concentration of them would become a problem to the Navy from a submarine activity standpoint. So we can't just say this is an answer to it because there are other problems that enter in. There is also the possibility of forbidding cutting them off in this manner perhaps requiring that they be completed to the surface by a protective well jacket. Well, this is quite an economic problem, particularly if the company is intending to put up a regular platform in the area.

These are problems we have to sit down and work with and find an answer to, and I am sure that we will. I think we need an advisory panel from both the fishing industry and the oil industry where we can take these problems and work with them and come up with good solutions to the problems. We are very concerned about these problems that I have been discussing plus any others that I am not aware of and I think that with the cooperative attitude and an active interest in trying to solve these problems it will bear fruit. I wish to assure you of our cooperation and interest in solving thes problems and we are more than willing to discuss any possible solutions to these problems. I thank you.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
The Fort Brown Motor Hotel
March 16-17, 1967

"ACTIVITIES ON FLORIDA BOARD OF CONSERVATION"

Don Sweat
Marine Laboratory
Key West, Florida

I am from the Florida Board of Conservation Marine Research Laboratory located in Key West. We are a new facility, of which the majority of your are unaware, since we were not in existence at the time of your last meeting. My purpose this morning, is to tell you in general terms what we are doing in that area. I have also brought a few slides which will show you portions of our facilities and work in Key West.

The Florida Board of Conservation was given an $85,000 special appropriation by the past session of the Florida Legislature to set up a research facility in Key West, primarily to study the Florida Lobster, Panulirus argus and we opened our doors officially on June 1st of this past year following several months of construction and outfitting.

Our main purpose, of course, is to learn as much as we can about our spiny lobster, in the hopes that we can assist our commercial fishery by making scientifically based suggestions and advising on regulatory legislation.

As most of you know, raising our Florida Lobster, or crawfish, is no easy task. As a matter of fact, to this date it has been impossible.

The problem lies in rearing the larval forms between the egg and post larvae. It is no problem to hatch the eggs, but workers have been unable to solve food and filtering problems in some 40 - odd years of trying.

During the latter 1920's and early 30's, Dr. E. Lowe Pierce, from the University of Florida, attempted to raise crawfish larvae in Key West under a WPA program. In more recent years, the Japanese, who have a close r elative to our crawfish, have become involved and have managed to raise the larvae through about 1/2 of the estimated 12-15 stages. The Florida Board of Conservation attempted, unsuccessfully, a rearing project during 1962-1963, and today, Robertson, at the Institute of Marine Science in Miami has kept the larvae alive for 90 days. The total number of larval stages has been estimated from plankton samples, to be 12-15 and to comprise between a 6 and 9 month period.

We are leaving the larval development to other workers and are concentrating

more on the post larvae. The post larvae are collected and brought into the lab when they are raised in individual, aerated one gallon aquaria. We are obtaining growth reate information, food preference and salinity data. We are also trying to develop artificaial habitats which will assist them in surviving the crucial juvenile stages of their development. Mr. Ross Witham, who heads up FBC Field Station at Stuart, has devised a floating habitat which has proved quite successful in capturing the first stage post larvae. This is the first stage in the animals development in which he is able to swim and attach himself to an object, as he is planktonic and at the mercy of the currents during his larval period.

We have developed a submissible concrete habitat which is undergoing field tests at thepresent time. Tests in the lab show promise.

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GULF STATES MARINE FISHERIES COMMISSION
Brownsville, Texas
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"PROGRESS OF TEXAS BLUE CRAB STUDIES"

William R. More, Biologist
Texas Parks & Wildlife Department
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Abstract

Research on the biology of the blue crab, Callinectes sapidus, in Texas waters was begun in 1962. Information on seasonal abundance, growth, movements and environmental relationships has been used to study trends in the blue crab population, while a survey of the fishery has provided information on the size of the catch and market conditions.

Studies on the availability and spawning activities of female crabs in the Gulf surf at Galveston provided information on spawning intensity. Spawning usually begins during April and peaks during June-July. Majorcrab waves were detected in the bays in June-July and October-November.

Growth studies in Galveston Bay indicated that most blue crabs will reach commercial size within one year after hatching.

Tagging studies have provided valuable information on crab movements. This work will be continued.

Introduction

The blue crab, Callinectes sapidus, supports one of the most important fisheries on the Gulf coast. Landings in 1964 totaled more than 25.5 million pounds, valued at 1.7 million dollars. This catch represented the efforts of some 700 fishermen and provided employment for many other persons in processing plants and allied industries.

Texas crab landings have increased from 206 thousand pounds in 1958 to over 3.6 million pounds in 1965. An increasing crab demand coupled with a fluctuating supply of crabs has caused much concern among ggencies studying blue crabs, seafood dealers and sportsmen. Attempts to control these fluctuations by protective legislation in the past have proven unsuccessful and management of the fishery must be based on scientific knowledge of the causes and changes in abundance (Walburg 1963).

Growth rates, rates of survival, migrations, habitat requirements, trends in seasonal abundance and status of the commercial fishery are a few of the aspects that must be understood before a management program can be applied.

(More # 2)

To acquire this information, biologists of the Texas Game and Fish Commission (now Parks and Wildlife Department) began, in 1962, a program designed to study the biology of the blue crab in Texas waters. Periodic standardized samples are taken in all bay systems on the Texas coast and spceial studies on crab movements and the commercial fishery have been conducted.

I have prepared a brief summary of some of these findings.

THE CRAB FISHERY

Commercial production seems to fluctuate with the availability of crabs to the fishery, rather than market conditions. A high demand, coupled with good prices, has encouraged increases in the number of fishermen, operating units nad time spent fishing. About 50 men were actively engaged in crab-pot fishing in 1966. Prices paid to the crab fishermen ranged from 6 to 10 cents per pound (live weight). Most crabbers operated from 100 to 250 crab pots. The overall catch averaged for 1965 and 1966 was 4 pounds per pot/day. The commercial fishery is concentrated on the upper Texas coast. Bays south of Aransas Bay receive little or no fishing pressure.

A two year survey of the commercial fishery in Galveston Bay revealed:
(1) The sex ration of the catch baried with the season and was dependent on the area fished. The more active female crabs composed the bulk of the catch during winter and spring and fishing was concentrated in lower bay areas where they were most available. Male crabs were more numerous in catches from the upper bay, which receives the bulk of commercial fishing pressure from April through November.

(2) Seasonal variation in catches can be attributed to crab migrations into and out of certain areas. For example, the commercial catch from December-March in middle and lower Galveston Bay is influenced by movements of newly matured female crabs into these areas in late fall and early winter prior to egg development. These so called "overwintering" female crabs composed the bulk of the catch during this period. When the water temperature rises above 68°F in the spring, these crabs develop sponges (egg masses) and move into the Gulf of Mexico to spawn. They are replaced by a second group of female crabs that mate in spring and migrate into the area in summer. By August, most of these crabs (second group) have moved into the Gulf of Mexico and the commercial catch drops considerably due to the scarcity of female crabs.

(3) Crabs between 6-7 1/2 inches (carapace width) composed 85% of the commercial catches examined. Only 2% of the crabs were less than 5 inches in carapace width.

(4) Catch per effort was lowest in January and highest in June and November; total effort was greatest in May and June.

(5) Catches were reduced considerably in the spring of 1966, when commerdial crabbers were prohibited from taking egg bearing crabs by a new "sponge crab" law passed by the state legislature in1965.

After studying 13 generations of blue crabs in Chesapeake Bay, Pearson (1948) found no correlation between the relative abundance of adult female crabs and their progency. Pearson concluded that "the size of the spawning stock has not determined the size of the population of crabs surviving to commercial age." However, he also noted that it was possible that the spawning population could be reduced to a level at which the scarcity of spawners could become the dominant factor in limiting natural reproduction. At the current rate of fishing, blue crabs in Texas bays do not appear to be over-fished and there is no apparent paucity of spawners, therefore protective legislation in the form of a sponge crab law may not be necessary.

GULF SURF AND PASS STUDIES

Quantitative plankton samples collected in seven gulf passes to major bays during 1965 failed to establish a clear relationship between the number of megalops entering the bay and the subsequent juvenile crab abundance in nursery areas. Seasonal patterns of availability varied from bay to bay, but the largest catches were made in spring and summer. Similar patterns of availability were reported in Louisiana by Darnell (1959), and were substantiated by studies of maturity stages of female crabs sampled in the gulf surf at Galveston. This study showed that spawning commenced in early April and reached a peak during June and July. After Augustl, few crabs were taken in the surf and most of those taken were either crabs bearing a second sponge or were spent. Following the hatching of the second sponge, female crabs do not normally return to the bay, but remain in the gulf where they presumably die soon afterwards.

BAY STUDIES

Routine sampling with fine-mesh trawls, bat seines and haul seines was conducted in all bay systems on the coast to study the availability trends, distribution, environemetal relationships and growth of blue crabs. Small blue crabs (1/4 to3/4 inches) are present during all months, but peaks in availability are recorded during fall and winter. Major waves ofcrabs are normally detected in June-July and October-November. The small crabs grow rapidly and a crab 1/9 inch wide will reach commercial size (5 inches) in about 8 months. The larval life of a crab lasts about 2 months, therefore, the total time from hatching to commercial size takes about 10 months. Crabs in a wide range of sizes in spring and summer can all be expected to be of commercial size by about September. Small crabs (below 3 inches) hatched during the late summer and fall continue to molt throughout the winter, even at low water temperatures. Crabs larger than three inches are less active and normally bury up and do not grow during this period.

The most productive sampling stations in Galveston, Matagorda aand San Antonio

Bays were in tidal marshes, rivers, bayous, creeks and areas adjacent to freshwater drainage. Most of these stations were characterized by low salinities and soft mud, silty clay or sandy clay bottom. Distribution of small crabs in the lower Laguna Madre, Corpus Christi and Aransas Bays seemed to be influenced by bottom type, with the largest samples being collected on soft mud bottoms.

Although immature crabs appear to be more abundant in the fresher areas of a bay sustem, a clear, inverse relationship between salinity and crab availability has not been established.

TAGGING STUDIES

The movements of sexually mature blue crabs are being determined by tagging studies in Galveston Bay. Between April 19, 1962 and July 8, 1966, 1,642 blue crabs were tagged and released in four areas of Galveston Bay and on West Galveston Beach. The overall recovery rate was 7.2% as 88 males, 20 females and 10 sponge crabs were returned.

Eighty-five per cent of the male crab tag returns were within five nautical miles of the tagging site. Movements of these crabs were random. The longest movement was about 20 miles from the release site.

Tagged female crabs demonstrated a southward movement into the lower bay and Gulf of Mexico. These movements were correlated with sexual development. More information on migrating female crabs is needed.

Tagging studies to determine migrations of sponge crabs and what happens to these crabs after spawning will be started in the spring of 1967. This will involve an expansion of the tagging program.

BIOLOGICAL CONSIDERATIONS

Eventually, we hope that a relationship between juvenile crab abundance and the subsequent abundance of adult crabs can be established. If a relationship does exist, it may be possible to make catch predictions. The catch per unit effort based on sampling data provides an index of the relative abundance of juvenile crabs, but before we can make predictions we must first understand the effects of changing environmental conditions on crab populations.

The sampling of commercial catches helps monitor the availability of crabs to the fishery, but detailed statistics of commercial operations, including reliabale catch per effort data and changes in the amount of fishing, are necessary to determine real changes in the abundance of commercial sized crabs.

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larger shrimp vessels (50 feet in length and over) had engines of 300 horsepower or greater installed as compared to 61 percent during 1965.

While commercial fishermen of our nation have harvested the fishery resources for centuries, it is only in recent years that other industries have begun the exploitation of other resources within the marine and estuarine environment. This has resulted in some conflicts - for example, proposed stream diversion products, establishment of firing or target ranges, and the exploitation of gas and oil resources in off-shore waters. Nearly all of these endeavors affect the fisheries in the immediate, and in some cases, far distant areas. Our existing statistics, while not initially designed for such purposes, have in most instances proven invaluable in evaluating the role of fisheries in the overall economy of affected areas and have also formed a basis for working out a "modus vivendi" in some conflict areas. A good example is the developing conflict between commercial fishing interests and off-shore oil and gas interests.

The utilization of off-shore oil and gas resources presents a two-fold problem. In the initial search for these resources, extensive and continuing seismographic operations involving the use of explosives are required. When promising sites are found they are drilled and the pipe casings, extending several feet above the ocean floor, remain in place until either a surface platform is built or the site is abandoned. All of these operations, together with the leasing of off-shore blocks, are under the control of one of our "own family" in the Department of Interior - The Branch of Oil and Gas Operations, Geological Survey. The Regional Supervisor of this office, Mr. Robert Evans, recognized the inherent problems created for fishing interests and approached our Bureau to find a way to mitigate some of the problems involved.

It appears that probably the most easily solved conflict will be that with regards to seismographic operations. By use of our detailed shrimp statistics we have been able to show the peaks of fishing intensity on the various off-shore grounds and it appears that the Branch of Oil and Gas Operations may be able to schedule off-shore lease sales so that intensive seismographic work is not conducted during the peak of shrimping in these areas. While this apparently minimizes as immediate conflict, there is no research available to indicate the long range effects of these explosives on fish and shellfish populations in extensively searched areas. Effects of the explosive charges on fish shcools in the immediate vicinity are readily apparent. Research conducted by the Louisiana Wild Life and Fisheries Commission some years ago indicated no immediate adverse effects on shrimp and oysters as a result of single charges exploded in proximity to confined specimens. To my knowledge, however, there have been no studies to evaluate the cumulative effects on shrimp of sustained and continuing explosive charges.

The second problem, so-called submerged wells, will be more difficult to resolve. Those with less than 85 feet of water between the pipe casing and the sea surface present no major problem as Coast Guard navigation requirements specify that they must be buoyed. An idea of the magnitude of the problem

is that as of this date there are 131 of these submerged wells off the Louisiana coast; the pipe casings extend from 5 to 90 feet above the sea floor. As you may have guessed, nearly all are located on the best fishing grounds. The initial attempt toward solving this problem was the compilation of a listing, by the Branch of Oil and Gas Operations, of all such off-shore submerged wells and the issuance of monthly supplements thereto listing new wells. Our fishery reporting specialists distribute the listings to captains of vessels at ports within their areas of responsibility. Many report that the listings have proven helpful while a few have indicated that with existing navigational aids it is not possible to really pinpoint the location of submerged wells from the listings. There is a possibility that technological advances may help solve this problem in the near future. If the LORAN system presently under construction in the Gulf proves sufficiently accurate to pinpoint well locations, oil interests may be able to cut off pipe casings at the ocean floor line. Other possibilities might be the use of an electronic "sender" or type of material at the site of the well which could be readily picked up with a "finder" instrument aboard the vessel. In the latter instance the equipment or material would have to be fairly trouble free as the depths in which some wells are located would make servicing costs quite prohibitive.

I know that a few Louisiana and Texas shrimp fishermen, after losing trawls supposedly to these submerged wells, are aware of the problem. It is doubtful, however, that they and other industry members fully realize that this is only the beginning of this problem. For example, about 6 additional submerged wells have been drilled off the Louisiana coast each month since the first of the year. Lease sales for additional lands off the Louisiana and Texas coasts are scheduled in the near future and portend substantial increases in the number of these wells. As additional sources of oil and gas are found off the coast of the remaining Gulf States the problem will expand to other fishing grounds. While one submerged well, or even a well with a surface platform, on a 5,000 acre tract may not remove a sizeable portion of bottom for trawling, concentration of wells within the same area can conceivably cause a significant reduction in productive grounds for shrimp and industrial fish trawling. This problem should be given close attention by members of the fishing industry and government officials charged with the successful management of commercial fishery resources.

In summary, we find that our existing statistical programs are meeting the present day needs of government and industry and have proven invaluable in other uses not envisioned at the time our programs were initiated. Admittedly a sound, dynamic statistical program is expensive but the lack of sufficiently detailed statistics may, in some cases, prove more costly.